

which is a light-shaded canal, the transverse water-vascular canal, which joins with the longitudinal water-vascular canal (*b*) at each lateral edge of segment.

Fig. 21. Magn. 65 diam. Transverse section through a part of one of the lowest zooids of the colony: *a*, skin; *b*, layers of muscular fibre and inorganic nodules; *c*, fibrous boundary of visceral space; *d*, ovarian vesicles in visceral space; *e*, lumen of longitudinal water-vascular canal.

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Notes on the Lepidoptera of the Family Zygænidæ, with Descriptions of new Genera and Species. By ARTHUR G. BUTLER F.L.S., F.Z.S.

[Read May 6, 1875.]

(PLATES XXVII. & XXVIII.)

IN the present paper I propose to correct errors in the synonymy of the Family, chiefly occurring in Mr. Walker's lists. I shall not, however, pay much attention to the genera *Zygæna*, *Procris*, and other European groups, as I have not deeply studied them, and should possibly do more harm than good in sinking many of what seem to me undistinguishable species, but which may (for any thing that I know to the contrary) differ in their earlier stages. I have lately been made aware of the painful fact that species which in their perfect state are almost identical in every respect, are, in the larval condition, so dissimilar as to leave no doubt of their being distinct. This fact is perhaps in no instance better exemplified than in our *Chærocampa elpenor* and its Japanese representative *C. Lewisii*, mihi.

I find that in the Zygænidæ the neuration of the wings has been much neglected, so that in the groups Syntominiæ (*Syntomides*, part., Herrich-Schäffer), Euchromiina, and Eunomiina I shall have to diagnose many new genera; when I do so I shall refer to them all the species described by Walker and appertaining to them. As regards the Charideinæ (Charideoidæ, *Wallengren*), as they are, to my mind, clearly a slightly aberrant group of Arctiidæ, and not Zygænidæ, excepting in external appearance, I shall retain them for a distinct paper.

I have paid most careful attention to the neuration of the wings in this highly interesting group, and I find the neuration of the Charideinæ to agree closely with *Phragmatobia* and other unquestioned genera of Arctiidæ; the only character that has been proposed, to my knowledge, by which any of them can be separated, is their metallic coloration—a poor character when we take into



consideration the fact that many true Zygænidae are destitute of it.

### Subfamily ZYGÆNINÆ.

(Anthroceroidæ, *Wllgr.*)

Genus ZYGÆNA, *Fabricius*.

*Z. negamica* of Walker has been referred by Wallengren to his *Arichalca erythropyga*. I will not attempt (with my present small knowledge of the Zygæninæ) to consider its right to be treated as a distinct genus; to all appearance it is a *Zygæna*. *Procris contraria*, Walker, is a *Neurosymploca* (*Euctenia*, Felder), and therefore not (as Walker suggests) congeneric with *Z. concinna*, Dalman; it is identical with "*Zygæna pectinicornis*" of Shaufuss. Cf. Lep. Het. vii. p. 159, and Nunquam Otiosus, i. p. 11.

Genus PROCRIS, *Fabricius*.

*Zygæna acharon* of Fabricius is referable to this genus; *Amycles acharon* of Walker may therefore take the name *A. phænicotelus*.

*P. nebulosa*, Klug (Lep. Het. i. p. 110) is = *P. nebulosa*, Herrich-Schäffer (Lep. Het. vii. p. 1591).

*P. rufiventris*, Walker (n. 11), is not a *Procris*, but probably a new genus near *Pollaniscus*.

*P. infasta*, Linn., is a distinct genus (type of *Aglaope*, Latr.), cf. Staudinger, Cat. der Lep. p. 44.

*P. subdolosus*, Walker, Suppl. p. 62, is a *Pollaniscus*.

### Subfamily SYNTOMINÆ.

Genus SYNTOMIS, *Ochsenheimer*.

I have no doubt whatever that *S. Schœnerri* (*sic*), Boisduval, and *S. cyssea*, Cramer (both described from Bengalese specimens) are identical. Cramer's figure is, indeed, rough, but it presents all the important characters of Boisduval's insect. Among the specimens in the National collection I detected an example of *S. bicincta*, Kollar (letter *c* of Walker), and a third species (*g*, *h*, Walker) from Nepaul (*S. lucina*, Butl.). The examples referred to by Mr. Walker under *S. Latreillii*, Boisd., are referable to *S. creusa*, Linn.; we, however, possess Boisduval's species from Southern India.



*S. Khulweinii*, Lefebvre.—Mr. Walker (n. 10) places *Sphinx minceus* of Cramer with a ? as a synonym of this species; but at n. 25 he repeats the latter as a distinct species; it is the type of a distinct genus *Eutomis*, Hubner (Pl. XXVIII. fig. 12). We possess *S. Khulweinii* from Natal.

*S. passalis*, Fabricius (n. 12), is identical with *S. creusa*, Linn. (n. 13).

*S. polydamon*, Cramer, appears to me to be referable to a distinct genus, as subsequently suggested by Walker (Lep. Het. vii. p. 1592); but I have not seen specimens.

The examples referred to (n. 19) as *S. Hübneri*, Boisduval, and *S. Walkeri* of Moore belong to Walker's genus *Artona*, Lep. Het. p. 439, gen. 60.

*S. diaphana*, var. ?, Walker (nec Kollar), is a distinct species, and may be named *S. ænone*.

The examples referred to under *S. imaon* are referable to two or three distinct species; the same may be said of *S. atereus*, which is moreover not a *Syntomis*.

*S. simplex*, Walker (n. 27), and *S. nostalis*, Walker (n. 28), are identical, the first being the female, the second the male; but the examples referred to under *S. simplex* as from Congo are distinct.

*S. subcordata* of Walker has pectinated antennæ, and therefore must be removed from the genus.

*S. diptera* of Fabricius is clearly not a *Syntomis*.

*S. diminuta* (cf. Lep. Het. i. p. 230, and vii. p. 1592) has pectinated antennæ, and consequently is not a *Syntomis*; its neurulation is peculiar, so that it will form the type of a new genus.

*S. subaurata* (cf. Lep. Het. i. p. 149, and vii. p. 1593) also has pectinated antennæ, and, with *S. pravata*, Moore, will form another new genus.

*S. humeralis* is = *Trypanophora semihyalina* (cf. Moore's Cat. Lep. E. I. C. ii. p. 322).

*S. Crawfordi* of Moore is a *Phacusa*.

*S. dolosa*, *strigosa*, and probably *glaucopoides* and *expansa* will form a new genus with pectinated antennæ and peculiar neurulation.

*S. xanthomela* (Suppl. i. p. 65) appears to be identical with *S. contermina*; and *S. intermissa* is probably a slight variety of *S. transitiva*.

*S. fenestrata* (p. 73), being distinct from *S. fenestrata*, Drury, must be renamed; I propose to call it *S. midas*.



*S. monedula*, Wallengren, is identical with *S. nostalis*, Walker.

*S. germana*, Felder, is the *S. thelebus* of Fabricius.

*S. cuprea*, Prittwitz (Stett. ent. Zeit. 1867, p. 277), but not of Walker, is fortunately the *S. cyssea* of Cramer, so will not require renaming.

*Tipulodes* ? *apicalis*, Walker, is scarcely specifically distinct from *Syntomis flaviplaga* of the same author.

The following species must be removed to Walker's genus *Hydrusa*:—*S. annulata*, Fabr.; *aperta*, Walker; *fulvescens*, Walker; *confinis*, Walker; and *bivittata*, Walker. The following are also probably referable to the same genus—*S. vitrea*, *fusiformis*, *teneiformis*, *penangæ*, *guttulosa*, *diversa*, *vacua*, *linearis*, *octomaculata*, *basigera*.

*S. myodes* of Boisduval appears to me to belong to Walker's genus *Byblisia*, and *S. minuta* to *Artona*; the drawing of the antennæ may be incorrect.

*S. bogotata* of Walker is almost certain to prove generically distinct; the genus *Syntomis* seems to be a purely Old-World group.

*S. longipes* of Herrich-Schäffer seems to be a *Byblisia*; *S. amazona* an *Epitoxis*.

#### New species of *Syntomis*.

##### 1. *SYNTOMIS GEORGINA*, n. sp.

Closely allied to *S. cyssea* (*S. schænerri*, Bdv.), but with the frons black instead of bright yellow; all the hyaline wing-spots smaller, especially the two upper spots of the discal series: expanse of wings 23 to 30 millims.

*S. India* (*A. F. Sealy*), Ceylon (*Templeton*).

Type, B.M.

Also in Mr. Moore's collection.

##### 2. *S. LUCINA*, n. sp.

Allied to *S. cyssea*, but with the frons cream-coloured, three lateral segmental yellow spots connecting the abdominal bands, and the hyaline wing-spots more yellow in tint: expanse of wings 32 to 33 millims.

Nepal (*Hardwicke*).

Type, B.M.

*S. lucina* is in Mr. Moore's collection from Calcutta.

##### 3. *S. KHASIANA*, n. sp.

Nearly allied to *S. lucina*, but the tegulæ spotted with golden yellow, the lateral spots of abdomen continued almost to the middle of dorsum; primaries with the subcostal spot towards apex small and round,



discal and other spots rather smaller than in *S. lucina*; fringe at apex white, all the hyaline spots much whiter: expanse of wings 31 millims.

Khasia hills (*G.-Austen*).

Type, coll. F. Moore.

4. *S. CYSSEOIDES*, n. sp.

Nearly allied to *S. cyssea*, but the frons black, and the hyaline spots of secondaries smaller and widely separated: expanse of wings 27 millims.

Neilgherries.

Type, coll. F. Moore.

Larger form, rather darker.

Mynpuri, N.W. provinces, and Bombay (*Leith*).

Coll. Moore.

5. *S. EDWARDSII*, n. sp.

Nearly allied to *S. lucina*, but more bluish in tint, the frons black; collar orange; bands on abdomen and lateral spots orange-yellow; primaries with all the hyaline spots rather larger; secondaries with the hyaline spots connected, none of the spots, excepting that on abdominal margin of secondaries, tinted with yellowish, as in *S. lucina*: expanse of wings 29 millims.

Formosa.

Type, coll. F. Moore.

I have named this species after the indefatigable collector and entomologist, H. Edwards, of San Francisco.

6. *S. FORMOSÆ*, n. sp.

Nearly allied to *S. annetta* from China, but with the collar orange, the two bands on the abdomen and the spots on the pectus orange instead of yellow, all the spots on the primaries smaller, a hyaline spot near apex of secondaries uniting with the hyaline basal area, thus rendering its margin zigzag: expanse of wings 25 millims.

Formosa.

Type, coll. F. Moore.

7. *S. HYDATINA*, n. sp.

♂. Body greenish black, frons creamy yellow; a spot on metathorax, a semicircular spot on basal segment of abdomen, the fourth segment above and below, and two large lateral spots on the pectus golden-yellow: antennæ greyish at the tips: wings greenish black; primaries with a small square spot near the base, two large divergent spots across the middle, a small oval spot just below base of subcostal fork, and a bifid spot (cut by the third median branch) upon disk, hyaline white; secondaries with a large spot (occupying the greater part of the wing) on abdominal margin hyaline white: expanse of wings 23 millims.

Calcutta (*Dick.*).

Type, coll. F. Moore.

Allied to *S. annetta*.

The female is browner than the male, and has the hyaline spots



rather larger, especially the subcostal and discal spots of primaries.

8. *S. ELISA*, n. sp.

Allied to the preceding species, but with the wings much longer, only five (more or less oval) spots on primaries, one near the base, two transversely near the middle, and two on the disk of the wing; frons snow-white, abdominal yellow bands broad, lateral yellow spots as in *S. lucina*: expanse of wings 32 to 39 millims.

Sarawak (*Wallace*).

Four examples, B.M.

9. *S. ANNETTA*, n. sp.

*Syntomis atereus*? Walker (nec Cramer), Lep. Het. i. p. 128, n. 24 (1854).

China (*Lay & Bowring*).

Type, B.M.

10. *S. ATKINSONII*, Moore.

Allied to the preceding and to *S. imaon*; from the latter it differs in its smaller size, blacker body and wings, the frons cream-coloured instead of yellow, the collar black instead of yellow; the primaries with a small subquadrate hyaline spot near the base, beyond this two large transverse central spots, only separated internally by the median nervure, and two large discal spots, each crossed by a black nervure, the upper one near its upper outer edge, the lower through the centre, marginal fringe creamy whitish near apex; secondaries with basal half hyaline, apical half black: expanse of wings 29 millims.

Moulmein (*Clerck*).

B.M.

I have compared our example with Mr. Moore's type: the latter has no locality attached.

11. *S. ARTINA*, n. sp.

Allied to *S. libera*, smaller; frons white instead of yellow; secondaries much more narrowly bordered with black; hyaline spots of primaries all smaller, the three forming a patch upon median area much more distinctly separated by the black nervure and its first branch; the divided central discal spot not touching the margin; the subapical spot more completely divided, considerably smaller, placed halfway between the cell and apex: expanse of wings 30 millims.

Calcutta (*Rothney*).

Type, B.M.

This is a very distinct little species.

12. *S. CUPREIPENNIS*, n. sp.

Nearly allied to *S. artina* and *S. libera*; body chocolate-brown; frons with a creamy white spot; collar, basal and fifth segments of abdomen, and two lateral spots on the pectus golden yellow; wings cupreous brown; primaries with hyaline areas as in *S. approximata*, secondaries



ries hyaline-white with the costal and outer margins cupreous-brown; abdominal edge yellowish: expanse of wings 31 millims.

Calcutta (*Dick.*).

Type, Coll. F. Moore.

Easily distinguished from its allies by its copper-brown tint.

13. *S. MARINA*, n. sp.

Allied to *S. natalii*, much smaller, body entirely dark bronzy green, tarsi white at base: wings purple, greenish at base; primaries without a subbasal hyaline spot, the remaining five spots arranged as in *S. natalii*; secondaries with a hyaline spot on the abdominal margin near the base, and a second rounded spot between the median nervules: expanse of wings 26 millims.

Congo (*Richardson*).

Three examples, B.M.

Mixed up by Mr. Walker with examples of *S. nostalis*.

14. *S. JOHANNA*, n. sp.

Allied to *S. cerbera*, more purplish in tint; the three abdominal bars more slender, and yellow instead of scarlet; no spot at base of abdomen; hyaline spots enlarged, especially the lower spot of the central pair, which almost touches the subbasal spot; pectus with a cream-coloured instead of a scarlet lateral spot: expanse of wings 33 millims.

Knysna (*Trimen*).

Type, B.M.

15. *S. ANNA*, n. sp. (an præc. var.?).

Nearly allied to *S. cerbera*, males more purple in tint; hyaline wing-spots the same in every respect; bands on abdomen and the spot at base, as also the spot on pectus, orange in the male, yellow in the female (not scarlet): expanse of wings 29 to 34 millims.

Knysna (*Trimen*).

Type, B.M.

I think it quite likely that this is only a variation of the preceding species.

16. *S. ALICIA*, n. sp.

Allied to *S. cerbera*, but larger, the wings narrower; the bands on the abdomen orange, two large lateral spots on the pectus; the hyaline wing-spots noticeably smaller, the two central spots of primaries more widely diverging: expanse of wings 37 to 39 millims.

Abyssinia (*Harris*).

Type, B.M.

17. *S. TOMASINA*, n. sp.

Allied to *S. cerbera*, much smaller, scarlet abdominal bands broader; hyaline spots considerably smaller, and consequently well separated; pectoral scarlet spot large; base of tarsi distinctly white: expanse of wings 24 to 28 millims.

Sierra Leone (*Foxcroft*). Six specimens.

Type, B.M.



18. *S. FRANCISCA*, n. sp.

♀. Allied to *S. cerbera*, larger; hyaline spots very small, nearly as in *S. creusa*, but the secondaries with a large oval spot near the base between the cell and abdominal margin: expanse of wings 39 millims.

Sierra Leone (*Foxcroft*).

Type, B.M.

We have two examples of this species in the collection; it is probably the western representative of *S. cerbera*, although (excepting in the banding of the abdomen) it more nearly resembles *S. creusa*.

As an instance of the strong sexual instincts of this family, it may be mentioned that the type of this species was taken *in copulâ* with a male of *Tascia instructa*, Walker, which led the collector to suppose them to be sexes of one species; it is not, however, at all an uncommon occurrence in this family to find two males coupled together.

19. *S. FANTASIA*, n. sp.

Closely allied to *S. cerbera*, but the three discal hyaline spots of primaries united by the introduction of a fourth spot between them, so that together they form a quadrifid hyaline band; the central spots also more divergent, the lower one being lengthened at each end and extending transversely beyond the submedian nervure; basal spot longer: expanse of wings 36 millims.

Cape of Good Hope (*Drège*).

Type, B.M.

Perhaps a curious aberration of *S. cerbera*, tending towards the *S. pactolina* group.

20. *S. MONTANA*, n. sp.

Closely allied to *S. latreillii*, but with all the hyaline spots, excepting the two nearest to apex of primaries, much enlarged, giving it much the appearance of *S. thelebus*: expanse of wings 40 millims.

India (*Elliott*).

Type, B.M.

Differs from *S. thelebus* and *S. fenestrata* in having the subapical spots of *S. creusa* and *S. latreillii*: it is in Mr. Moore's collection from Bombay.

21. *S. MANDARINIA*, n. sp.

Head black, frons with an orange spot; thorax black, with a large spot on prothorax and a smaller semicircular spot on metathorax orange; abdomen orange, segments narrowly edged with black: primaries black, with six testaceous hyaline spots arranged as in *S. thelebus*; secondaries black, with a large, rounded, orange-edged, testaceous, hyaline patch cut by the median nervure, its first branch, and the



submedian nervure ; pectus black, with two large lateral orange spots ; abdomen orange, the segments rather broadly edged with black ; anus black ; wings as above : expanse of wings 36 millims.

Shanghai, China.

Type, coll. F. Moore.

Most nearly allied to *S. thelebus*, but easily distinguished by its black head, the broader black bands between the hyaline spots of primaries, and the smaller and more regular hyaline patch of secondaries. The type was labelled as the *S. fenestrata* of Herrich-Schäffer ; this may be the case, but it is quite distinct from the *S. fenestrata* of Drury.

22. *S. FLORINA*, n. sp.

Head yellow, eyes, basal four fifths of antennæ, and a triangular central spot on the collar dark brown ; thorax brown, with the tegulæ and two large oval spots yellow ; abdomen yellow, banded with chocolate-brown ; anus brown : wings yellow at base ; primaries with basal half hyaline, veins and apical half chocolate-brown ; a bifid elongated spot beyond the cell yellow, and a hyaline white spot, cut by the third median branch, upon the disk ; secondaries with the costal and outer margins brown ; a small oval subapical hyaline white spot : body below yellow banded with brown ; wings as above : expanse of wings 27 millims.

Sarawak (*Wallace*).

Type, B.M.

Allied to *S. xanthomela* and *S. tetragonaria*, but in some respects more like *S. fenestrata*.

23. *S. ? MARELLA*, n. sp.

Head wanting ; collar orange ; thorax brown ; abdomen orange banded with black (six bands), anus blackish brown : wings hyaline, with a tawny tint ; primaries with the margins, veins, apex, external angle, and an irregular band crossing end of cell from costa to external angle black-brown ; secondaries with outer margin rather broadly black-brown : body below black-brown, narrowly banded with orange : expanse of wings 34 millims.

— ?

Type, B.M.

Appears to be allied to *S. decorata* and *S. pactolina*, but may belong to the genus *Hydrusa*.

24. *S. EMMA*, n. sp.

Head black ; antennæ grey at the tips ; collar yellow ; thorax black-brown ; abdomen brown, with a broad basal yellow band, four slender yellow bands on central segments, a broad preanal testaceous band ; body below slaty black, pectus streaked with yellow ; a single yellow abdominal band, being a continuation of the fourth slender band of the upper surface : wings black-brown, with hyaline spots, almost



exactly as in *S. thelebus*; primaries with a small subquadrate spot at base; two slightly diverging large spots across the middle, and two on disk (the lower one bifid and touching the centre of outer margin), apex white-tipped; secondaries hyaline, with the margins irregularly black-brown: expanse of wings 28 millims.

China, Foo-choo-foo (*Lay*).

Type, B.M.

Most nearly allied to *S. aperiens*.

It appears to me that the Syntominæ would be most conveniently restricted (by the character of simple filiform antennæ) to the genera *Syntomis* (including *Cænochromia* of Hübner), *Burlacena*, *Byblisia*, *Melisa*, and *Naclia* (or *Dysauxes*); the African representatives of the last-mentioned genus have pectinated antennæ and the hind-wing neuration of *Eutomis*; *N. puella* and *gnatula* may therefore be referred to the next subfamily under the generic name of *Pseudonaclia*. The following genus may be added:—

### CALLITOMIS, nov. gen. Pl. XXVII. fig. 1.

Allied to *Syntomis*, but antennæ with fewer articulations, the latter more pronounced, and bearing minute hairs, but not serrated or pectinated; wings much broader, venation almost as in *Hydrusa*.

Type *C. syntomoides*, n. sp.

#### 1. CALLITOMIS SYNTOMOIDES, n. sp.

Body blue-black; abdomen with a spot at the base, and the fifth segment orange; pectus with two lateral orange spots; primaries dull dark green; an interno-median subbasal dot, a large subquadrate spot near the end of discoidal cell, a transverse litura below it, and a small bifid spot crossing the base of the third median branch ochreous; secondaries dull brown, discocellular region slightly greenish; wings below, brown; primaries spotted as above; secondaries with two diffused ochreous spots near the base, one interno-median, the other abdominal: expanse of wings 34 millims.

Cashmere.

Type, coll. F. Moore.

#### 2. C. LEUCOSOMA, n. sp.

Body ochreous, antennæ and legs greenish black: wings dull semitransparent brown; primaries with ochreous spots almost as in the preceding species; secondaries with the base and the interno-median area from the origin of the first median branch to the base pale ochreous; an ochreous spot on the first median interspace: below as above: expanse of wings 30 millims.

Cashmere.

Type, coll. F. Moore.

If the sexes of the Syntominæ were subject to great differences of colour, *C. leucosoma* might be the female of the preceding spe-



cies ; but as this is not the case in any other instance with which I am acquainted, I do not think it at all probable.

### Subfamily THYRETINÆ.

Antennæ always more or less strongly pectinated, more strongly in the males than in the females, neurulation and coloration frequently partaking of the character of the preceding subfamily ; anal segment of the males terminally slightly pilose.

### Genus HYDRUSA, *Walker*.

This genus is most nearly allied to *Syntomis*, the antennæ of the males in the typical group being armed with rather short pectinations, and the females with mere serrations.

#### 1. *HYDRUSA CINGULATA*, n. sp.

Nearly allied to *H. annulata*, but smaller, the head narrower, of a brighter orange colour, the crest more narrowly banded with orange ; primaries with the spot at end of cell smaller, narrower than long, the subapical spot bifid, much more elongated, the discal bifid spot subtriangular, no pale tawny dot connecting the discal and subapical spots ; secondaries with the base more narrowly orange (the orange area only occupying the basal third of the wing), discal oval spot smaller, less distinctly divided : body below brighter in colour, abdomen banded with orange down to the anus ; wings below nearly as above : expanse of wings 37 millims.

Moreton Bay (*Gibbons*).

Type, B.M.

The type of *H. annulata* is in the Banksian cabinet, and agrees with an example which we have from Sidney.

We have two examples, registered "N. E. coast of Australia," which seem to be referable to *H. cingulata*.

#### 2. *H. HUMERALIS*, n. sp.

Allied to the preceding species, but smaller ; head orange, with a furcate spot on the crest ; thorax blackish, tegulæ orange ; abdomen orange, the segments edged with black ; primaries as in the preceding species ; secondaries with the basal half pale orange, apical half black-brown, a large bifid subapical pale orange spot scarcely separated from the basal area : wings below as above ; expanse 29 millims.

N. Australia (*Elsey*).

Type, B.M.

#### 3. *H. NIGRICEPS*, n. sp.

Nearly allied to *H. annulata*, same size and general appearance ; head entirely black above, frons orange ; thorax black, abdomen black narrowly banded with orange : wings black, spotted with pale tawny



hyaline; spots of primaries almost precisely as in *H. annulata*; secondaries with only the basal two fifths pale tawny, no black dot below origin of first median branch; postcellular bifid spot very large: abdomen below having all the segments banded with orange as above; wings as above: expanse 44 millims.

Hunter River (*Macgillivray*).

Type, B.M.

As this occurs almost at the same spot with *H. annulata*, it is possible that it may be a curious modification of that species.

4. *H. INTENSA*, n. sp.

Allied to the preceding, much smaller, wings narrower, coloration altogether darker; all the wing-spots deeper tawny and considerably smaller: expanse of wings 29 to 36 millims.

Sidney (*Lambert*), Australia (*Hunter, Macgillivray, &c.*). Type, B.M.

This is one of the most distinct-looking species of the *H. annulata* group; we have seven specimens in the British Museum.

5. *H. INSULARIS*, n. sp.

Head deep orange, crest with a transverse brown line; antennæ black, greyish at the tips; thorax black; abdomen orange, with the anus and six transverse bars black; wings black; primaries with five orange spots arranged much as in *H. intensa*, but smaller, opaque, the two below median nervure only separated by a slender brown streak; the lower discal spot bifid; secondaries with basal third, and a small spot above end of cell, deep orange: below as above: expanse of wings 35 millims.

Barnard Isles (*Macgillivray*).

Type, B.M.

This species is more nearly allied to the type *H. bicolor* of Walker than are any of the other species of this group.

The arrangement of the genera of Thyretinæ seems to be *Eutomis*, *Epitoxis*, *Pseudonaclia*, *Asinusca*, *Hydrusa*, *Psichotoe*, *Trianura* (n. gen.), *Procotes* (n. gen.), *Notioptera* (n. gen.), *Thyrassia* (n. gen.), *Balatæa*, *Artona*, *Binthia*, *Tascia*, *Saluinca*, *Phacusa*, *Thyretes*, ? *Apisa*. The last-mentioned genus differs from the others in its more hairy body and longer palpi, which, together with its pale greyish coloration, induced Walker to place it at the end of the Liparidæ; but in all other respects it resembles *Thyretes*. See also South-American genera (*postea*).

TRIANEURA, n. gen. Pl. XXVIII. fig. 3.

Nearly allied to *Hydrusa*, but at once distinguished by the arrangement of the branches of the median nervure in secondaries, the third median (of *Hydrusa*) having passed round to the disco-



cellular nervure, thus forming a radial nervure and leaving only two true median branches. Type, *T. subaurata*, Walker.

1. *TRIANEURA SUBAURATA* = *Glaucopis subaurata*, Walker, L. H. p. 149.

*Syntomis subaurata*, Walker, p. 1593.

2. *T. PRAVATA* = *Syntomis pravata*, Moore.

3. *T. MOOREI*, n. sp.

Dark brown, an orange band at base of abdomen, and two orange lateral spots on pectus: primaries with a large spot within cell, a smaller oval spot below median nervure and between the first and second branches, and an elongate interno-median patch hyaline white; two bifid discal spots, the upper one cut by the subcostal fork, the lower by the third median branch; secondaries with a trifid (nearly central), hyaline white spot, resting upon the abdominal margin at its lower extremity: expanse of wings 22 millims.

Bombay (two specimens).

Type, coll. F. Moore.

This pretty little species differs from the other two in the genus in the angulated character of the discocellular. It somewhat repeats the colour-characters of *Syntomis*.

#### Genus *PSICHOTOË*, Boisd. Pl. XXVIII. fig. 7.

Allied to *Hydrusa*; head small, antennæ minutely serrated; thorax and abdomen broad, the latter hairy behind; wing semi-hyaline, neuration almost as in *Hydrusa*. Type, *P. duvaucelii*.

1. *PSICHOTOË DUVAUCELII*, Boisd. Zyg. pl. 8. fig. 5 (1829).

Body black, abdomen with a spot at base and the fifth segment orange-yellow; front of pectus below testaceous: wings greyish hyaline, the veins, costæ, and bases brown; extreme outer marginal edge black: expanse of wings 19 millims.

Calcutta.

Coll. F. Moore.

There is a large example of what I take to be this species in Mr. Moore's collection from Scinde; it is in the collection of the British Museum, from Darjeeling, with Walker's MS. name *S. nigrita* attached.

2. *P. INCIPIENS*.

*Syntomis incipiens*, Walker, Lep. Het. Suppl. i. p. 68 (1864).

S. India (*Walhouse*).

Type, B.M.

The genus *Tasema*, Walker, placed by that author next to *Psychotoë*, seems closely allied to *Procris*; the antennæ are of the same construction.



## PROCOTES, n. gen. Pl. XXVIII. fig. 1.

Wings narrow, cell of secondaries wide, partially divided by a recurrent nervure; one radial; discocellulars forming a continuous concave angular line, and equal in length; second median branch trifurcate, the forks emitted from its lower margin at regular intervals, thus dividing it into three almost equal lengths. Type, *P. diminuta*, Walker.

1. PROCOTES DIMINUTA, *Walker* = *Euchromia* (Endera) *diminuta*, *Walker*, *L. H.* p. 230.

*Syntomis diminuta*, *Walker*, *l. c.* p. 1592.

## NOTIOPTERA, n. gen. Pl. XXVIII. fig. 2.

Wings moderately broad, cell of secondaries wide, partially divided by a recurrent nervure emitted from the middle of the lower discocellular; one true radial, the lower radial being placed at the end of the median nervure, thus forming a fourth median branch; upper discocellular short, oblique, lower twice as long, angulated in the middle, the two together forming a zigzag line. Type, *N. dolosa*, Walker.

1. NOTIOPTERA DOLOSA = *Syntomis dolosa*, *Walker*, *Lep. Het.* p. 1594.
2. N.? GLAUPOIDES = *S. glaucopoides*, *Walker*, *Lep. Het. Suppl.* p. 69.
3. N. STRIGOSA = *S. strigosa*, *Walker*, *Lep. Het. Suppl.* p. 69.
4. N.? EXPANSA = *S. expansa*, *Walker*, *Lep. Het. Suppl.* p. 73.

## THYRASSIA, n. gen. Pl. XXVIII. fig. 6.

Nearly allied to the preceding, but with not only the lower radial but also the third median branch emitted near together from the lower discocellular; the continuous line of the discocellulars also less zigzag. Type *T. subcordata*, Walker.

1. THYRASSIA SUBCORDATA = *Syntomis subcordata*, *Walker*, *Lep. Het.* p. 132.

BALATÆA, *Walker*.

1. BALATÆA ÆGERIOIDES, *Walker*, *Lep. Het. Suppl.* i. p. 110 (1864). Northern China. Type, B.M.

I rather doubt the propriety of separating this genus from the next; for though slightly different in coloration, its large palpi seem to be its chief structural distinction; the pattern of



the wings is very similar: both sexes are in Mr. Moore's collection from North China. I think *Rhaphidognatha setiaformis* of Felder is the same species.

Genus *ARTONA*, *Walker*. Pl. XXVIII. fig 14.

Secondaries with two subcostal and three median branches; a fine radial nervure equally dividing the discocellulars and recurrent within the cell to near the base of the median nervure; the discocellulars together forming a distinct angle; connecting alary bristle very long: antennæ of male strongly pectinated, of female filiform, flattened below, and rather thick, with the apical segments attenuated and ending in a species of clavus.

1. *ARTONA DISCIVITTA*, *Walker*, *Lep. Het.* ii. p. 440, n. 1 (1854).  
N. India (*Stephens*). Type, B.M.

In Mr. Moore's collection from S. India.

2. *A. ZEBRAICA*, n. sp.

Size of the preceding species, but nearly allied to *A. Walkeri*; from the latter it chiefly differs in its smaller size, the paler colour and smaller size of all the yellow spots and patches on the wings, and the yellow bands and streaks on the body, and the triangular form of the abdominal bands: the abdomen of the male below is nearly white: expanse of wings 16 to 20 millims.

Almorah (*Boys*), Massuri (*Leadbeater*), N. India (*Reid*). Type, B.M.

3. *A. WALKERI*.

*Syntomis Walkeri*, *Moore*, *P. Z. S.* pl. 60. fig. 10 (1859).

♂, ♀. Java.

Type, B.M.

4. *A. NIGRESCENS*, n. sp.

♂. Closely allied to the preceding species, same size, and nearly the same pattern, but almost black, with the yellow markings very pale; the spots on primaries rather larger, and the streaks of secondaries united, semitransparent in front; also a yellow and hyaline-white spot upon the costal margin: expanse of wings 22 millims.

Punjab, hills.

Type, coll. F. Moore.

Easily recognized, from the dark ground-colour of the body and wings and the very slender pale bands on the abdomen.

5. *A. FULVIDA*, n. sp.

♀. Like a small edition of *A. Walkeri*, but easily distinguished by the coloration of the abdomen, which is ochreous, with a black spot on each side at base and anal extremity: it also differs in having the sub-



apical spots of primaries united into a single large reniform spot :  
expanse of wings 21 millims.

Moulmein (*Clerck*).

Type, B.M.

6. *A. HAINANA*, n. sp.

♀. Nearly allied to *A. Walkeri*, but the segments of the abdomen not edged with black; the usual subterminal black bar : expanse of wings 24 millims.

Hainan, China (*Swinhoe*).

Type, coll. F. Moore.

Doubtless a local form of *A. Walkeri*.

7. *A. CONFUSA*, n. sp.

*Syntomis Hübneri* (*part.*), *Walker* (*nec Boisd.*), *Lep. Het.* i. p. 125. n. 19 (1854).

♀. Nearly allied to *A. Walkeri*, but the abdomen ochreous, with a broad terminal black band; anus fringed with ochreous hairs; spots towards apex of primaries connected, forming a large reniform spot, as in *A. fulvida*; secondaries sometimes without the subcostal black dash : expanse of wings 25 to 27 millims.

North India (*James*).

Type, B.M.

The type of this species bears a label in Mr. Walker's handwriting with the name "*Hübneri*" inscribed thereon; the description (in *Lep. Het.*) does not, however, quite agree with it. *A. confusa* is very like *A. hainana*.

Genus *BINTHA*, *Walker*.

1. *BINTHA GRACILIS*, *Walker*, *Lep. Het. Suppl.* i. p. 127 (1864).

Japan (*Fortune*).

Type, B.M.

Genus *TASCIA*, *Walker*.

1. *TASCIA FINALIS* = *Euchromia* (*Aclytia*) *finalis*, *Walker*, *L. H.* i. p. 245.

*T. chrysotelus*, *Walker*, *Lep. Het.* vii. p. 1600.

Port Natal (*Gueinzius*).

Types, B.M.

2. *T. VIRESCENS*, n. sp.

Body dull dark green, with a lateral row of metallic green dots terminating in a carmine dot; anal segments orange, black at the sides; wings dark silky green; primaries with a large oval hyaline-white spot within the end of cell; a second large bifid white spot cut by the first median branch; a metallic dot at the base; secondaries with a large hyaline-white spot on the abdominal area: body below dark green, with a lateral row of metallic green dots terminating as above in a carmine dot: wings dark shining green, fringe purple; primaries with basal half purplish brown: secondaries with two subcostal



metallic green spots, one near the base, the other just beyond the middle of the wing; otherwise as above: expanse of wings 35 millims.

Port Natal (*Gueinzus*).

Type, B.M.

Allied to the preceding species, but very distinct.

3. *T. PULCHRA*, n. sp.

Body dull dark brown; crest, apex of antennæ, back of the eyes and collar, metallic steel-blue; second and third segments metallic green at the sides, below which all the segments have a line of carmine; wings dark brown, primaries with a quadrifid, slightly tapering, hyaline-white postmedian band or spot; secondaries hyaline-white at base; discoidal spot and a spot below centre of median nervure bright metallic blue: below dark dull brown, frons and thorax spotted with steel-blue; primaries with a dash of metallic blue in the cell; secondaries with basi-costal area and a subcostal spot beyond the middle metallic green; the hyaline abdominal area edged with blue; anal angle greenish: otherwise as above: expanse of wings 28 millims.

Congo (*Curror*).

Type, B.M.

4. *T. INSTRUCTA* = *Euchromia* (*Amycles*) *instructa*, *Walker, Lep. Het. i. p. 254.*

Sierra Leone (*Morgan*).

Type, B.M.

5. *T. CUPREA* = *Syntomis cuprea*, *Walker, Lep. Het. vii. p. 1596.*

India.

There is a species allied to this in Mr. Moore's collection.

6. *T. QUADRICOLOR* = *Syntomis quadricolor*, *Walker, Lep. Het. vii. p. 1596.*

India.

I have seen this species in Mr. Moore's collection.

Genus *SALIUNCA*, *Walker. Pl. XXVIII fig. 17.*

1. *SALIUNCA THORACICA* = *Tipulodes?* *thoracica*, *Walker, Lep. Het. vii. p. 1626.*

*S. thoracica*, *Walker, Lep. Het. Suppl. i. p. 108.*

Sierra Leone (*Foxcroft*), Africa (*Milne*).

Types, B.M.

The examples placed by Walker under *Tipulodes* and *Saliunca* were described independently of each other.

2. *S. STYX* = *Zygæna styx*, *Fabricius, Sp. Ins. ii. p. 166. n. 52.*

Africa.

Coll. Banks.

Closely allied to the preceding species. It has no connexion whatever with the species referred to it by Walker.



3. *S. AURIFRONS*, *Walker, Lep. Het. Suppl. i. p. 109* (1864).

Sierra Leone (*Foxcroft*).

Type, B.M.

One of the most beautiful of the Zygænidaë.

Genus *PHACUSA*, *Walker. Pl. XXVIII. fig. 15.*

1. *PHACUSA TENEBROSA* = *Glaucopis (Phacusa) tenebrosa, Walker, Lep. Het. i. p. 150.*

*Syntomis tenebrosa, Walker, Lep. Het. vii. p. 1592.*

India (*Stevens*).

Type, B.M.

2. *P. CRAWFURDI* = *Syntomis Crawfordi, Moore, P. Z. S. 1859, pl. 60. fig. 11.*

Java (*Horsfield*).

Type, B.M.

Genus *THYRETES*, *Boisduval. Pl. XXVIII. fig. 11.*

1. *THYRETES HIPOTES* = *Sphinx hippotes, Cramer, Pap. Exot. iii. pl. 286. f. A.*

Cape of Good Hope.

♂, ♀, B.M.

2. *T. CAFFRA*, *Wallengren, Kongl. Svenska. Vetensk. Akad. Handl. v. p. 11.*

South Africa.

Rather smaller in both sexes than the preceding species.

3. *T. MONTANA*, *Boisd. Voy. de Deleg. ii. p. 597, et Wallengren, op. cit.*

East Caffraria.

4. *T. MONTEIROI*, n. sp.

Body ochre-yellow, eyes, antennæ, centre of dorsum, and edges of abdominal segments black-brown, a line down each side of the abdomen of the same colour: wings dark brown; a testaceous hyaline band from centre of inner margin, round lower edge of cell, to lower radial nervure, cut by the median branches into four unequal parts; a semi-circular spot of the same colour within the end of the cell, and another oval spot near apex; secondaries with the basal half irregularly testaceous hyaline; an oval bifid disco-submarginal spot of the same colour, cut by the third median nervure: below nearly as above: expanse of wings 30 millims.

Ambriz (*Monteiro*).

Type, B.M.

A very pretty little species.

Genus *APISA*, *Walker.*

1. *APISA CANESCENS*, *Walker, Lep. Het. iv. p. 917, n. 1* (1855).

South Africa (*Argent*).

Type, B.M.



As I have already said, I feel somewhat uncertain as to the position of this genus, although I believe it to be allied to *Thyretes*.

### Subfamily PHAUDINÆ\*.

The genera *Phauda*, *Odozana*, and a new genus from Japan† will, I think, form a distinct subfamily; I shall not, however, go into this group in the present paper, excepting to enumerate the species of *Phauda*:—1. *P. flammans*, Wlk.; 2. *P. Fortunei*, H.-Sch. (*triadum*, Walk.); 3. *P. mahisa*, Moore; 4. *P. sumatrensis*, Wlk. 5. *P. tenaipennis*, Wlk.

The following genera would, I think, be best referred to the Thyretinæ as an American subgroup: they all have the primaries opaque, and have six nervures branching from the discoidal cell of secondaries, two subcostal branches, one radial, and three median, the latter four following at about equal distances from each other; one genus, *Aglaope* of Walker (nec Latreille), *Harrisina* of Packard, has radiating terminal brushes to the abdomen in the male, and a very slender body.

### Genus URODUS, Herrich-Schäffer.

1. URODUS MONURA, Herrich-Schäffer, *Auss. Schmett.* i. fig. 219†.  
Pará (Bates). B.M.

2. U. XYLOPHILA, Herrich-Schäffer, *Auss. Schmett.* i. fig. 220.  
Venezuela.

I am doubtful as to this species being congeneric with the type.

### Genus PAMPA, Walker (restricted). Pl. XXVIII. fig. 13.

1. PAMPA MYSTICA = *Euchromia* (Pampa) *mystica*, Walker, *Lep. Het.* i. p. 239.

Honduras (Dyson). Type, B.M.

2. P. INVARIA = *Euchromia* (Pampa) *invaria*, Walker, *Lep. Het.* i. p. 240.

Santarem (Bates). Type, B.M.

### Genus HARRISINA, Packard. Pl. XXVIII. fig. 5.

*Aglaope*, Walker (nec Latreille.).

1. HARRISINA AMERICANA = *Aglaope americana*, Boisd. in Griff. *An. Kingd.*

Georgia (E. Doubleday). B.M.

\* Wings rather narrow and elongated, antennæ filiform or pectinated.

† Abdomen terminating in long radiating hairs.



2. *H. FULVINOTA*, n. sp.

♀. Closely allied to *H. americana*, but larger, with a conical fulvous spot at end of cell in primaries; the collar only fulvous at the sides; the abdomen greenish, with the basal segments margined laterally with fulvous: expanse of wings 31 millims.

Espirita Santo (*Higgins*).

Type, B.M.

The following genus appears to me to belong to the *Ægeriidæ*, or at any rate Walker's species. Felder's may be a *Urodus*, but is, I think, congeneric with Walker's.

Genus *POLYPHLEBIA*, *Felder*.

1. *POLYPHLEBIA ATYCHIOIDES*, *Felder*, *Reise de Nov. Lep.* iv. pl. 102. fig. 38.

——?

2. *POLYPHLEBIA?* *BUPRESTOIDES* = *Aclytia buprestoides*, *Walker*, *Lep. Het. Suppl.* i. p. 101.

Pará (*Bates*).

Type B.M.

Subfamily *EUCHROMIINÆ*.

Antennæ of males pectinated, secondaries with the cell terminating at each extremity in a simple fork, that is to say, the subcostal and median nervures each terminate in two branches diverging from one point\*.

Section *a. Wings opaque.*

Group *a. a. First median branch in secondaries forked at its outer extremity, anal valves of males expanded and prominent.*

Genus *EMPYREUMA*, *Hübner*. Pl. XXVIII. fig. 19.

1. *EMPYREUMA LICHAS*, *Fabric*.

Haiti, Cuba, Honduras.

B.M.

2. *E. PUGIONE*, *Linn*.

Jamaica.

B.M.

Group *a. b. First median branch in secondaries simple, anal valves of male normal.*

Genus *HISTIOEA*, *Walker*. Pl. XXVIII. fig. 21.

\* *Abdomen with basal cream-coloured band.*

1. *HISTIOEA CEPHEUS*, *Cramer*.

Venezuela.

B.M.

\* *Pseudosphenopectera* is an exception; for here the branches of the median nervure are emitted normally, although the first branch is absent, leaving only two.



2. *H. MELDOLÆ*, n. sp.*H. bellatrix*, var., *Walker, Lep. Het.* i. p. 218 (1854).

Differs from *H. bellatrix* (the type of which is an abnormality) in the presence of three (instead of one) red streaks parallel to the inner margin of primaries, the postmedian testaceous band converted into three or four spots forming a tapering series towards costa, the red costal streak continued nearly to apex, the red markings of secondaries more contracted, the lateral metallic green spots on the abdomen larger: expanse of wings 52 to 67 millims.

Trinidad, coll. Meldola; Venezuela (*Dyson & Becker*).

B.M.

3. *H. BELLATRIX*, *Walker*.

Venezuela.

Type, B.M.

4. *H. COLOMBIÆ*, n. sp.

Primaries as in *H. bellatrix*, excepting that the postmedian band is yellower and twice as broad; secondaries with the red spot smaller and separated from the interno-median red patch, almost as in *H. cepheus*, the creamy abdominal patch smaller: expanse of wings 68 millims.

New Granada (*Stevens*).

Type, B.M.

\*\* *Abdomen without a basal cream-coloured band.*5. *H. AMAZONICA*, n. sp.

Allied to the preceding, but the postmedian band more oblique and slightly narrower, the spot at end of cell smaller, the red streaks on costal and internal areoles more slender and less distinct, the red spot of secondaries narrower and distinctly trifid; no red streak on interno-median area, and no internal creamy streak; the pterygodes entirely black; the abdomen without a cream-coloured band: expanse of wings 59 to 72 millims.

Ega and Villa Nova (*Bates*), Eastern Peru (*Degand*).

Type, B.M.

Allied to *H. proserpina*, but the primaries of the *H. bellatrix* type.

6. *H. INFERIORIS*, n. sp.

Primaries as in *H. amazonica*, excepting that the creamy spot in the cell is larger; secondaries with the scarlet streak reduced to two or three little spots, as in *H. proserpina*: expanse of wings 62 to 66 millims.

Lower Amazons (*Wallace*).

Type, B.M.

Perhaps a variety of the preceding, but certainly intermediate in character between it and *H. proserpina*.

7. *H. PROSERPINA*, *Hübner*.

Brazil.

B.M.



8. *H. PAULINA*, *Walker*.

St. Paul.

Type, B.M.

In this last species the secondaries are entirely black.

Genus *EUCHROMIA*\*, *Hübner*. Pl. XXVIII. fig. 20.

*Synonyms*. *Phalanna*, *Hira*, *Glaucopis* (*part.*), *Fregella*, *Hippola* (*part.*).

1. *EUCHROMIA LETHE*, *Fabric.* = *Euchromia* (*Hira*) *lethe*, *Walker*, *L. H.* p. 221.

Natal, Cape, Madagascar.

B.M.

The *Sphinx eumolphos* of Cramer and *Glaucopis Folletii* and *formosa* of Boisduval are synonymous with the above species.

2. *E. SPERCHIUS*, *Cramer* = *Euchromia* (*Hira*) *sperchius*, *Walker*, *L. H.* p. 220.

Congo, Angola, and Sierra Leone.

B.M.

This is doubtless the western and south-western representative of *E. lethe*.

3. *E. INTERSTANS* = *Euchromia* (*Hira*) *interstans*, *Walker*, *L. H.* p. 221.

Ashanti.

Type, B.M.

This species appears to be restricted to Ashanti, the form from Sierra Leone being distinct.

4. *E. LEONIS*, n. sp.

Smaller and more brightly coloured than *E. interstans*, the metallic spots being all brilliant green, and the yellow spots on the wings more golden in tint; primaries with the large, basal, bifid, yellow patch larger and more oblique, postmedian quadrid band slightly narrower; basal yellow spot of secondaries more distinct: expanse of wings 45 millims.

Sierra Leone (*Foxcroft & Morgan*).

Type, B.M.

Mr. Walker, as in many other instances, enumerated the examples of this species first, under *E. interstans*; they, however, represent his var.  $\beta$ .

5. *E. HORSFIELDII* = *Phalanna Horsfieldii*, *Moore*, *P. Z. S.* 1859, p. 200. Java (*Horsfield*).

Type, B.M.

6. *E. MADAGASCARIENSIS* = *Glaucopis madagascariensis*, *Boisd.* *Madag.*

Madagascar.

\* *E. sperchius*, Cr.



7. *E. AFRICANA*, n. sp.

*Euchromia* (Hira) *madagascariensis*, *Walker* (nec *Boisduval*), *Lep. Het.* i. p. 222, n. 29 (1854).

Allied to *E. Horsfieldii*, from which it chiefly differs as follows :—Second pale band of abdomen scarlet above instead of buff; primaries with basal half of wing golden yellow, red at base, not impinged upon by black projections from the subcostal or submedian nervures; postmedian quadrifid band or spot narrower and golden yellow; secondaries golden yellow, with a broader apical black border; abdominal margin not throwing out a black projection to end of cell, as in *E. Horsfieldii*, base reddish instead of whitish: expanse of wings 44 to 52 millims.

Natal (*Gueinzus* & *Becker*), Zoolu (*Angas*).

Type, B.M.

This species is entirely distinct from *E. madagascariensis*.

8. *E. CELEBENSIS*, n. sp.

Allied to *E. polymena*, but differing as follows :—reddish instead of white spots on the shoulder\*; basal band of abdomen cream-coloured above instead of scarlet, blue bands of abdomen becoming snow-white at the sides, the double scarlet band broadly margined with white on both sides below; primaries with the subbasal ochreous spot widely separated from the central band, and the large subapical ochreous patch narrower and divided in the centre by a black line: expanse of wings 49 millims.

Celebes (*Wallace*).

Three specimens, B.M.

A very distinct and beautiful species.

9. *E. POLYMENA* = *Sphinx polymena*, *Linn. S. N.* ii. p. 806.

North India, Canara, South India, Ceylon.

B.M.

10. *E. FRATERNA*, n. sp.

Closely allied to the preceding, but the blue bands on abdomen obsolescent; the sixth segment (succeeding the two scarlet bands) edged with scarlet instead of blue: expanse of wings 47 millims.

Moulmein (*Clerck*).

Type, B.M.

11. *E. ORIENTALIS*, n. sp.

Allied to *E. polymena*, but the spots on the shoulders reddish, the blue bands obsolescent, the fourth, fifth, and sixth segments of the abdomen entirely scarlet, and the seventh segment edged behind with scarlet: expanse of wings 47 millims.

North India (*James*).

Type, B.M.

12. *E. LAURA*, n. sp.

Allied to *E. polymena*, but the spots on the shoulders blue, the blue bands dull, the fourth, fifth, and sixth segments of the abdomen en-

\* This is, however, occasionally the case in *E. polymena*.



tirely scarlet, the seventh segment black; ochreous spots on basal area of wings obsolescent: expanse of wings 48 millims.

East India (*Argent*).

Type, B.M.

13. *E. SIAMENSIS*, n. sp.

Allied to *E. polymena*, but the fourth, fifth, sixth, and seventh segments scarlet; anus blue-black: expanse of wings 46 millims.

Siam (*Bowring*).

Type, B.M.

14. *E. SEMILUNA* = *Euchromia* (*Fregella*) *semiluna*, *Walker*, *L. H.* p. 272.

— ?

Type, B.M.

15. *E. THELEBAS* = *Sphinx thelebas*, *Cramer*, *Pap. Exot.* pl. 150.

N.E. coast of Australia.

B.M.

Perhaps a variety of *E. ganimede*; *Cramer's* locality is (almost certainly) incorrect.

16. *E. ISIS* = *Glaucopis isis*, *Boisduval*, *Astrolabe*, p. 193.

Oceania.

17. *E. GANYMEDE* = *Glaucopis ganymede*, *Doubl. Lort's Disc. App.* pl. 3.

Australia (*Dring &c.*), Lizard Island (*Macgillivray*).

B.M.

18. *E. IRUS* = *Sphinx irus*, *Cramer*, *Pap. Exot.* pl. 368.

Ceram, Dorey, Gilolo, and Celebes (*Wallace*).

B.M.

The *G. irius* (*sic*) of *Boisduval* is identical with this species.

19. *E. CÆLIPENNIS* = *Hira cœlipennis*, *Walker*, *L. H. Suppl.* p. 99.

Amboina (*Type*). B.M.

This may, I think, be the *G. bourica* of *Boisduval*.

20. *E. CENONE*, n. sp.

Allied to *E. aruica*, but the collar scarlet instead of metallic green, the shoulders yellow instead of green, the basal segment of the abdomen yellow instead of creamy white, the second segment with a yellow lateral spot, the third with a scarlet lateral spot, the fourth and fifth above (and the third to fifth below) broadly banded with scarlet, the sixth, seventh, and anus green behind; wings black with hyaline white spots, as in *E. aruica*, but broader: expanse of wings 44 millims.

Solomon Islands (*Denham*).

Type, B.M.

We have two examples of this beautiful species in bad condition.

21. *E. ARUICA* = *Hira aruica*, *Walker*, *Lep. Het. Suppl.* i. p. 98.

Aru (*Wallace*).

Type, B.M.



22. *E. RUBRICOLLIS*=*Hira rubricollis*, *Walker, Lep. Het. Suppl.*  
p. 99.  
Anciteum, New Hebrides. Type, B.M.

Genus *EUROTA*, *Walker*.

1. *EUROTA PICTA*=*Eurata pictula*, *Walker, L. H. i. p. 181*=*picta*,  
*H.-Sch.*  
Venezuela. B.M.
2. *E. HERRICHII*=*Glaucopis sericaria*, *H.-Sch. Auss. Schm. fig. 229.*  
This is certainly distinct from the *G. sericaria* of Perty.

Genus *SYNTOMEIDA*, *Harris. Pl. XXVIII. fig. 16.*

*Hippola*, *Walker*.

1. *SYNTOMEIDA SERICARIA*=*Glaucopis sericaria*, *Perty, Delect. pl.*  
31. fig. 14.  
Minas.
2. *S. HISTRIO*=*Glaucopis histrio*, *Guérin, Ic. Règ. An. p. 502.*  
Bolivia.
3. *S. ALBIFASCIATA*, n. sp.  
Nearly allied to *S. melanthus*, but smaller, and with all the spots on the  
thorax and bands on the abdomen creamy-white instead of scarlet :  
expanse of wings 39 millims.  
Honduras (*Dyson*). Type, B.M.
4. *S. MELANTHUS*=*Sphinx melanthus*, *Cr. pl. 248. fig. C.*  
Nicaragua, Guatemala, Venezuela. B.M.
5. *S. IPOMÆÆ*=*Glaucopis (Syntomeida) ipomææ*, *Harris, Descr.*  
*Sph.*  
Georgia.  
This appears to be quite distinct from *S. ferox*.
6. *S. FEROX*=*Euchromia (Hippola) ferox*, *Walker, L. H. p. 223.*  
*Glaucopis euterpe*, *H.-Sch. Aussereur Schm. fig. 430.*  
United States. Type, B.M.
7. *S. CAPISTRATA*=*Zygæna capistrata*, *Fabric. Sp. Ins. p. 165.*  
*Læmocharis selecta*, *H.-Sch. Aussereur Schm. fig. 256.*  
Brazil. B.M.
8. *S. ? EPILAIS*=*Euchromia (Hira) epilais*, *Walker, L. H. p. 227.*  
Honduras (*Dyson*). Type, B.M.
9. *S. ? TINA*=*Euchromia (Tipulodes) tina*, *Walker, Lep. Het. i. p. 233.*



*Sphenoptera Batesii*, *Felder, Reise der Nov. Lep. tab. cii. fig. 35.*

Rio Grande (*Becker*).

Type, B.M.

Genus ENDERA, *Walker*.

1. ENDERA VULCANUS = *Euchromia* (*Endera*) *vulcanus*, *Walker, L. H. p. 228.*

*Glaucopis vulcanus*, *H.-Sch. Ausl. Schm. fig. 295*

Mexico.

Type, B.M.

2. *E. SAULCYI* = *Glaucopis sauleyi*, *Guérin, Ic. Règ. Anim. p. 502.*

*Calonota? niveifascia*, *Walker, L. H. vii. p. 1628.*

Martinico (*Guérin*), —?

B.M.

Genus EUPYRA, *Herrich-Schäffer*.

1. EUPYRA PRINCIPALIS, *Walker, Lep. Het. Suppl. i. p. 97.*

Mexico.

Type, B.M.

2. *E. REGALIS*, *H.-Sch. Aussereur. Schmett. i. pl. 13. fig. 57.*

Quito.

Allied to the preceding species.

3. *E. IGNITA*, *H.-Sch. Aussereur. Schmett. i. pl. 13. fig. 55.*

*Euchromia* (*Chrysocale*) *ignita*, *Walker, Lep. Het. i. p. 209.*

“Venezuela” (*Herrich-Schäffer*), Bogota (*Isaacson*).

B.M.

4. *E. IMPERIALIS*, *H. Sch. Aussereur. Schmett. i. pl. 13. fig. 54.*

Venezuela.

5. *E. FLORELLA* = *Chrysocale florella*, *Butler, Ann. & Mag. 4th S. xii. p. 227.*

Huasampilla, Peru (*Whitely*).

Type, B.M.

Nearly allied to the preceding species, but much more brilliant in colour.

6. *E. PLEBEIA*, *Herrich-Schäffer, Aussereur. Schmett. i. pl. 13. fig. 56.*

*Euchromia* (*Chrysocale*) *opulenta*, *Walker, Lep. Het. i. p. 210.*

“Caracas” (*Herrich-Schäffer*), Venezuela (*Dyson*).

B.M.

Genus TRICHELA, *H.-Sch.*

*Enope, Walker.*

1. TRICHELA TOLUMENSIS, *Herrich-Schäffer, Aussereur. Schmett. i. pl. 13. fig. 53.*

*Euchromia* (*Enope*) *hirsuta*, *Walker, Lep. Het. i. p. 208.*

Bogota.

B.M.



2. *T. FENESTRATA* = *Sphinx fenestrata*, *Drury, Ill. i. pl. 25. fig. 3.*  
Jamaica.

I doubt the *S. fenestrata* of Stoll being conspecific; it seems to have rather the character of *Procallypta*, n. gen.

The following genus was restricted by Walker before Grote suggested *S. thetis* of Cramer as its type.

Genus CALONOTOS, *Hübner*.

Section AUTOCHLORIS, *Hübner*.

*Mystrocneme*, *H.-Sch.*

1. *CALONOTOS ALMON* = *Sphinx almon*, *Cramer, Pap. Exot. iii. pl. 224.*  
fig. F.  
Surinam.

This is the type of Hübner's *Autochloris*; but *C. phlegmon* is the type of *Calonotos*.

2. *C. GEMINATA* = *Mystrocneme geminata*, *Herrich-Schäffer, Ausser-  
eur. Schmett. i. fig. 419.*

*Euchromia (Calonotos) varipes*, *Walker, L. H. i. p. 235.*

Pará.

B.M.

I think the *Calonota perspicua* of Walker must be this species.

Section CALONOTOS, *Hübner*.

*Læmocharis (part.)*, *H.-Sch.*

3. *C. PHLEGMON* = *Zygæna phlegmon*, *Fabricius, Sp. Ins. ii. p. 160.*  
Pará (*Bates*).

B.M.

I believe the *C. interrupta* of Walker to be this species.

4. *C. NEXA* = *Læmocharis nexa*, *Herr.-Sch. Auss. Schm. fig. 254.*

Santarem and Villa Nova (*Bates*), Santa Marta (*Bouchard*).

B.M.

Section SPHENOPTERA, *Felder*.

*Læmocharis (part.)*, *H.-Sch.*

5. *C. HELYMUS* = *Zygæna helymus*, *Fabricius, Sp. Ins. ii. p. 162.*  
*Glaucopis aterrima*, *Sepp, Ins. Surin. pl. 97.*

Demerara.

B.M.

6. *C. SERICEA* = *Læmocharis sericea*, *H.-Sch. Auss. Schm. fig. 253.*

—? B.M.

7. *C. TRIANGULIFERA* = *Sphenoptera triangulifera*, *Felder, Nov. Reise,*  
pl. cii. fig. 34.

—?



8. *C. AURATA*=*Euchromia* (*Macrocneme*) *aurata*, *Walker, L. H.*  
p. 250.  
Venezuela. Type, B.M.

9. *C. EACUS*=*Sphinx eacus*, *Cramer, Pap. Exot.* iv. p. 357.  
*Pseudomya errans*, *Hübner, Verz.* p. 124.  
Surinam?

10. *C. NYCTEUS*=*Sphinx nycteus*, *Cramer, Pap. Exot.* iv. pl. 325.  
fig. F.  
*Euchromia* (*Hippola*) *apricans*, *Walker, L. H.* i. p. 224.  
Venezuela (*Becker*). B.M.

11. *C. ? VESPA*=*Pseudophea vespa*, *H.-Sch. Auss. Schmett.* fig. 426.  
Pará.

Excepting in the form of the abdomen, this species has quite the aspect of a *Sphenoptera*.

Genus *AMYCLES*, *Herrich-Schäffer*. Pl. XXVIII. fig. 18.

1. *AMYCLES TENEBROSA*=*Euchromia* (*Pampa*) *tenebrosa*, *Walker, L. H.* i. p. 240.  
Pará (*Bates*). Type, B.M.
2. *A. POSTICA*=*Pampa postica*, *Walker, L. H.* vii. p. 1630.  
Santarem (*Bates*). Type, B.M.
3. *A. FLAVIFASCIA*, *Herrich-Schäffer, Auss. Schmett.* fig. 231.  
*Euchromia* (*Pampa*) *aliena*, *Walker, Lep. Het.* i. p. 241, n. 68.  
Pará and Ega (*Bates*). B.M.

Genus *PSOLOPTERA*, n. gen.

Allied to *Calonotos* and *Amycles*; differs from the former in its more strongly plumose antennæ, and from the latter in the branches of the subcostal and median nervures of secondaries not being emitted from a footstalk. Type, *P. thoracica*, *Walker*.

1. *PSOLOPTERA THORACICA*=*Euchromia* (*Autochloris*) *thoracica*,  
*Walker, L. H.* i. p. 243.  
Ega (*Bates*). Type, B.M.
2. *P. LEUCOSTICTA*=*Glaucopis leucosticta*, *Hübner, Samml.* i. pl. 69  
(1806).  
Pará (*Bates & Smith*), Santarem (*Bates*). B.M.



Genus SAURITA, *Boisduval*.

1. SAURITA CRYPTOLEUCA = *Euchromia* (Pampa) *cryptoleuca*, *Walker*,  
*L. H.* i. p. 239.

Pará (*Bates*).

Type, B.M.

2. S. CASSANDRA = *Sphinx cassandra*, *Linnæus*, *S. N.* ii. p. 806.

Venezuela (*Becker & Dyson*).

B.M.

This species was placed by Mr. Walker under *Calonotos*: it is, however, clearly distinct from that group, and Dr. Boisduval has done well in making a genus for its reception: in the general form and coloration of the body it resembles Felder's genus *Homæocera*.

## Genus PSEUDOSPHEOPTERA, n. gen. Pl. XXVIII. fig. 4.

Closely resembling *Calonotos* (Section *Sphenoptera*), but easily separated by the neurulation of secondaries, the two median branches not being emitted in the usual way from one point, inasmuch as the first branch leaves the nervure before the end of the cell, also in the subcostals being placed upon a footstalk. Type *Pseudosphenoptera basalis*, Walker.

1. PSEUDOSPHEOPTERA BASALIS = *Euchromia* (*Macrocneme*) *basalis*,  
*Walker, Lep. Het.* i. p. 251.

Ega (*Bates*).

Type, B.M.

Very like *C. nycteus* of Cramer.

## Genus ICHORIA, n. gen. Pl. XXVIII. fig. 9.

Wings long and narrow; nearly allied to *Calonotos*; but the branches of the median nervure in secondaries placed upon a long footstalk, and the lower discocellular receding.

Type *I. quadrigutta*.

1. ICHORIA QUADRIGUTTA = *Euchromia* (*Aclytia*) *quadrigutta*, *Walker*,  
*L. H.* i. p. 245.

Mexico (*Hartweg*).

Type, B.M.

2. I. TRICINCTA = *Glaucopis tricineta*, *Herrich-Sch. Auss. Schmett.*  
 fig. 300.

Brazil.

3. I. ? CONCISA = *Euchromia* (*Autochloris*) *concisa*, *Walker, Lep. Het.* i.  
 p. 243.

Pará (*Bates*).

Type, B.M.



GENUS MACROCÑEME, *Hübner*.

1. MACROCÑEME MAJA = *Zygæna maja*, *Fabricius*, *Mant. Ins.* ii. p. 106.  
Pará (*Smith & Bates*). B.M.

2. M. LEUCOSTIGMA = *Glaucopis leucostigma*, *Perty*, *Delect.* pl. 31.  
fig. 11.  
Pará (*Bates*), Honduras and Venezuela (*Dyson*). B.M.

3. M. FERREA, n. sp.

Nearly allied to the preceding species; but the secondaries, instead of being black above, are shining greenish steel-colour, with a black border widest at apex; the black spot towards base of primaries is less strongly defined: expanse of wings 42 millims.

New Granada (*Children*), Espiritu Santo (*Stevens*). Type, B.M.

4. M. CUPREIPENNIS, *Walker*, *Lep. Het.* vii. p. 1632.

——? (*Children*). Type, B.M.

5. M. ESMERALDA, n. sp.

Body blackish-brown, frons metallic blue, white on each side; crest and hind margins of eyes blue-spotted, three metallic green spots on the thorax, abdomen with a dorsal streak and a lateral macular line of metallic green, also a lateral ventral streak of white, basal segment below green: primaries above metallic green, base, inner margin, and outer margin dark brown, a black streak in the cell; secondaries blue-black: wings below dark brown, primaries with discoidal area metallic green; secondaries with costal area to second third of wing metallic green: expanse of wings 31 millims.

Ega (*Bates*). Type, B.M.

6. M. INDISTINCTA, n. sp.

Allied to the preceding species, but with distinct white spots on the shoulders; abdomen bronzy greenish, the metallic green streaks ill-defined; lateral stripes of white spots below well defined, three basal segments below metallic green; primaries with the brown border of outer margin broader: expanse of wings 37 millims.

Pará (*Bates*). Type, B.M.

7. M. SPLENDIDA, n. sp.

Head and thorax black, frons white, bluish in the centre, collar spotted laterally with blue and white; shoulders with a white spot; thorax with three silvery bluish spots in a triangle, two on meso- and one on metathorax; abdomen metallic green, with brighter green dorsal and lateral stripes, basal segment black, with green dorsal stripe; glandular drums greyish in front, metallic green behind; palpi below fringed with white scales; coxæ and sides of femora white; metathorax metallic green; base of venter metallic green margined



behind by a semicircular white zone, followed on the posterior segments by a series of diamond-shaped white dots; wings below black; primaries with median and discoidal area metallic green, secondaries with basicostal area metallic green: expanse of wings 34 millims.

Santa Marta (*Bouchard*).

Two examples, B.M.

This beautiful little species is allied to *M. vittata*, but is very distinct.

8. *M. VITTATA* = *Euchromia* (*Macrocneme*) *vittata*, *Walker*, *L. H.* i. p. 249.

Pará (*Bates*).

Type, B.M.

9. *M. OBSCURA* = *Tipulodes obscura*, *Wallengren*, *Wien. Monatsschr.* iv. p. 40.

Guayaquil.

### Genus *CALLICARUS*, *Grote*.

This genus has been well defined by *Grote*, and contains the following species:—1. *C. plumipes*, *Drury*; 2. *C. punctata*, *Guérin*; 3. *C. pennipes*, *Grote*; 4. *C. texanus*, *Grote*.

### Genus *MASTIGOCERA* (part.), *Boisduval*.

1. *MASTIGOCERA CYANEA*, n. sp.

Thorax black, with the inner and anterior margins of the tegulæ and two parallel longitudinal streaks on the prothorax speckled with bluish green scales; collar blue-green behind; head with two white spots in front of the eyes; antennæ black, tipped with white; anterior margin of the collar with two central white dots; basal segment of abdomen black with four transverse white dots, other segments bronzy green, white lateral dots on the second and third segments; wings above bright steel-blue; primaries with a black oblique spot near base of internal area, apex and outer margin diffusely blackish; secondaries with costa brown, abdominal area, apex, and outer margin black: body below black-brown, coxæ white-spotted, legs steel-blue, the tufts of hind legs black, tipped with white; primaries below with basal half steel-blue, apical half and inner margin black; secondaries steel-blue, the outer margin black: expanse of wings 42 millims.

Brazil.

Type, B.M.

Although this species has the aspect of a *Macrocneme*, the tufting of the hind legs is that of *Mastigocera*.

2. *M. FUSILLA*, n. sp. = *Euchromia* (*Macrocneme*) *Æacus*, *Walker* (*nec Cramer*), *Lep. Het.* i. p. 250. n. 86.

Pará (*Bates*).

Type, B.M.



*M. pusilla* is of a smoky-black colour, the primaries with a central diffused bluish patch extending from near the base to beyond the cell; the head and thorax are spotted with white; and the abdomen is metallic blue-green at the sides and on the basal segments below; the last three or four segments are laterally margined below with white; the pectus is spotted with green: expanse of wings 28 millims.

3. *M. TARSALIS* = *Horamia tarsalis*, *Walker, Lep. Het.* vii. p. 1633.  
 —? (*Stevens*). Type, B.M.

4. *M. ÆDIPUS*, *Boisduval, Consid. Lép. Guat.* p. 81.  
 Guatemala.

5. *M. CLAVIPES*, *Boisduval, Consid. Lép. Guat.* p. 81.  
 Mexico (*Boisd.*), Venezuela. B.M.

6. *M. TIBIALIS*, n. sp.

Head black, frons, palpi, and crest orange; antennæ black with orange tips; pterygodes black-brown, margined in front and internally with orange; collar black-brown, with a pale yellow dot at each side, and a third (divided) in the centre; thorax dark purplish brown, with a paler line on each side, two orange lituræ forming an imperfect semicircle in front, and two orange dots behind; basal segment and drums of abdomen greyish brown internally, bright ochreous externally, a central oblong brown-edged white spot at base; other segments shining slate-colour margined with orange, second segment white laterally and below; anus orange: wings dull rusty brown, secondaries with basal half dull orange; wings below paler, more orange in tint, especially towards the base; pectus dark brown with lateral white spots, legs orange, with the knees and proximal ends of the tibiæ black; abdomen orange, third to fifth segments slate-coloured internally: expanse of wings 34 millims.

Haiti (*Tweedie*). Type, B.M.

Allied to *M. clavipes*.

#### Genus HORAMA, *Hübner*.

1. *HORAMA INCERTA*, *Walker, Lep. Het.* vii. p. 1627.  
 —? (*Milne*). Type, B.M.

This is such a bad example as to be almost unrecognizable.

2. *H. DIFFUSA*, *Grote, P. E. S. Phil.* 1866, p. 181.

*Horamia* (*sic*) *pretellus*, *Herrich.-Sch. Corr.-Blatt Regensb.* p. 113 (1866).

Cuba.



3. *H. PRETUS* = *Sphinx pretus*, *Cramer, Pap. Exot.* ii. pl. 175. figs. E, F.

St. Thomas.

B.M.

4. *H. GROTEI*, n. sp.

Very like *H. pretus*, but longer in the wing and much deeper in colour; the head yellow, with a transverse black line on the crest; collar yellow, margined with black; pterygodes plum-colour, margined with orange; thorax clay-coloured, smoky brown in front and behind; basal segment of abdomen purple in front, lemon-yellow behind; other segments dark clay-colour; second segment purplish opaline in front and at the sides, with a very slender yellowish hind margin; third segment pale yellow at the sides behind; fourth to seventh very narrowly rosy at the sides; antennæ deep clay-coloured, with a black band just beyond the middle; outer half of primaries and secondaries dark clay-colour, basal area of primaries bright clay-colour; wings below with basal area ochraceous; pectus blackish; coxæ purplish, with a white margin; trochanters bright yellow; femora purplish slate-colour; tibiæ and tarsi ochreous, last pair of tibiæ black at the proximal extremity: expanse of wings 44 millims.

Jamaica (*Gosse*).

Two specimens, B.M.

I have named this pretty species after my friend Augustus R. Grote, the well-known American Lepidopterist.

#### Genus *ORCYNIA*, *Walker*.

1. *ORCYNIA CALCARATA* = *Euchromia* (*Orcynia*) *calcarata*, *Walker, Lep. Het.* i. p. 274.

Santarem (*Bates*).

Type, B.M.

This magnificent hornet-like species is evidently nearly allied to the genus *Horama*; it also has many characters in common with *Isanthrene*: the wings are semi-opaque, so that it forms a good transition from the opaque-winged to the clear-winged group.

#### Section *b. Wings translucent*.

#### Genus *ISANTHRENE*. Pl. XXVII. fig. 4.

1. *ISANTHRENE POMPILOIDES* = *Glaucopis* (*Isanthrene*) *pompiloides*, *Walker, Lep. Het.* i. p. 156.

Guatemala (*Stevens*).

Type, B.M.

Before proceeding further with the species referred to *Glaucopis*, I may as well remark that not only is the Fabrician type of the genus doubtful, but the name *Glaucopis* had already been used as



a genus of Aves twenty years before it was characterized as a group of Lepidopterous insects.

2. *I. FLAVICORNIS* = *Sphinx flavicornis*, *Fabricius, Mant. Ins.* ii. p. 104.

*Glaucopis* (*Isanthrene*) *vespoides*, *Walker, Lep. Het.* i. p. 155.

*Villa Nova and Pará (Bates).*

B.M.

3. *I. USTRINA*, *Hübner, Samml. Exot. Schmett.* figs. 493, 494.

*Brazil (Mornay & Becker).*

B.M.

4. *I. INCENDIARIA* = *Glaucopis incendiaria*, *Hübner, Samml.* pl. 166.

*Glaucopis* (*Isanthrene*) *flavicornis*, *Walker (nec Fabr.), L. H.* p. 155.

*S. America.*

B.M.

5. *I. MAXIMA*, n. sp.

Nearly allied to *I. incendiaria*, but larger, with smaller yellow spots on the shoulders, only the first three segments of abdomen laterally spotted with yellow, dorsal bluish spots larger, ventral white spots rather smaller; apical black area of primaries decidedly larger: expanse of wings 57 millims.

*Rio (J. P. G. Smith).*

Type, B.M.

6. *I. PERBOSCHII* = *Glaucopis perboschii*, *Guérin, Ic. Règ. Anim.* p. 501.

*Campeachy Bay.*

7. *I. BASIFERA*, *Walker, Lep. Het. Suppl.* i. p. 86.

*Bogota.*

Seems allied to *I. incendiaria*.

#### Genus HOMÆOCERA, *Felder.* Pl. XXVII. fig. 6.

1. *HOMÆOCERA CRASSA*, *Felder, Reise der Nov. Lep.* iv. tab. cii. fig. 26.

—?

2. *H. JANSONIS* = *Gymnelia jansonis*, *Butler, Lep. Exot.* pl. lxi. fig. 17.

*Cartago, Costa Rica (Van Patten).*

Type, B.M.

3. *H. STRETCHII*, n. sp.

Body golden yellow, back of head black, enclosing two large metallic blue-green spots; antennæ black (♀ with a central yellow streak); collar with a black spot on each side; pterygodes with a black margin all round; prothorax with two parallel clavate central black stripes enclosing metallic green spots in the clavus; metathorax with two black-encircled metallic-green spots; hind margin of thorax black; basal segment of abdomen narrowly edged behind with black, other segments broadly margined behind with black, two metallic blue-



green spots on each segmental band; coxæ below with large elliptical metallic blue-green spots: segments of abdomen edged with brown in the male: wings pale yellowish hyaline, veins and outer margin black; apex of primaries and a triangular spot at anal angle of secondaries black: expanse of wings 34 to 36 millims.

Santa Martha (*Bouchard*).

Type, B.M.

I have named this very beautiful species after my friend and brother lepidopterist R. H. Stretch, Esq., of San Francisco.

4. *H. BEATA*, n. sp.

Allied to *H. scintillans*, but differing as follows:—all the yellow bands, spots, and other markings on the body replaced by rusty-red ones, the basal segments of the abdomen below sordid white; apical black patch on primaries narrower, and border of outer margin rather wider: expanse of wings 36 millims.

Santa Martha (*Bouchard*).

Type, B.M.

5. *H. SCINTILLANS* = *Læmocharis scintillans*, *Herr.-Sch. Auss. Schm.* fig. 244.

*Glaucopis* (*Pœcilosoma*) *flavitaris*, *Walker, L. H. i. p. 158.*

Venezuela (*Dyson*).

B.M.

6. *H. GEMMIFERA* = *Glaucopis* (*Gymnelia*) *gemmafera*, *Walker, Lep. Het. i. p. 152.*

Venezuela (*Dyson*).

Type, B.M.

7. *H. MELAS* = *Sphinx melas*, *Cramer, Pap. Exot. i. pl. 45. f. G.*

Surinam.

Walker's var. ? does not belong to the genus.

8. *H. SALVINI*, n. sp.

Frons red-brown behind palpi, metallic green above; crest black; back of head black, with two large metallic-green spots; antennæ black, encircled with whitish at their origin, collar metallic green; pterygodes black, with a broad internal metallic-green border; thorax black, a large bifid green spot in front, and two similarly coloured spots behind; abdomen black, with a lateral decreasing series of metallic green interrupted bands, front margins of first two or three segments very narrowly edged with testaceous, anal segments deep orange: wings testaceous hyaline, veins black, primaries with base, a broad apical patch, the apical half of costa, outer and inner margins black, a bifid metallic green spot at base; secondaries with the margins and a spot at anal angle black; body below black; coxæ and trochanters and the inner margin of femora of front legs snow-white, front margins of tibiæ and hind margins of femora of second and third pairs metallic green; tarsi brown; abdomen with a broad semicircular



basal white band ; lateral metallic green spots ; anus orange : expanse of wings 38 millims.

Obispo, Panamá (*Salvin*).

Type, B.M.

A beautiful and very distinct species, somewhat resembling *Pheia intensa*.

Genus SAROSA, *Walker*. Pl. XXVII. fig. 11.

1. SAROSA SESIIFORMIS = *Glaucopis* (*Sarosa*) *sesiiformis*, *Walker*, *Lep. Het.* i. p. 151.

Venezuela (*Dyson*).

Type, B.M.

Closely resembles *Homœocera scintillans* in coloration.

2. S. ACUTIOR = *Isanthrene acutior*, *Felder*, *Reise der Nov. Lep.* iv. tab. cii. f. 27.

——?

Somewhat resembles *Erruca machilis*.

3. S. POMPILINA, n. sp.

Head and thorax black-brown, frons with four white dots ; collar grey prothorax with a furcate grey marking in the middle ; abdomen blackish slate-colour, with a grey stripe down each side ; a few testaceous hairs at the base ; palpi black ; antennæ deep ferruginous, becoming black towards base and apex ; body below brown ; tarsi of front pair of legs red ; coxæ of hind pair of legs white ; a large white spot on each side of the third abdominal segment ; wings pale testaceous hyaline, costal vein, first two branches of the subcostal above, all the veins below, and basi-internal margin of primaries red ; costa, inner margin, and other veins black ; secondaries with veins, margins above, and a biundulated anal border black ; costa below red, especially at base : expanse of wings 31 millims.

Espiritu Santo (*Higgins*).

Type, B.M.

Not unlike *Erruca Pertyi*.

Genus ERRUCA, *Walker*. Pl. XXVII. fig. 7.

*Læmocharis* (part), *Herrich-Schäffer*.

1. ERRUCA PERTYI = *Læmocharis Pertyi*, *H.-Sch. Auss. Schmett.* i. fig. 249.

Espiritu Santo (*Higgins*).

B.M.

2. E. ATERRIMA = *Gymnelia aterrima*, *Walker*, *Lep. Het. Suppl.* i. p. 85.

Ega (*Bates*).

Type, B.M.



3. *E. VARIA* = *Glaucopis* (*Isanthrene*) *varia*, *Walker, Lep. Het. i.* p. 157.

*Pará* (*Bates*).

Type, B.M.

4. *E. GRENADENSIS*, n. sp.

Head black, a metallic-blue spot on the crest; antennæ brown, tawny at the base; collar black, with a blue spot on each side; thorax black, an orange spot on the shoulders; metathorax with a large bilobed yellow spot in the centre; abdomen shining, blackish piceous; basal segment with two anterior central yellow spots, and a yellow spot on each side; wings testaceous hyaline; apex of primaries broadly black, outer margin narrowly black, projecting inwards along submedian nervure; inner margin narrowly black, costal margin very narrowly black; costal and internal areoles orange, also the median nervure and its second and third branches; secondaries with the apical third of costal margin and the outer and abdominal margins narrowly black; costal areole ochreous; body below black; thorax spotted with blue; first two segments of abdomen laterally spotted with white, next two segments with blue; legs black, with deep yellow tarsi: expanse of wings 40 millims.

*Pacho*, Province of Cundinamarca, New Granada (*Janson*).

Type, B.M.

Somewhat allied to *E. varia*.

5. *E. NOTIPENNIS*, n. sp.

Allied to *E. machilis*, wings the same, excepting that the narrow black margin and the black spot near anal angle of secondaries are better defined; body quite different: head lilac above; face white, with a central lilac spot; antennæ tawny; collar and pterygodes black with a yellow margin; thorax black-brown with a central pale yellow line terminating behind in a spot of the same colour, two blue spots on either side of the central line; prothorax with two additional slender diverging yellow lines; metathorax black, with a yellowish spot in the middle and one on each side; two basal segments of abdomen yellow internally, tawny across the middle, and black externally; remaining segments black, second to fifth segment with lateral lilac streak; palpi, pectus, outer margin of first ventral segment, second segment and front of third segment cream-coloured; a lateral line on palpi, the legs, basal segment, and sides of second segment orange ochreous; a line on upper surface of femora, on the last pair of tibiae, on all the tarsi, a spot at proximal end of tibiae, the outer half of the third and the whole of the remaining segments of venter black; a spot on upper surface of distal end of front tibiae, a spot on each side of the metathorax, and a series of lituræ on each side of last segments of venter lilac: expanse of wings 40 millims.

*Villa Nova* (*Bates*).

Type, B.M.



6. *E. VESPIFORMIS*, n. sp.

Allied to the preceding species and to *E. machilis*; differs from the latter as follows: all the wing-veins black, the margins also more distinctly black, the costal area of primaries much less tawny; subanal black spot of secondaries shorter and broader; antennæ bright tawny, all the tawny markings upon the body replaced by black, the femora and tibiæ above with a black streak; the metathorax and first three basal segments of abdomen yellow in front and at the sides, and black behind; the lateral lilac streak narrower: expanse of wings 42 millims.

Villa Nova (*Bates*).

Three examples, B.M.

This is certainly the best imitation of a wasp in the genus; it is a beautiful species and well marked.

7. *E. MACHILIS* = *Læmocharis machilis*, *Herrich-Schäffer*, *Auss. Schmett.* fig. 245.

Villa Nova, St. Paulo, and Ega (*Bates*).

B.M.

8. *E. PORPHYRIA* = *Glaucopis (Isanthrene) porphyria*, *Walker, Lep. Het.* i. p. 157.

Ega and Pará (*Bates*).

Type, B.M.

The *Sphinx porphyria* of Cramer does not even belong to this family; Walker cannot have looked at the figure.

9. *E. VESPARIA* = *Glaucopis vesparia*, *Perty, Delect. Anim.* pl. 31. fig. 9.

Villa Nova (*Bates*).

Type, B.M.

Perty's figure represents this species as stouter than it actually is.

10. *E. HILARIS* = *Pœcilosoma hilaris*, *Walker, Lep. Het. Suppl.* i. p. 88.

Ega (*Bates*).

Type, B.M.

Somewhat like *Homœocera Stretchii*, but allied to *E. vesparia*.

11. *E. NIGERRIMA* = *Gymnelia nigerrima*, *Walker, Lep. Het. Suppl.* i. p. 86.

Ega (*Bates*).

Type, B.M.

12. *E. CONTRACTA* = *Læmocharis contracta*, *Walker, Lep. Het.* vii. p. 1609.

St. Paulo (*Bates*).

B.M.

13. *E. DEYROLLII* = *Læmocharis Deyrollii*, *Herrich-Schäffer, Auss. Schmett.* figs. 247, 251 a.

Rio Grande (*Becker*).

B.M.



This species is the type of the genus *Erruca*; *Læmocharis* can scarcely be said to have a type; I therefore prefer to consider *L. stulta* and allies as representing that genus.

Genus SPHECOPSIS, *Felder*.

1. SPHECOPSIS HYALOZONA, *Felder, Reise der Nov. Lep.* iv. pl. cii. fig. 29.  
——?

Although I do not intend to incorporate in the present paper all the new Zygænidæ described by *Felder*, but only those genera of which we possess representatives in the collection of the British Museum, I have been tempted to quote the above as being a transition from *Erruca* to *Myrmecopsis*.

Genus MYRMECOPSIS, *Newman*. Pl. XXVII. figs. 8, 9.

1. MYRMECOPSIS TARSALIS = *Glaucopis (Pseudosphex) tarsalis, Walker, Lep. Het.* i. p. 196.  
*Pará (Bates).* Type, B.M.
2. M. SEMIHYALINA = *Glaucopis semihyalina, Walker, Lep. Het.* i. p. 197.  
*Pseudosphex vespiformis, H.-Sch. Auss. Schmett.* fig. 425.  
*Pará (Bates).* Type, B.M.
3. M. OPACA, *Walker, Lep. Het.* vii. p. 1620.  
*Pará (Bates).*
4. M. ICHNEUMONEA = nov. gen. *Ichneumonea, H. Sch.-Auss. Schmett.* fig. 225.  
*Brazil.*
5. M. POLISTES = *Pseudosphex polistes, Hübner, Exot. Schm. Zutr.* figs. 39, 40.  
*M. eumenides, Newman, Zool.* viii. Append. cxxii.  
*Ega (Bates).* B.M.

The genus *Myrmecopsis* has been confounded by *Dr. Herrich-Schäffer* with *Pseudosphex*; it was not, however, founded upon *Hübner's* type (which was *P. zethus*); it differs entirely in neuuration from that insect and its allies, and must therefore be retained as distinct with *Newman's* designation. *Herrich-Schäffer* had the acumen to see how entirely different the two types were; but he took the type of *Pseudosphex* out of its genus and constituted for it his genus *Abrochia*; he appears to me, however, to



have discovered his error, and to have shifted the name *Abrochia* to my new genus *Sphecosoma*.

Genus SPHECOSOMA, n. gen.

*Abrochia* (part), *Herrich-Schäffer*.

This is, I believe, the *Abrochia* of the 'Correspondenz-Blatt,' but not of the 'Aussereuropäische Schmetterlinge;' it closely resembles *Pseudosphex*, but differs from it in the simple *Euchromioid* neuration of the secondaries. Type, *S. fasciolata*, n. sp.

1. SPHECOSOMA FASCIOLATUM, n. sp.

Body sulphur-yellow; frons white, with a central grey spot; a transverse line or crest and another at back of head black; antennæ with basal half blackish, apical half orange, apex blackish; palpi golden yellow; collar with a black band behind; pterygodes margined with black; thorax with a black central longitudinal line and a streak on each side of it close to the pterygodes, a transverse line at back of thorax and the inner edges of the glandular drums black; all the segments banded with black, first segment with three longitudinal black lines; wings whitish hyaline, veins and outer margin slenderly black; costal and interno-basal areoles of primaries orange; body below pale sulphur-yellow; legs orange, femora and tibiæ with a black streak above; abdomen with an apparently pale cream-coloured wax-like sheath over basal segments, edged behind with black: expanse of wings 25 millims.

Santa Martha (*Bouchard*).

Type, B.M.

2. *S. ARCTATUM* = *Pseudosphex arctata*, *Walker, Lep. Het. Suppl. i. p. 95.*

Ega (*Bates*).

Type, B.M.

3. *S. TESTACEUM* = *Glaucopis (Pseudosphex) testacea*, *Walker, Lep. Het. i. p. 196.*

Demerara.

Type, B.M.

Genus LOXOPHLEBIA, n. gen. Pl. XXVII. fig. 14.

Allied to the preceding genus, but larger, the outer margin of the primaries much longer, the discocellulars forming an oblique line; the secondaries less than half the length of the primaries, the abdomen very slightly contracted at the base.

Type, *L. vesparis*, *Butler*.

1. LOXOPHLEBIA VESPARIS = *Pœcilosoma vesparis*, *Butler, Ann. & Mag. S. 4. vol. xii. p. 327.*

Huasampilla, Peru (*Whitely*).

Type, B.M.



Genus *ANDRENIMORPHA*, n. gen. Pl. XXVII. fig. 10.

Allied to *Gymnelia*, but the primaries broader, the upper radial invisible (as also the recurrent nervure \*), consequently only one discocellular nervure strongly angulated in the centre, the third median and the lower radial emitted together from a short foot-stalk; abdomen more distinctly separated from the thorax than in *Gymnelia*. Type, *G. xanthogastra*, Perty.

1. *ANDRENIMORPHA XANTHOGASTRA* = *Glaucopis xanthogastra*, Perty, *Delect.* pl. 31. f. 5.  
Brazil (*Stevens*). B.M.

Genus *GYMNELIA*, *Walker*. Pl. XXVII. fig. 13.

1. *GYMNELIA LÆNNUS* = *Glaucopis (Gymnelia) lænnus*, *Walker, Lep. Het.* i. p. 154.  
Rio and Brazil (*Stevens*), Brazil (*Becker*). Type, B.M.
2. *G. CONSOCIATA*, *Walker, Lep. Het. Suppl.* i. p. 85.  
Ega (*Bates*). Type, B.M.
3. *G. CAUNUS* = *Sphinx caunus*, *Cramer, Pap. Exot.* pl. 224. fig. E.  
Surinam.

Nearly allied to the preceding species, and quite distinct from *Sphinx leucaspis* of Gmelin, with which Walker has associated it.

4. *G. COLLOCATA*, *Walker, Lep. Het. Suppl.* i. p. 84.  
Ega (*Bates*). Type, B.M.
5. *G. COMPLETA* = *Glaucopis (Gymnelia) completa*, *Walker, Lep. Het.* i. p. 153.  
Pará (*J. P. G. Smith*). Type, B.M.
6. *G. ENAGRUS* = *Sphinx enagrus*, *Cramer, Pap. Exot.* iii. pl. 248. f. D.  
Surinam (*Cramer*), Ega (*Bates*). B.M.

The genus *Gymnelia*, as above restricted, forms a very natural little group of bee-like species, all of them characterized (as to markings) by a broad black border to the wings and a broad black fascia or elongated spot upon the discocellulars of primaries; they all have black bodies with metallic bluish lateral spots upon the abdomen; and five out of the six species have the anal segments more or less tawny; they have the discocellulars of primaries nearly in a straight line and transverse.

\* The recurrent nervure is represented in Perty's figure; so that this is apparently a variable character.



Genus *LÆMOCHARIS*, *Herrich-Schäffer* (part).

- 1.
- LÆMOCHARIS STULTA*
- ,
- Herrich-Schäffer*
- ,
- Auss. Schmett.*
- fig. 258.

*Glaucopis* (*Pheia*) *dolens*, *Walker*, *Lep. Het.* i. p. 148. n. 13.Pará (*Bates*).

B.M.

- 2.
- L. TRIGUTTA*
- =
- Glaucopis*
- (
- Pseudomya*
- )
- trigutta*
- ,
- Walker*
- ,
- Lep. Het.*
- i. p. 145.

Bogota (*Parzudaki*).

Type, B.M.

- 3.
- L. HÆMATICA*
- =
- Glaucopis hæmatica*
- ,
- Perty*
- ,
- Delect.*
- pl. 31. fig. 6.

*L. zantes*, *Herr.-Sch.* *Auss. Schmett.* fig. 240.

Brazil.

B.M.

- 4.
- L. FENESTRINA*
- , n. sp.

Nearly allied to the preceding species, but the basal area of primaries less opaque, and a much broader hyaline patch (covering the greater part of the disk) beyond the cell of primaries; body below (excepting anal segments), bases of wings, inner margin of primaries, and costa of secondaries white: expanse of wings 27 millims.

Brazil.

B.M.

- 5.
- L. DECISA*
- =
- Pseudomya decisa*
- ,
- Walker*
- ,
- Lep. Het. Suppl.*
- i. p. 81.

Ega (*Bates*).

Type, B.M.

The genus *Læmocharis*, as thus restricted, may have to be united to the *Pheia* of Walker; it, however, contains only small species at present, most of them with a well-marked but diffused streak from the costa, across the discocellulars of primaries, and the median fork of secondaries proceeding from a very short, instead of a long footstalk; in *L. decisa*, in fact (the species most like *Pheia* in appearance), the footstalk is scarcely apparent, being reduced to little more than a point.

Genus *ECHONEURA*, n. gen.

Allied to *Læmocharis* and *Pheia*; but easily distinguished from the former by the form of the discocellulars of primaries, which are equally divided in the centre by the upper radial and recurrent nervure, are equal in length and consequently produce parallel projecting terminations to the discoidal cell; from the latter it differs in the same character, as also in the more limited hyaline areas of the wings.

Type, *E. intricata*, *Walker*.

- 1.
- ECHONEURA INTRICATA*
- =
- Euchromia*
- (
- Calonotos*
- )
- intricata*
- ,
- Walker*
- Lep. Het.*
- i. p. 237.

Rio Janeiro (*Stevens*).

Type, B.M.



2. *E. ANGUSTA*, n. sp.

Body black, a minute dot behind each eye, and a dot on each side of the collar steel-blue; a longitudinal blue spot at back of thorax, third to fifth segments of abdomen with small lateral marginal metallic green dots: wings brown, with an elongated and gradually widening central hyaline-white patch from near base to just beyond end of cell; nervures black; pectus spotted with metallic green: expanse of wings 33 millims.

Espiritu Santo (*Higgins*).

Type, B.M.

Allied to *E. intricata*, but darker, with smaller hyaline area in primaries.

3. *E. CATASTIBINA*, n. sp.

Very like *E. intricata* above, excepting that the hyaline area on the wings is considerably smaller; below, however, the wings are white with the veins brown and the hyaline patches as above: expanse of wings 32 millims.

Brazil (*Bates*).

Type, B.M.

Mr. Walker placed this very distinct species with his type of *E. intricata*.

4. *E. TENUIS*, n. sp.

Very similar in shape to *E. angusta*. Body black, two dots at back of collar, the thorax, pterygodes, and a dot at base of primaries red; metallic blue and green dots above, as in *E. angusta*: wings as in *E. intricata*, hyaline, with a broad brown border and black veins: body below black, tibiae of anterior pair of legs spotted in front with metallic green: expanse of wings 35 millims.

Espiritu Santo (*Higgins*).

Type, B.M.

Genus *THRINACIA*, n. gen.

Allied to the preceding genus, but smaller; neuration of primaries nearly the same, but the second median branch emitted further from the end of the cell; secondaries with the first median branch forked at its extremity, as in *Empyreuma* of section *a*.

Type, *T. afflicta*, Walker.

1. *THRINACIA AFFLICTA* = *Glaucopis* (*Pseudomya*) *afflicta*, *Walker, Lep. Het. i. p. 144.*

Pará (*Bates*).

Type, B.M.

We have a species allied to this undescribed, but in bad condition, and without a locality.



2. *T. CONSOLATA* = *Pseudomya consolata*, *Walker, Lep. Het. vii. p. 1601.*

Brazil.

Genus *PSEUDOMYA*, *Hübner*.

Mr. Walker restricted this genus in his 'Lepidoptera Heterocera,' pt. i. pp. 142-145, to two old species, of which one was Hübner's *Pseudomya tipulina*; this will therefore be the type. I suspect that the *melanthis* of Cramer is more nearly allied to *Eucerea* (*Charideinæ*).

1. *PSEUDOMYA TIPULINA* = *Glaucopis tipulina*, *Hübner, Samml. Exot. Schmett. i.*

*G. (Pseudomya) bibia*, *Walker, Lep. Het. i. p. 143.*

Pará (*Bates*).

B.M.

We have a species, possibly distinct from this, from Espiritu Santo and Santa Catharina; it is, however, very closely allied, if different; so that I hesitate to describe it.

2. *P. TRISTISSIMA* = *Glaucopis tristissima*, *Perty, Delect. pl. 31. f. 7.*

Pará (*Bates*).

B.M.

3. *P. DESPERATA*, *Walker, Lep. Het. vii. p. 1602.*

*Sp. ead.?* Pará (*Bates*).

B.M.

I do not know whether I have rightly identified this species; but our example is peculiar on account of its small secondaries.

Genus *PHEIA*, *Walker*.

1. *PHEIA ALBISIGNA* = *Glaucopis (Pheia) albisigna*, *Walker, Lep. Het. i. p. 146.*

Honduras (*Miller*); Ega (*Bates*).

Type, B.M.

2. *P. GEMMATA*, n. sp.

Body black; frons conical, blue-green, crest blue-green, a blue-green spot at base of primaries; a greenish blue spot at the back of thorax, first to third and fifth to seventh segments of abdomen with lateral blue-green spots: primaries hyaline-white; veins, a broad patch at apex, and a broad border to outer margin black-brown; a subcostal orange line and a bifid orange basi-internal patch; secondaries hyaline-white, veins, apex, and outer margin black; costal area creamy ochraceous: body below dull black; trochanters and femora of legs, metathorax and basal segments of abdomen below, spotted with blue-green, two small lateral spots of the same colour at anal extremity of



abdomen; costæ of wings golden yellow, otherwise as above: expanse of wings 37 millims.

Santa Martha (*Bouchard*).

Type, B.M.

3. *P. INTENSA* = *Glaucopis* (*Pœcilosoma*) *intensa*, *Walker, Lep. Het. i.* p. 159.

Honduras (*Dyson*).

Type, B.M.

This species, in the character of its body, recalls the genus *Saurita*. The genus, as a group, nearly approaches *Gymnelia*.

Genus *MOCHLOPTERA*, n. gen. Pl. XXVII. fig. 15.

*Glaucopis* (part), *Herrich-Schäffer*.

Allied to *Gymnelia*, but distinguished at a glance from all the allied genera by the breadth of the primaries, the longer legs, and the position of the first branch of the median nervure, which is emitted almost from the same point as the second branch, so that the three median branches and the lower radial are all crowded together at the lower extremity of the cell.

Type, *M. acroxantha*, *Perty*.

1. *MOCHLOPTERA ACROXANTHA* = *Glaucopis acroxantha*, *Perty, Delect. pl. 31. fig. 4.*

Brazil (*Stevens*).

B.M.

*Perty's* figure represents the primaries as much narrower than they really are, the outer margin in the insect being nearly equal to the inner.

2. *M. ? XANTHOCERA* = *Gymnelia xanthocera*, *Walker, Lep. Het. vii.* p. 1603.

Brazil.

Genus *COSMOSOMA*, *Hübner*. Pl. XXVII. fig. 3.

1. *COSMOSOMA PANOPES* = *Læmocharis panopes*, *Herrich-Schäffer, Auss. Schm. fig. 243.*

*Glaucopis* (*Pœcilosoma*) *subflamma*, *Walker, Lep. Het. i. p. 159.*

Brazil (*Stevens*).

B.M.

2. *C. ELEGANS*, n. sp.

Head black, frons with two white dots, back of head with two metallic-blue dots; antennæ black; collar black, with a small blue dot on each side; a blue-green dot on each shoulder; pterygodes with a large blue-green spot; thorax black brown with two blue-green dots in front; abdomen dark brown; wings hyaline-white, veins black, dis-



cocellulars marked by a black line, margins rather narrowly black, apex of primaries very broadly black: body below dark brown; coxæ marked with large metallic-green spots; tarsi of second pair of legs tipped with white, of third pair almost wholly white: expanse of wings 39 millims.

Espiritu Santo (*Higgins*).

Type, B.M.

Somewhat like a small form of the preceding in general appearance.

3. *C. PHERES* = *Sphinx pheres*, *Cramer, Pap. Exot.* iv. pl. 382. f. C.

? *Læmocharis metallescens*, *Ménétriés, Cat.* ii. tab. xiv. fig. 1.

Rio Janeiro (*Stevens*).

B.M.

4. *C. CHALCOSTICTA*, n. sp.

*Glaucopis* (*Pœcilosoma*) *pheres*, var., *Walker, Lep. Het.* i. p. 162. n. 38.

Pará (*Bates*).

Type, B.M.

Easily distinguished from the preceding species by the bright brassy- instead of blue-green spots on the body, and the broader black apical patch in primaries.

5. *C. CONFINE* = *Læmocharis confinis*, *Herrich-Schäffer, Auss. Schm.* fig. 255.

*Glaucopis remota*, *Walker, Lep. Het.* i. p. 170.

Venezuela (*Dyson*).

Type, B.M.

6. *C. ADMOTUM* = *Læmocharis admota*, *Herrich-Schäffer, Auss. Schm.* fig. 241.

Pernambuco (*J. P. G. Smith*), Espiritu Santo (*Higgins*).

B.M.

7. *C. GAUDENS* = *Pœcilosoma gaudens*, *Walker, Lep. Het.* vii. p. 1607.

"Pará" (*Walker*). Sp. ead.? Brazil.

B.M.

8. *C. FESTIVUM* = *Glaucopis* (*Cosmosoma*) *festiva*, *Walker, Lep. Het.* i. p. 171.

Honduras (*Dyson*).

Type, B.M.

I think this may be *Cramer's Sphinx echemus*.

9. *C. CENTRALE* = *Glaucopis* (*Cosmosoma*) *centralis*, *Walker, Lep. Het.* i. p. 171.

Rio Janeiro (*Johnson*).

Type, B.M.

Apparently *C. ada* of *Herrich-Schäffer*.

10. *C. TYRRHENE* = *Euchromia tyrrhene*, *Hübner, Samml. ex. Schm.* *Zutr.* f. 483, 484.

Jamaica (*Gosse*), Haiti (*Tweedie*), Santarem (*Bates*).

B.M.



11. *C. AUGE* = *Sphinx auge*, *Linnæus*, *Syst. Nat.* ii. p. 807. n. 46.

*C. omphale*, *Hübner*, *Samml. ex. Schm.* ii. *Hyalinæ*, f. 1-4.

Florida (*Doubleday*), St. Thomas (*Hornbeck*), Jamaica (*Gosse*). B.M.

This species has no connexion whatever with *Sphinx eagrus* of Cramer, with which Walker has made it synonymous: the Linnæan description will only agree with one insect; and that is the *C. omphale* of Hübner.

12. *C. COCCINEUM*, n. sp.

Head black, frons metallic green; antennæ black; collar, pterygodes, and thorax scarlet, margin of metathorax and glandular drums black with a broad metallic blue-green external border; abdomen rose-red; wings hyaline-white, veins black, outer and inner margins rather broadly dark brown; primaries with apex broadly dark brown; a sub-costal line, the base and basi-internal area scarlet; secondaries with base and basi-costal area rose-red; pectus black-brown; coxæ and trochanters metallic blue-green, legs otherwise brown; venter white; wings below nearly as above; primaries with reddish ochraceous instead of scarlet, secondaries with scarlet instead of rose-red; expanse of wings 47 millims.

Espiritu Santo (*Higgins*).

Type, B.M.

More nearly allied to *C. auge* than to any other species, but very distinct.

13. *C. HANGA* = *Læmocharis hanga*, *Herr.-Sch. Auss. Schm.* fig. 246.

Espiritu Santo (*Stevens*).

B.M.

14. *C. PYRRHOSTETHUS*, n. sp.

Head black, frons metallic blue-green; antennæ black; collar, pterygodes, and thorax red; mesothorax with a large posterior, central, rounded, blue spot, metathorax with a smaller central elongated spot; abdomen black spotted with blue-green at the sides: wings nearly as in *C. coccineum*, but with a decided blackish oblique spot on the discocellulars of primaries, and the red coloration paler: body below dark brown; coxæ and trochanters spotted with blue-green, remainder of legs clay-coloured: expanse of wings 42 millims.

New Granada.

Type, B.M.

15. *C. TELEPHUS* = *Glaucopis (Cosmosoma) telephus*, *Walker, Lep. Het.* i. p. 170.

Closely allied to the preceding species, but without the blackish spot on the discocellulars of primaries, and altogether brighter in colouring, also without the blue spot on mesothorax.

Venezuela (*Dyson & Becker*).

Type, B.M.



16. *C. RESTRICTUM*, n. sp.

Closely allied to *C. teuthras*, but duller in colouring; the red streak on the inner margin of primaries confined to the basal third of the wing, and the metallic-green spots on the abdomen smaller: expanse of wings 39 millims.

Santarem (*Bates*).

Type, B.M.

Perhaps a variety, but more likely a local form, of the next species.

17. *C. TEUTHRAS* = *Glaucopis* (*Cosmosoma*) *teuthras*, *Walker, Lep. Het. i. p. 168.*

Pernambuco (*J. P. G. Smith*), Venezuela (*Dyson*).

Type, B.M.

18. *C. CINGULATUM*, n. sp.

Closely allied to *C. teuthras*, but duller in colouring; the costal and internal red streaks more extended, the latter almost to external angle; red spot at end of cell widely encircled with black; black border of primaries rather broader at apex, of secondaries at apex and anal angle; metallic-green spots on the body rather smaller: differences below as above: expanse of wings 43 millims.

Veragua (*Salvin*).

Type, B.M.

This is a well-marked local form of *C. teuthras*.

19. *C. ERUBESCENS*, n. sp.

Closely allied to *C. teuthras*, but smaller, the discocellular scarlet spot of primaries smaller, the red costal streak paler at base, but extending in front nearer to apex, the internal red streak continued to external angle, the black-brown outer marginal border narrower; secondaries with the red abdominal streak reaching almost to the anal angle; green spots on abdomen smaller: expanse of wings 36 millims.

Brazil (*Mornay*).

Type, B.M.

Certainly a local representative of *C. teuthras*.

20. *C. IMPAR* = *Glaucopis* (*Cosmosoma*) *impar*, *Walker, Lep. Het. i. p. 169.*

Mexico (*Argent*).

Type, B.M.

Genus *PÆCILOSOMA*, *Hübner. Pl. XXVII. fig. 5.*1. *PÆCILOSOMA CHRYSIS*, *Hübner, Samml. exot. Schmiett. Zutr. figs. 211, 212.*

Ega (*Bates*).

B.M.

This is the type of the genus, which is nearly allied to the preceding.



2. *P. MEGASPILUM* = *Cosmosoma megaspila*, *Walker, Lep. Het. Suppl.* i. p. 90.

Ega (*Bates*).

Type, B.M.

Nearly allied to *P. chrysis*, but more slender, with longer and rather narrower wings, and with a black spot or fasciole on the discocellulars of primaries.

Genus *ILIPA*, *Walker*.

*Chrostosoma* (part), *Hübner*.

1. *ILIPA BRACONOIDES* = *Glaucopis (Ilipa) braconoides*, *Walker, Lep. Het.* i. p. 166.

Honduras (*Dyson*).

Type, B.M.

2. *I. FULVIVENTRIS* = *Læmocharis fulviventris*, *Ménétriés, Cat.* ii. t. xiv. f. 5.

Pará (*Bates*).

B.M.

3. *I. TENGYRA* = *Glaucopis (Ilipa) tengyra*, *Walker, Lep. Het.* i. p. 167.

Brazil (*Becker*).

Type, B.M.

4. *I.?* *EVADNES* = *Sphinx evadnes*, *Cramer, Pap. Exot.* iv. pl. 357. f. A.

Surinam.

This may be a *Dycladia*; but it is impossible to decide without examining the insect. The species referred to *S. evadnes* by Walker is quite distinct.

5. *I. NOTATA*, n. sp.

Head black, frons with a metallic-green dot in the centre and a creamy white spot on each side; antennæ dark brown; collar black with a green spot on each side; pterygodes golden yellow, with a brown external margin; thorax golden yellow, with a central brownish spot; first four segments of abdomen golden yellow, with lateral and central series of black spots; fifth segment black, with squamose yellow posterior margin; sixth and seventh segments black, with metallic-green spots behind: wings hyaline-white with black veins; primaries with base, costal and inner margins, discocellulars, apex, and a rather broad external border black-brown; secondaries with apex, outer, and abdominal margins black-brown; costa pale brown: pectus golden yellow; legs brown, with the coxæ, trochanters, and lower margin of femora golden yellow; abdomen dark brown, with a large white spot on each side of basal segments: expanse of wings 45 millims.

Pacho, Province of Curdinamarca, New Granada (*Janson*). Type, B.M.



Easily distinguished from all its allies by the colouring of the body.

6. *I. DETERMINATA*, n. sp.

Head black, frons and back of head metallic green; antennæ black; pterygodes black; thorax black-brown, with a central metallic-green spot on metathorax; first four segments of abdomen golden yellow, a central black spot on first segment, remaining segments black, last two segments with lateral green spots; wings hyaline-white, with veins black; primaries with costal, outer and inner margins, apex, and a spot on the discocellulars rather broadly black; a spot at base of costa and a small diffused basi-subcostal litura metallic green; secondaries with apex, outer and abdominal margins black, costal area grey-brown; pectus black; trochanters and front of tibiæ metallic green; abdomen nearly as above: expanse of wings 43 millims.

Pacho, New Granada (*Janson*).

Type, B.M.

This species has a larger black spot on the discocellulars of the primaries than any other known species.

7. *I. STILBOSTICTA*, n. sp.

Head black, frons with two white dots; origin of antennæ and a central spot on back of head white; antennæ black; pterygodes black, thorax black, with a large central white spot on prothorax; abdomen golden yellow, with the three terminal segments black; wings hyaline-white, veins black; primaries with apex and margins black, a white spot at base of costa and a white point near base of subcostal nervure; secondaries with apex, outer, and abdominal margin black, costal margin dark grey; pectus black, trochanters of front pair of legs white; abdomen as above: expanse of wings 38 millims.

♂, ♀. Pacho, New Granada (*Janson*).

Two specimens, B.M.

Most nearly allied to *I. fulviventris*, but differing in its greater size and the black anal segments of the abdomen.

Genus *LEUCOTMEMIS*, n. gen. Pl. XXVII. fig. 12.

Allied to the preceding genus and to *Mochloptera*, agreeing with the latter in neuration, but differing from both in the great size of the head and the very strongly pectinated antennæ.

Type *L. latilinea*, Walker.

1. *LEUCOTMEMIS LATILINEA* = *Glaucopis* (*Ilipa*) *latilinea*, Walker, *Lep. Het.* i. p. 167.

Brazil (*Bates*).

Type B.M.

This species is coloured much like an *Ilipa*; but its structural distinctions are seen at a glance.



Genus DYCLADIA, *Felder*.

1. DYCLADIA MEXICANA = *Gymnelia mexicana*, *Walker, Lep. Het. Suppl. i. p. 84.*

Mexico (*Bottori*).

Type, B.M.

2. D. SELVA = *Glaucopis selva*, *Herrich-Schäffer, Auss. Schmett. fig. 227.*

Monte Video.

Allied to the preceding species.

3. D. ORNATULA = *Glaucopis (Pæcilosoma) ornatula*, *Walker, Lep. Het. i. p. 163.*

Pará (*Bates*).

Type, B.M.

4. D. HELENA = *Glaucopis helena*, *Herrich-Schäffer, Auss. Schmett. fig. 230.*

Brazil.

Allied to the preceding species, but the abdomen with yellow bands.

5. D. TEDA = *Glaucopis (Phacusa) teda*, *Walker, Lep. Het. i. p. 177.*

Santa Catharina, Brazil (*Becker*).

Type, B.M.

6. D. ? EXIMIA = *Glaucopis eximia*, *Herr.-Sch. Corr.-Blatt Regensb. p. 113 (1866).*

Cuba.

7. D. VITTATA = *Pheia vittata*, *Walker, Lep. Het. Suppl. i. p. 83.*

Vera Cruz (*Sallé*).

Type, B.M.

8. D. DORSALIS = *Glaucopis (Phacusa) dorsalis*, *Walker, Lep. Het. i. p. 177.*

Santarem (*Bates*).

Type, B.M.

9. D. BURA = *Læmocharis bura*, *Herrich-Schäffer, Auss. Schmett. fig. 239.*

*Glaucopis (Phacusa) discifera*, *Walker, Lep. Het. i. p. 178.*

Pará (*Bates*).

B.M.

10. D. PICTA = *Glaucopis (Phacusa) picta*, *Walker, Lep. Het. i. p. 176.*

Pará and Santarem (*Bates*).

Type, B.M.

11. D. EMERGENS = *Eurata emergens*, *Walker, Lep. Het. Suppl. i. p. 92.*

Ega (*Bates*).

Type, B.M.

Nearly allied to the preceding species.



12. *D. LUCETIUS* = *Sphinx lucetius*, *Cramer, Pap. Exot.* iv. pl. 357.  
f. *D.*

Surinam.

13. *D. HEMILEUCA*, n. sp.

Nearly allied to *D. tenthredoides*, but smaller, without the orange spot on the centre of the thorax, the metallic spots on the posterior abdominal segments less vivid; primaries with a broader and more regular transverse black band; legs and pectus paler; abdomen cream-coloured, the terminal segments brown in the female: expanse of wings ♂ 22 millims.

Eastern Peru (*Degand*).

Type, B.M.

14. *D. TENTHREDOIDES* = *Ilipa tenthredoides*, *Walker, Lep. Het.* vii. p. 1610.

Ega (*Bates*).

15. *D. INTERSECTA* = *Eurata intersecta*, *Walker, Lep. Het. Suppl.* i. p. 91.

Ega (*Bates*).

Type, B.M.

16. *D. ALBIVENTRIS* = *Glaucopis (Phacusa) albiventris*, *Walker, Lep. Het.* i. p. 176.

Pará (*Bates*).

Type, B.M.

17. *D. VARIPES* = *Glaucopis (Phacusa) varipes*, *Walker, Lep. Het.* i. p. 175.

Pará (*Bates*).

Type, B.M.

18. *D. MARGARIPHERA*, n. sp.

Head, collar, and antennæ black, two dark blue metallic spots on the back of the head and two on the collar; pterygodes black, with a longitudinal yellow streak; thorax black, a dark blue spot on centre of hinder part of thorax; basal segment of abdomen black, with its hind margin orange, and on each side a blue spot; glandular drums orange; the second to fourth segments scarlet, the fifth to seventh black, all of them with a pearly opaline spot on each side: wings yellowish testaceous, veins (excepting on the borders of dark spots) and all the margins (excepting where interrupted by dark patches) yellow; primaries with a large subquadrate jet-black spot at end of cell enclosing two metallic dark blue spots, apex broadly, and external angle less broadly dark brown; secondaries with the apex, outer margin, and anal angle dark brown: palpi yellow, tipped with black; pectus brown; legs yellow, the tibiæ brown above and irrorated with metallic-blue scales; venter yellow, scarlet at the sides, with the last two segments dark brown: expanse of wings 34 millims.

Pará (*Bates*).

Type, B.M.

A beautiful species, intermediate in pattern between *D. varipes*



and *D. correbioides*, but differing from all the species in the pearly spots on the body.

19. *D. CORREBIOIDES*, *Felder, Reise der Nov. Lep.* iv. tab. cii. fig. 20. Pacho, New Granada (*Janson*). B.M.

20. *D. CLIMACINA*, n. sp.

Head orange; antennæ black, tipped with white; collar orange, with a slender black edge; pterygodes orange, edged with black; thorax black-brown, with a broad, central, longitudinal, orange streak, two dots in front, and two spots behind of the same colour; first four segments of abdomen golden yellow, the last three dark metallic blue; a well-defined, central, longitudinal, stripe, a narrower, irregular, lateral line, and transverse bars on the anterior margins of the segments all black, the first two or three shining (when the head faces the light) with a bronzy-opaline lustre; wings testaceous hyaline; primaries with the base of costa black, with a white spot, interno-basal area orange, veins of basal area black, apical two fifths black enclosing a large subquadrate quinquefid hyaline spot; secondaries with abdominal and basicostal areas golden yellow, a triangular spot at end of cell and the apical half of costa black, outer margin black, broadest at apex and anal angle; body below dark brown; palpi orange, black above and at the tips; tibiæ, proximal ends of femora, and distal extremities of tarsi yellowish orange; venter with a central transverse yellow belt: wings below as above: expanse 33 millims.

Espiritu Santo (*Higgins*).

Type, B.M.

Somewhat intermediate between *L. tenthredoides* and *D. torrida*.

21. *D. TORRIDA* = *Glaucopis* (*Pœcilosoma*) *torrida*, *Walker, Lep. Het.* i. p. 161.

Tapajos (*Bates*).

Type, B.M.

22. *D. BATESII*, n. sp.

Allied to *D. bromus*; but the primaries with the apical fourth black: expanse of wings 30 millims.

St. Paulo and Pará (*Bates*).

Type, B.M.

23. *D. BROMUS* = *Sphinx bromus*, *Cramer, Pap. Exot.* iii. pl. 35. f. G.

Surinam.

Cramer's figure of this species is rather rough, and represents the wings as very long and narrow, more so even than in *Sphecosoma*.



24. *D. MINOR*, n. sp.

*Glaucopis* (*Phacusa*) *bromus*, var.?, *Walker, Lep. Het. i. p. 179. n. 70.*  
Brazil (*Stevens*). Type, B.M.

This is altogether smaller than *D. bromus*, and has the apex of primaries too broadly black to be that species.

Genus *MARISSA*, *Walker*.*Agerocha* (*Hübner, part.*), *Walker*.1. *MARISSA MULTICINCTA* = *Glaucopis* (*Pœcilosoma*) *multicincta*,  
*Walker, Lep. Het. i. p. 163.*

Haiti (*Cuming*). Type, B.M.

This species has the abdomen longer than its congeners, but is evidently closely allied to *M. columbina*.

2. *M. COLUMBINA* = *Zygæna columbina*, *Fabricius, Ent. Syst. iii.*  
*p. 403.*

*Læmocharis fasciatella*, *Ménétriés, Cat. ii. pl. 14. f. 4.*

Haiti (*Tweedie*). B.M.

I feel certain that the species figured by Hübner and Ménétriés are the same, and represent the insect which we possess from Haiti.

3. *M. RUBRIPUNCTATA*, n. sp.

*Glaucopis* (*Marissa*) *columbina*, *Walker, Lep. Het. i. p. 174. n. 59.*

Jamaica (*Gosse*). Type, B.M.

This species has the sides of the abdomen, top of the head, a line behind the eyes, the front of the collar, the base of the palpi, coxæ, trochanters, femora, body below, a spot at end of discoidal cell of primaries on both surfaces, and two or three spots at apex of secondaries on the under surface scarlet.

4. *M. LATENIGRA*, n. sp.

Allied to the preceding species, but differing in the head being black above, with the crest and a dot at base of antennæ scarlet; the longitudinal central black streak on abdomen broader; no scarlet spot at end of cell in primaries, or at apex of secondaries below; the black borders of the wings (broader than in any other species, covering the apical half of secondaries), and the posterior segments of the venter black: expanse of wings 29 millims.

Honduras (*Miller*). Type, B.M.

Placed by Walker with the preceding species.

5. *M. EONE* = *Agerocha eone*, *Hübner, Exot. Schm. Zutr. figs. 417,*  
*418.*

Santarem and Ega (*Bates*). B.M.



6. *M. CRUENTA* = *Glaucopis cruenta*, *Perty, Delect. pl. 31. f. 8.*  
Amazons.
7. *M. INSULARIS* = *Eunomia insularis*, *Grote, P. E. S. Phil. 1866,*  
p. 188.  
*Glaucopis elegantula*, *H.-Sch. Corr.-Blatt Regensb. 1866, p. 114.*  
Cuba.
8. *M. NITIDULA* = *Glaucopis nitidula*, *Herr.-Sch. Corr.-Blatt Regensb.*  
1866, p. 114.  
Cuba.
9. *M. ? DIAPHANA* = *Glaucopis diaphana*, *Sepp, Ins. Surin. pl. 81.*  
Surinam.

*Group with small secondaries.*

Genus *HYSIA*, *Walker.*

1. *HYSIA MELALEUCA* = *Glaucopis (Hysia) melaleuca*, *Walker, Lep.*  
*Het. i. p. 173.*  
Pará (*Bates*). Type, B.M.
2. *H. TEMENUS* = *Sphinx temenus*, *Cramer, Pap. Exot. iv. pl. 367.*  
f. D.  
Surinam.
3. *H. ASTYOCHÉ* = *Euchromia astyoche*, *Hübner, Samml. exot. Schmett*  
*Zutr. figs. 793, 794.*  
Surinam.  
Not the *Glaucopis astyoche* of Walker.
4. *H. DELECTA*, n. sp.  
*Glaucopis (Hysia) astyoche*, *Walker, Lep. Het. i. p. 173. n. 56.*  
Pará (*Bates*). Type, B.M.

Genus *DIPTILON*, *Prittwitz.*

1. *DIPTILON TELAMONOPHORUM*, *Prittwitz, Stett. ent. Zeit. p. 349*  
(1870).  
Rio.
2. *D. BIVITTATUM* = *Cosmosoma bivittata*, *Walker, Lep. Het. Suppl. i.*  
p. 90.  
Brazil (*Gardner*). Type, B.M.
3. *D. DEIEIDES*, *Prittwitz, Stett. ent. Zeit. p. 349 (1870).*  
Rio.



Genus DESMIDOCNEMIS, *Moeschler*.

1. DESMIDOCNEMIS PRITTWITZI, *Moeschler, Stett. ent. Zeit.* p. 346 (1872).

Cayenne.

2. D.? PLATYLEUCA = *Glaucopis* (Herea) *platyleuca*, *Walker, Lep. Het.* i. p. 198.

Venezuela (*Dyson*).

Type, B.M.

I believe that this is a *Desmidocnemis*, but cannot feel certain without seeing the type of that genus.

Genus HYDA, *Walker* (part.).

1. HYDA XANTHORHINA = *Eurata xanthorhina*, *Herr.-Sch. Auss. Schmett.* f. 226.

*Glaucopis* (Hyda) *basilutea*, *Walker, Lep. Het.* i. p. 182.

Santarem (*Bates*), Pernambuco (*J. P. G. Smith*), Santa Martha (*Bou-chard*), Pacho, New Granada (*Janson*). B.M.

## Section c.

Abdomen with a terminal and sometimes with lateral tufts of hair-scales.

## Genus METHYSIA, n. gen.

General appearance of *Thrinacia*, neurulation of primaries as in *Cosmosoma*; secondaries small, elongated, and parchment-like, capable of being entirely concealed behind the inner marginal border of primaries, cell reaching to middle of wing, discocellular slightly receding from the subcostal to the median nervure, upper branch of subcostal fork running to the costal margin; head rather small; antennæ well pectinated; abdomen with a terminal tuft. Type *M. notabilis*, *Walker*.

1. METHYSIA NOTABILIS = *Glaucopis* (*Pseudomya*) *notabilis*, *Walker, Lep. Het.* i. p. 144.

Pará (*Bates*).

Type, B.M.

## Genus DIXOPHLEBIA, n. gen. Pl. XXVIII. fig. 8.

Evidently allied to the preceding genus, but shorter and broader in the wing; the wings with smaller transparent areas; secondaries with discoidal cell very short, discocellulars forming together a strongly angulated line, upper rather longer than lower; a well-defined radial nervure continued as a recurrent ner-



vure through the cell to base, median branches emitted from the end of a very long footstalk.

Type *D. quadristrigata*, Walker.

1. DIXOPHLEBIA QUADRISTRIGATA = *Pseudomya quadristrigata*, Walker, *Lep. Het. Suppl.* i. p. 82.

Ega (*Bates*).

Type B.M.

#### Genus MALLODETA, n. gen.

*Lycorea*, Walker (nec *Doubleday*, 1847).

1. MALLODETA ÆCYRA = *Læmocharis æcyra*, Herr.-Sch. *Auss. Schmett.* fig. 250.

*Glaucopis* (*Hyda*) *sortita*, Walker, *Lep. Het.* i. p. 184.

Brazil (*Bates*).

Type, B.M.

2. M. CLAVATA = *Glaucopis* (*Lycorea*) *clavata*, Walker, *Lep. Het.* i. p. 192.

Brazil (*Bates*).

Type, B. M

3. M. CONSORS = *Glaucopis* (*Hyela*) *consors*, Walker, *Lep. Het.* p. 183.

Brazil (*Bates*).

Type, B.M.

The above species are probably all from Pará.

#### Genus LAGARIA, Walker.

1. LAGARIA VULNERATA = *Læmocharis vulnerata*, Herr.-Sch. *Auss. Schmett.* fig. 238.

*Glaucopis* (*Lagaria*) *erythrarchos*, Walker, *Lep. Het.* i. 164.

Brazil (*Low*).

B.M.

2. L. IGNICOLOR = *Læmocharis ignicolor*, *Ménétriés*, *Cat.* ii. t. xiv. fig. 3.

Minas Geraes.

#### Genus HYELA, Walker.

1. HYELA SANGUINEA = *Glaucopis* (*Hyela*) *sanguinea*, Walker, *Lep. Het.* i. p. 172.

—?

Type, B.M.

2. H. STIPATA = *Glaucopis* (*Hyela*) *stipata*, Walker, *Lep. Het.* i. p. 184.

Pará (*Bates*).

Type, B.M.

3. H. FRONTALIS = *Glaucopis* (*Eunomia*) *frontalis*, Walker, *Lep. Het.* i. p. 188.

Brazil (*Bates*).

Type, B.M.

4. H. VACILLANS = *Eunomia vacillans*, Walker, *Lep. Het.* vii. p. 1617.

St. Paulo (*Bates*).

B.M.



## Subfamily EUNOMIINÆ.

This subfamily closely resembles the preceding, of which it might almost be considered an aberrant group; it differs in the following character:—

Median nervure of secondaries with more than two branches, one of which is always emitted before the end of the discoidal cell.

Dr. Herrich-Schäffer has united this subfamily with the preceding, with the Charideinæ, and with the Syntominiæ, including them all in a synoptic Table; but his characters are to me perfectly incomprehensible; the new genera are barely indicated and consequently cannot be recognized. He describes his genus *Abrochia* thus:—"Hind wing without median cell;" he means probably that the discocellulars are wanting, and consequently that the cell is open. One of his genera is simply diagnosed by the word "*farbig*;" and considering that there is no moth destitute of colour, this seems to me very insufficient. The new species described in the same paper (*Correspondenz-Blatt zool.-min. Ver. Regensb.* 1866) are very difficult to identify, the following being a sample of the descriptions:—

## TRICHÆA SETICORNIS.

"*Cæruleo mixta*, abdomine a sgm. 2, antennis apice albis, dorso medio nigro-squamatis, tarsis p. apice albis. 506-623."

If the above diagnosis had been written without abbreviations, it would have been insufficient for the determination of the species. What is meant by "*cæruleo mixta*" is to me a mystery. Another error in the above paper is the adoption of well-known generic names in a wrong sense. I will take *Eunomia* as an example, inasmuch as even my friend Grote appears to have misapplied it. It has been used recently for a genus of *Euchromiina* (*Marissa* of Walker); now the correct application of the name will be seen from the following considerations:—

Hübner first characterized the genus at p. 125 of his '*Verzeichniss*,' and included the following species:—

1st, *Eunomia columbina*, Fabricius; 2nd, *E. auge*, Linn., and *E. eagrus* of Cramer; 3rd, *E. andromacha*, Fabr., and *E. caunus* of Cramer.

Hübner, in his '*Sammlung exotischer Schmetterlinge*,' figured *E. auge* (n. 2) as *Cosmosoma omphale*. Walker described this



genus and adopted *C. omphale* as its type; this at once restricted the genus to four species.

Walker, at p. 174 of his 'Lepidoptera Heterocera,' characterized his genus *Marissa*, taking as its type *M. columbina*, thus again restricting *Eunomia*.

At p. 152 he also described *Gymnelia* (type, *G. lænnus*), with which *G. caunus* is congeneric.

At p. 189 he described *Dinia* (type, *D. eagrus* of Cramer).

The genus *Eunomia* is thus naturally restricted to *E. andromacha* of Fabricius, which is the only sense in which it can fairly be adopted.

As may well be supposed, Dr. Herrich-Schäffer has united in generic groups most incongruous species: his *Glaucopis* (a name which cannot stand) is a collection of very distinct genera; so is his *Læmocharis*. The genera which I have recognized through his excellent figures in the 'Sammlung aussereuropäischer Schmetterlinge' are as follows:—

*Copæna*, H.-Sch. = *Macrocneme*.

*Hæmaterion*, H.-Sch. = probably *Eunomia*, *Dinia*, *Æthria*, &c.

*Hyalopis*, H.-Sch. = *Erruca*.

*Mystrocneme*, H.-Sch. = *Herea* = ? *Cercophora*, H.-Sch.

*Chrysostola*, H.-Sch. = *Pseudosphex*.

*Correbia* = *Pionia*.

*Euclera* = *Androcharta*.

I cannot identify *Echeta* or *Trichæa*; but the former appears to have no type, so that this is of little consequence.

#### Genus EUNOMIA, Hübner (restricted).

1. EUNOMIA ANDROMACHA = *Sphinx andromacha*, Fabric. *Sp. Ins.* ii. p. 161.

*Glaucopis* (*Dinia*) *finalis*, Walker, *Lep. Het.* i. p. 190.

Pará (*Bates*), Venezuela (*Dyson*).

B.M.

2. E. SANGUIFLUA, Hübner, *Samml. exot. Schmett. Zutr.* figs. 697, 698.

Bahia.

3. E. CARNICAUDA, n. sp.

*Glaucopis* (*Eunomia*) *sanguiflua*, Walker (*nec* Hübner), *Lep. Het.* i. p. 187.

Rio Janeiro (*Stevens*).

Type, B.M.



It will be seen that Walker adopted the above (which is congeneric with *E. andromacha*) as the type of his *Eunomia*; he was therefore nearer to the truth than any of his successors.

4. *E. FULVICAUDA*, n. sp.

Allied to *E. leucaspis*, much smaller, and different in the colour of the body: body above black; palpi white in front; head dark brown, a green dot behind each eye; antennæ black; pterygodes black, broadly bordered internally with metallic blue-green; thorax with a large posterior metallic-green spot; abdomen with all the segments bordered behind with dark metallic green; anal tuft black internally, golden yellow externally: wings exactly as in *E. andromacha*, hyaline-white, with the veins, margins, and bases black; primaries with a black litura at end of cell: body below dark brown; coxæ metallic blue-green; trochanters, basal segments of abdomen, and anus white; anal tuft golden yellow: expanse of wings 26 millims.

St. Paulo (*Bates*).

Type, B.M.

This is a pretty little species, but duller in colouring than any other in the genus.

5. *EUNOMIA SARCOSOMA*, n. sp.

Palpi white in front, black behind; frons white; top of head and antennæ black; collar white-edged in front, golden greenish at the sides, dark grey in the centre; pterygodes black, edged internally with golden greenish; a white spot on the shoulders; thorax black, with a bronzy dot in front and an elongated bronzy whitish spot behind; glandular drums bluish black: abdomen scarlet; a central longitudinal brown band running through the first four segments, on the lateral margins of which are bronzy dots; terminal, lateral, and anal tufts scarlet: wings as in the other species, excepting that the black border of secondaries is narrower, that there is less black at base, and that the primaries have a greenish-white dot close to the base: pectus below black, coxæ golden greenish; trochanters white; abdomen scarlet, with whitish patches in the centre of each segment, anus yellow: expanse of wings 31 millims.

Pacho, New Granada (*Janson*).

Type, B.M.

6. *E.?* *MERRA* = *Lasioprocta merra*, *Wallengren*, *Wien. ent. Mon.* iv. p. 41.

Callao.

Character of *E. andromacha*, but smaller, Dr. Wallengren describes it as having dorsal abdominal reddish-fulvous spots, the anus with black hairs: in this respect it agrees with no species known to me; possibly, however, it may be the male of the following, which has no anal tuft.



7. E. PLATYZONA = *Scytale platyzona*, *Felder, Reise der Nov. Lep.* iv. tab. cii. fig. 24.

Pacho, New Granada (*Janson*).

B.M.

The following appears also to belong to *Eunomia*.

8. E.? EBURNEIFERA = *Glaucopis eburneifera*, *Felder, Reise der Nov. Lep.* iv. tab. cii. fig. 21.

#### Genus DINIA, *Walker*.

1. DINIA SAUCIA = *Glaucopis (Dinia) saucia*, *Walker, Lep. Het.* i. p. 190.

Colombia (*Becker*), Venezuela (*Dyson*).

Type, B.M.

Described by Walker as variety  $\delta$  of *D. eagrus* (*D. auge*, *Walker*).

2. D. MENA = *Eunomia mena*, *Hübner, Samml. ex. Schm.* ii. pl. 155.

*Glaucopis auge*, var.  $\beta$ , *Walker, Lep. Het.* i. p. 190.

New Granada (*Stevens*), Venezuela (*Dyson*), Brazil (*Bates*). B.M.

3. D. EAGRUS = *Sphinx eagrus*, *Cramer, Pap. Exot.* iii. pl. 108. f. C.

Rio (*M<sup>c</sup>Gillivray*), Honduras (*Miller*), Veragua (*Salvin*), Mexico (*Argent*). B.M.

The three forms enumerated above may be only varieties of one species.

4. D. SUBAPICALIS = *Glaucopis (Dinia) subapicalis*, *Walker, Lep. Het.* i. p. 190.

Lima (*Kayler*) and "— ?"

Type, B.M.

#### Genus ÆTHRIA, *Hübner*.

1. ÆTHRIA HÆMORRHOIDALIS = *Sphinx hæmorrhoidalis*, *Stoll, Pap. Exot.* pl. 12. f. 1.

Rio (*Bates*), Brazil (*Bates, Milne, Low, Doubleday*).

B.M.

2. Æ. SMARAGDINA = *Eunomia smaragdina*, *Walker, Lep. Het. Suppl.* i. p. 92.

*Æthria saturatissima*, *Walker, l. c.* p. 93.

Ega (*Bates*).

Type, B.M.

There is only one example to represent the two descriptions united above, which were (I have no doubt) taken from the same individual. The explanation is self-evident. Mr. Walker comes one day and describes a new species; but, owing to the lateness of the hour, or some other cause, omits to label it as a type; the next time he comes to the collection he continues his MS., and,



finding this species without a label, forthwith redescribes it. This will, I think, account for several instances which I have noticed of evidently the same species described twice over in consecutive pages of Walker's Catalogues.

Genus COREMATURA, n. gen.

Primaries with two subcostal and four apparent median branches visible to the naked eye, the lower radial forming the fourth median, the upper radial not visible; discocellular strongly angulated in the middle. Secondaries with two subcostal branches, the upper one lying close to the costa, and four median branches, the fourth being really the lower radial; discocellular strongly angulated. Antennæ slender. Head rather small. Abdomen very long, with large bushy anal tuft.

Type *C. chrysogastra*, Perty.

1. COREMATURA CHRYSOGASTRA = *Glaucopis chrysogastra*, Perty, *Delect.* pl. 31. f. 10.

*Eunomia abdominalis*, Walker, *Lep. Het.* vii. p. 1617.

St. Paulo (*Bates*), Archidona (*Stevens*).

B.M.

Described again by Walker (in his 'Supplement,' i. p. 89) as *Lagaria abdominalis*.

Genus ARGYROEIDES, n. gen.\*

Primaries with one evident subcostal branch (forking from below near apex); two radials placed at the upper and lower extremities of the cell, so that the lower discocellular is reduced to about a quarter the length of the upper; discocellulars nearly straight; three median branches, emitted regularly beyond the middle of the nervure. Secondaries with two subcostals; one radial; straight discocellulars, the upper rather longer than the lower; three median branches emitted regularly beyond the middle of the nervure. Antennæ plumose to near the tip. Head moderately large; palpi about level with top of head. Abdomen constricted at the base, with terminal straight anal tuft.

Type *A. ophion*, Walker.

1. ARGYROEIDES OPHION = *Glaucopis* (*Dinia*) *ophion*, Walker, *Lep. Het.* i. p. 191.

Carthagenia and Venezuela (*Becker*).

Type, B.M.

\* I am aware of the fact that *Argyrodes* (*sic*) has been used for a genus of Arachnida; but I think *Argyroeides* distinct enough for so dissimilar a group of animals.



## Genus PEZAPTERA, n. gen.

Costal and subcostals of primaries well defined; subcostal with a fork near apex, and a third branch (generally representing the upper radial) emitted just beyond end of cell; lower radial emitted with second and third median branches from lower extremity of cell; an interrarial and recurrent nervure, lying close to the lower radial until near to the cell, which it passes through to the base, thus making two discocellulars with the usual angle. Secondaries small; subcostal branches forming a simple long fork; upper radial and continuous recurrent nervure running through the centre of cell and along the margin of lower radial to outer margin; discocellulars rather long, nearly equal in length, the upper one slightly concave, running obliquely inwards, the lower convex, running obliquely outwards, emitting the lower radial from its centre; three median branches, the second and third emitted near together at end of cell. Body much as in *Argyroeides*, but the abdomen rather less constricted. Type *P. sordida*.

1. PEZAPTERA SORDIDA = *Eunomia sordida*, Walker, *Lep. Het.* vii. p. 1617.

*Pheia divisa*, Walker, *Lep. Het. Suppl.* i. p. 83.

Santarem, Villa Nova, and Ega (*Bates*).

Type B.M.

The type of *P. sordida* is faded; but *P. divisa* has its black colouring; in other respects the two types are identical.

## Genus EUMENOGASTER, Herrich-Schäffer.

1. EUMENOGASTER EUMENES, Herrich-Schäffer, *Auss. Schmett.* pl. 73. fig. 423.

Brazil.

2. E. NOTABILIS = *Pseudosphex notabilis*, Walker, *Lep. Het. Suppl.* i. p. 94.

Tapajos (*Bates*).

Type B.M.

3. E. ? TRICOLOR = *Glaucopis tricolor*, Packard, 1st Ann. Rep. Peab. Acad. p. 62 (1869).

Napo and Marañon rivers.

I believe this to be a *Eumenogaster*; it seems nearly allied to *E. notabilis*, so far as I can judge from the description.



Genus TRICHURA, *Hübner*.

1. TRICHURA LATIFASCIA = *Glaucopis* (*Trichura*) *latifascia*, *Walker*, *Lep. Het.* i. p. 193.

Pará (*Bates*).

Type, B.M.

2. T. CAUDATA = *Zygæna caudata*, *Fabricius*, *Sp. Ins.* ii. p. 165.

Rio (*Stevens*), Brazil (*Argent*), St. Paulo (*Bates*).

B.M.

3. T. COARCTATA = *Sphinx coarctata*, *Cramer*, *Pap. Exot.* i. pl. 4. figs. F, G.

Pernambuco (*J. P. G. Smith*), Pará (*Bates*).

B.M.

4. TRICHURA DRURYI, *Hübner*, *Verz. bek. Schmett.* p. 126. n. 1365.

*Sphinx coarctata*, *Drury* (*nec Cramer*), *Ill.* ii. pl. 27. fig. 2.

Honduras (*Dyson*).

B.M.

5. T. ESMERALDA = *Glaucopis* (*Trichura*) *esmeralda*, *Walker*, *Lep. Het.* i. p. 194.

Honduras (*Dyson*).

Type, B.M.

6. T. AURIFERA, n. sp.

*Glaucopis* (*Trichura*) *melas*, var.? *Walker* (*nec Cramer*), *Lep. Het.* i. p. 194. n. 94.

Pará (*Bates*).

Type B.M.

The *Sphinx melas* of *Cramer* is a *Homæocera*.

## Genus SYNTRICHURA, n. gen.

Subcostal of primaries with very short terminal fork, only visible with a lens; upper radial emitted from the upper end of cell, lower only present as a fine line proceeding from the end of the third median branch; discocellulars nearly in a straight line; second and third median branches nearer together than first and second. Secondaries as in *Trichura*.

Type *S. virens*, n. sp.

1. SYNTRICHURA VIRENS, n. sp.

Body dark shining green; antennæ black, with whitish tips; pterygodes with whitish margins; whitish dorsal and lateral streaks at base of abdomen: wings as in *Trichura*, hyaline-white with black veins, margins, and discocellular litura in primaries: body below black; base of abdomen white: expanse of wings 23 millims.

St. Paulo (*Bates*).

Type, B.M.

Genus HEREA, *Walker*.

1. HEREA METAXANTHA = *Glaucopis* (*Herea*) *metaxanthus*, *Walker*, *Lep. Het.* i. p. 198.

Pará (*Bates*).

Type, B.M.



2. *H. RUFICEPS*=*Glaucopis* (Herea) *ruficeps*, *Walker, Lep. Het. i.*  
*p. 198.*  
*Pará (Bates).* Type, B.M.

Genus *PSEUDOSPHEX*, *Hübner.*

1. *PSEUDOSPHEX ZETHUS*, *Hübner, Samml. exot. Schmett. Zutr.*  
*figs. 49, 50.*  
*Pará and Santarem (Bates).* B.M.  
 2. *P. ÆQUALIS*=*Isanthene æqualis*, *Walker, Lep. Het. Suppl. i. p. 87.*  
*Ega (Bates).* Type, B.M.  
 3. *P. SINGULARIS*=*Glaucopis* (Hyela) *singularis*, *Walker, Lep. Het. i.*  
*p. 182.*  
*Pará (Bates).* Type, B.M.  
 4. *P. MUNDA*=*Isanthrene munda*, *Walker, Lep. Het. vii. p. 1605.*  
*Santarem (Bates).* Type, B.M.  
 5. *P. CONSOBRINA*, *Walker, Lep. Het. vii. p. 1619.*  
*Tapajos (Bates).* B.M.  
 6. *P. POSTICA*=*Glaucopis* (Phacusa) *postica*, *Walker, Lep. Het. i.*  
*p. 178.*  
*Santarem (Bates).* Type, B.M.  
 7. *P. BROMUS*=*Chrysostola bromus*, *Herr.-Sch. Auss. Schmett. fig. 427.*  
*Brazil.*

This must not be confounded with *Sphinx bromus* of Cramer, which is a *Dycladia*.

There is a little group of genera, including *Illipula*, *Antichloris*, and *Eriphia*, which seem to make a passage between the present subfamily and the Charideinæ; I believe them to be Zygænidæ, yet hardly know how to distinguish them structurally from the Charideinæ. I shall refer them to the Zygænoid Arctiidæ under the subfamily name of Antichlorinæ.

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EXPLANATION OF THE PLATES.

PLATE XXVII.

- Fig. 1. Venation of secondaries of *Callitomis*.  
 2. Venation of primaries of *Pheia*.  
 3. Ditto of *Cosmosoma*.  
 4. Ditto of *Isanthrene*.



PLATE XXVII. (*continued*).

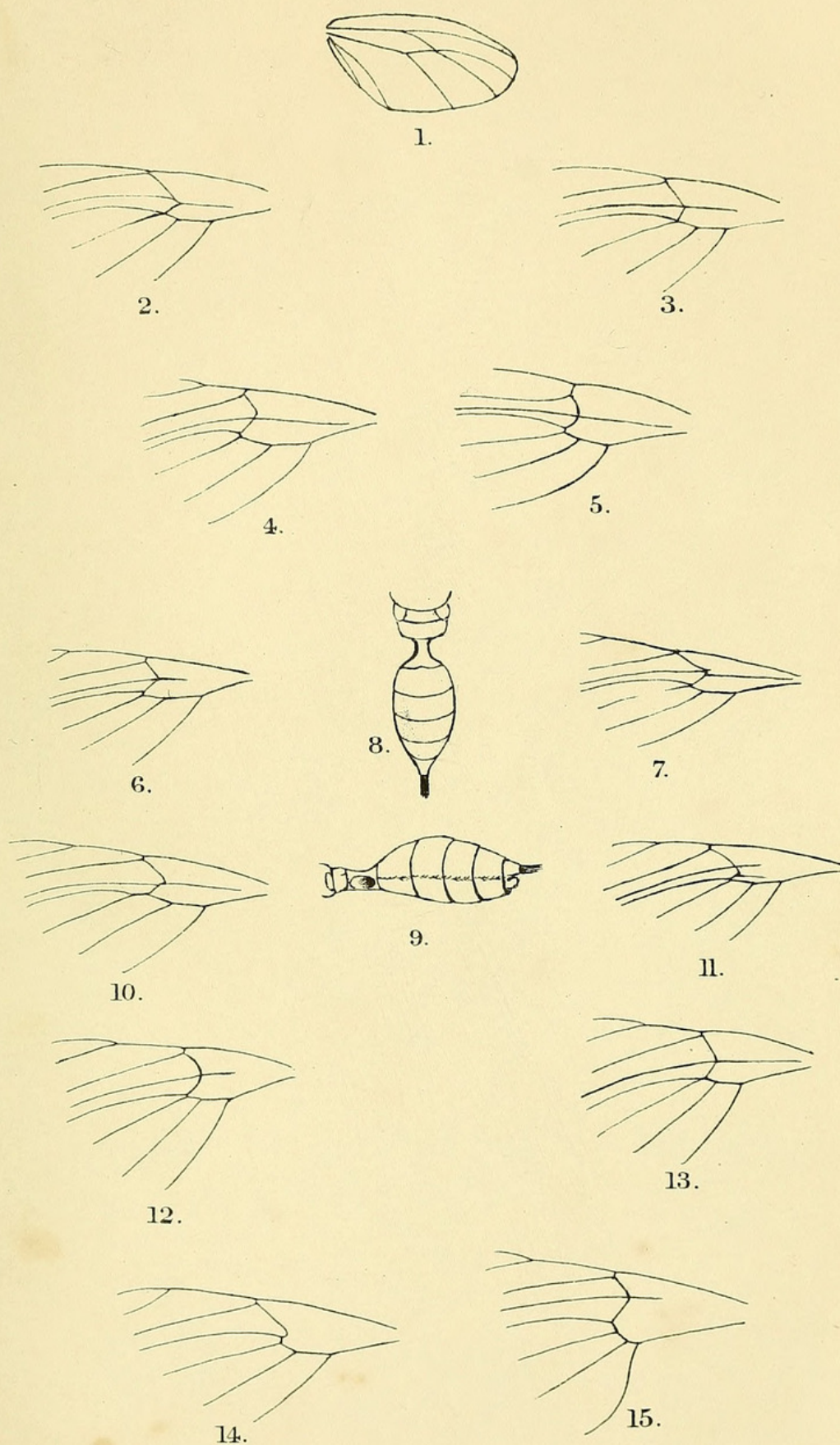
- Fig. 5. Venation of primaries of *Pæcilosoma*.  
 6. Ditto of *Homœocera*.  
 7. Ditto of *Erruca*.  
 8. Metathorax and abdomen of *Myrmecopsis*.  
 9. Ditto, profile view.  
 10. Venation of primaries of *Andrenimorpha*.  
 11. Ditto of *Sarosa*.  
 12. Ditto of *Leucotmemis*.  
 13. Ditto of *Gymnelia*.  
 14. Ditto of *Loxophlebia*.  
 15. Ditto of *Mochloptera*.

## PLATE XXVIII.

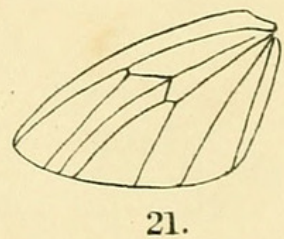
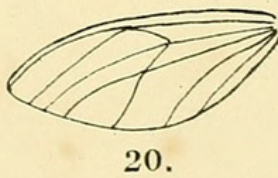
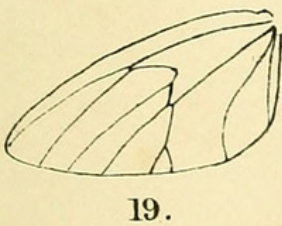
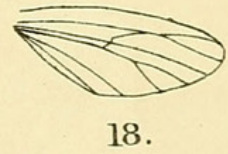
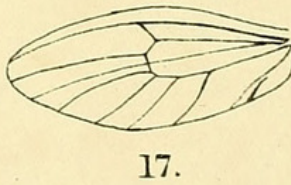
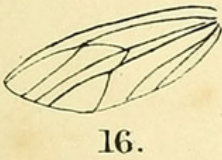
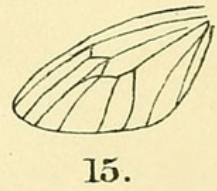
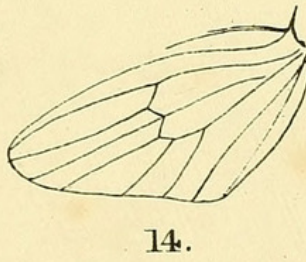
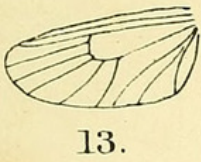
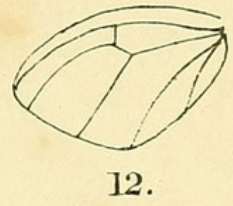
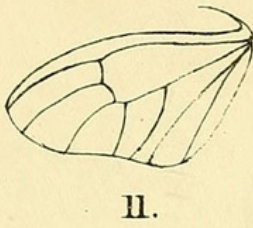
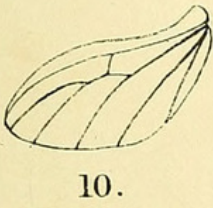
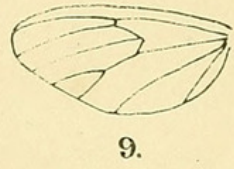
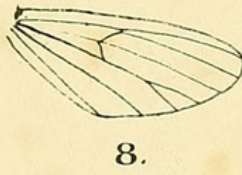
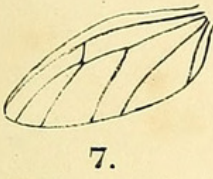
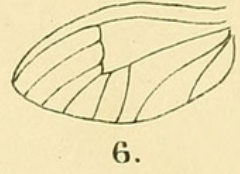
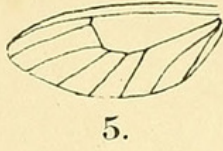
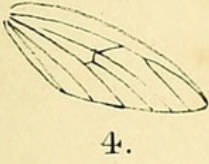
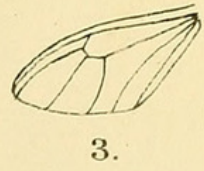
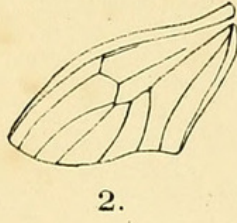
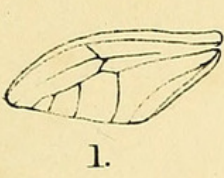
- Fig. 1. Venation of secondaries in *Procotes*.  
 2. Ditto of *Notioptera*.  
 3. Ditto of *Trianeura*.  
 4. Ditto of *Pseudosphenoptera*.  
 5. Ditto of *Harrisina*.  
 6. Ditto of *Thyrassia*.  
 7. Ditto of *Psichotoë*.  
 8. Ditto of *Dixophlebia*.  
 9. Ditto of *Ichoria*.  
 10. Ditto of *Epitoxis*.  
 11. Ditto of *Thyretes*.  
 12. Ditto of *Eutomis*.  
 13. Ditto of *Pampa*.  
 14. Ditto of *Artona*.  
 15. Ditto of *Phacusa*.  
 16. Ditto of *Syntomeida*.  
 17. Ditto of *Saliunca*.  
 18. Ditto of *Amycles*.  
 19. Ditto of *Empyreuma*.  
 20. Ditto of *Euchromia*.  
 21. Ditto of *Histiæa*.

The group of genera constituting Walker's Family *Dioptidae* contains the types of species referable to the *Euchromiinae*, the *Charideinae*, the *Pericopiinae*, the *Nyctemeridae*, and the *Pseudo-Deltoids*! I shall consider them in a special paper.









A.G. Butler del et lith. July 1875.

Mintern Bros. imp.





Butler, Arthur G. 1876. "Notes on the Lepidoptera of the Family Zygaenidae, with Descriptions of new Genera and Species." *The Journal of the Linnean Society of London. Zoology* 12, 342–407.

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