

THE
TRANSACTIONS
OF THE
ENTOMOLOGICAL SOCIETY
OF
LONDON
FOR THE YEAR 1881.

- I. *Descriptions of new Genera and Species of Heterocerous Lepidoptera from Japan.* By ARTHUR G. BUTLER, F.L.S., F.Z.S., &c.

[Read February 2nd, 1881.]

SPHINGES AND BOMBYCES.

THE species described in the present paper are chiefly from the collection made by Mr. Montague Fenton at Tokei; to these I have added a series forwarded by Mr. Pryer from Yokohama, and a few species obtained by Mr. Maries at Nikko.

SPHINGIDÆ.

CINOCON, n. g.

Allied to *Pterogon*, Boisd. (*Proserpinus*), but the primaries not angulated as in that genus, their form being almost that of *Pergesa*, but narrower, and with slightly undulated outer margin; secondaries also very like *Pergesa*, but with more acute apex, and with slightly undulated margin; antennæ not hooked at the extremity, terminating in a small pencil of hair, more slender than in *Pergesa*; character of markings as in *Pterogon* and allied groups. Type, *C. cingulatum*.

1. *Cinogon cingulatum*, n. s.

Primaries pale rosy brown, or dull reddish flesh-colour, with brown-speckled white costal border; a short oblique reddish olivaceous belt across the base, followed by two slender parallel oblique lines of the same colour; an oblique patch immediately beyond the cell, followed by an oblique internally sharply defined and externally diffused belt, followed again by a slender slightly undulated oblique discal line; all these are olivaceous; external border broad, but terminating obliquely at apex, and external angle; greyish, excepting towards apex, where it is white, mottled throughout with grey; fringe white spotted with blackish at the extremities of the veins; inner margin white towards the base; secondaries purplish black crossed by an irregular externally bisinuated tawny belt and with blackish-mottled brown external border; fringe white spotted with blackish; body bright golden brown, the head and sides of tegulæ clouded with olive; margins of head, collar, tegulæ, and thorax, and posterior margins of the abdominal segments, snow-white; antennæ white, tawny in front; under surface tawny, varied with dull pink, brown and white; wings crossed by two parallel brownish oblique discal lines; costal borders mottled with white; external borders as above; basal area of primaries dusky; margins of palpi, a tuft behind them, upper surface of legs, and hind margins of abdominal segments, white; expanse of wings, 2 inches 3 lines.

One male example, Tokei (*Fenton*).

Very near to "*Smerinthus!*" *askoldensis*, Oberthür, just published; but apparently distinct.

2. *Hyloicus davidis*, Oberth.

Primaries above greyish white, crossed at basal third by an oblique undulated fuliginous-brown line, elbowed towards the costa within the cell; a blackish streak on the inner border from the base to the oblique line; a black dot at the base of the costal border; area immediately beyond the oblique line brownish; a small white stigma at the end of the cell, connected, by a recurrent black streak, with the oblique line; two parallel undulated elbowed fuliginous lines across the disc, crossed by three longitudinal black dashes, one towards the base of each of the median interspaces, and one in the upper

radial interspace; an irregularly dentated grey external border, limited internally at apex by a zigzag black line; secondaries fuliginous-brown; a central diffused belt and the external border darker brown; thorax greyish white; the palpi dark brown externally; head dark brown above, with blackish posterior margin; tegulæ dark brown, with black margins and white external fringe; abdomen brownish, with a blackish longitudinal dorsal line and lateral dusky spots; antennæ whitish, with the front margin red-brown; under surface pale sandy brown, wings with faint traces of the discal lines; expanse of wings, 2 inches 8 lines.

Токеи (*Fenton*); Nikko (*Maries*).

Easily distinguished from *H. caligineus* and *H. pinastri* by its broad wings and pale colouring. M. Oberthür has just forestalled this description.

CHALCOSIIDÆ.

SCHISTOMITRA, n. g.

Allied to *Chatamla*; wings very broad; primaries with rather short straight costal margin, outer margin arched, inner margin straight, nearly as long as the costal margin; all the veins well separated; costal vein terminating at the second third of costa, first and second subcostal branches emitted at some distance before the end of the cell, third and fourth branches emitted on a long footstalk from below the middle of the second branch, fifth branch emitted with the upper radial from a short footstalk at the superior angle of the cell; lower radial emitted rather nearer to the superior than to the inferior angle; disco-cellulars transverse, slightly arched; median branches all well separated at their origins; secondaries pyriform, with rather long costal margin; veins very regular, the costal vein being long, the subcostal emitting two branches from the superior angle of the cell, the radial emitted rather above the middle of the disco-cellulars, which are oblique and slightly curved; median branches well separated at their origins; submedian extending to anal angle; internal to below the middle of the abdominal margin; body stout, velvety, not extending to the anal angle of the secondaries; head small; antennæ thick and smooth, slightly denticulated along the inferior margin; palpi small; legs thick and rather short; pectus woolly. Type, *S. funeralis*.

3. *Schistomitra funeralis*, n. s.

♀. Black, with a very slight dark greenish gloss, markings cream-coloured; primaries with a subcostal streak from the base to the first third of the wing; a broad curved belt, its inner margin deeply incised and undulated, at the end of the cell, extending from the costal vein to near the base of the inner margin; a broad discal belt formed of eight elongated spots separated at the nervures, the first spot rather short and linear, the fourth short and nearly square; secondaries with the basal half of costal border cream-coloured; a broad belt, notched in front above the end of the cell, and nearly filling the basal half of the wing; a broad discal belt formed of eight large elongated spots separated at the nervures, the third rather shorter than the others, excepting the eighth, which is very small; collar yellow; abdomen crossed by four interrupted orange bands, anus orange; wings below paler than above, the black parts with purplish reflections; pectus with a white tuft on each side; venter orange, with four longitudinal series of black spots, the spots of the lateral series small; expanse of wings, 2 inches 5 lines.

Fusiyama, Nikko (*Maries*).

ELCYSMA, n. g.

Allied to *Agalope*, but easily distinguished by the form of the secondaries, which are stretched out at the extremities of the third median branch (which is, moreover, bifurcate), and the radial vein into a long narrow tail.

4. *Elcysma translucida*, n. s.

♂. Wings hyaline white, slightly dusky externally; veins brown; primaries with a black-edged orange belt across the base; body grey, anal appendages testaceous; antennæ black; expanse of wings, 2 inches 5 lines.

Yokohama (*H. Pryer*).

Chalcosia caudata of Bremer is probably an allied species of *Elcysma*, although represented with simple median branches and much shorter tail to the secondaries.

ZYGÆNIDÆ.

5. *Syntomis erebina*, n. s.

Dark chocolate-brown; primaries with four squamose testaceous oval spots on the disc, one near the costa, two separated only by the third median branch, and the fourth on the interno-median interspace; secondaries with a large oval squamose testaceous spot just beyond the cell, and a U-shaped marking attached to a small dot on the interno-median area; head, collar, tegulæ, and abdomen glossed with dull steel-blue; abdomen banded at the base and just beyond the middle with ochreous; under surface as above, excepting that the markings of the secondaries are pale ochreous, and united into an irregular belt, and that there are three ochreous spots on each side of the basal half of the venter; expanse of wings, 1 inch $6\frac{1}{2}$ lines.

One example, Tokei (*Fenton*).

Allied to *S. phegea* of Europe.

ARCTIIDÆ.

6. *Nemeophila macromera*, n. s.

Very close to *N. plantaginis* of Europe; but constantly larger, the white spot in the discoidal cell apparently never touching the costal margin, the subapical sigmoidal stripe not united to the Λ -shaped marking; the secondaries pale ochreous instead of orange, with a continuous irregular black external border; two disco-submarginal black spots, the first beyond the cell and the second larger, and uniting with the external border; a lunate spot at the end of the cell; a submedian streak from the base to the first branch of the median vein, and a second broader and longer interno-median streak; body normal; expanse of wings, 1 inch 9 lines.

Var. *leucomera*.

Differs from the ordinary form just as *N. hospita* from typical *N. plantaginis* in the snow-white colour of its secondaries.

Var. *melanomera*.

Differs from the ordinary form much as *N. matronalis* does from typical *N. plantaginis*, but differs from Freyer's first figure, to which it comes nearest, in the different form and coloration of the markings of the secondaries,

which produce a nearly Y-shaped figure beyond the cell, and are snow-white instead of yellow; of course this form is considerably larger than the corresponding form of the smaller *N. plantaginis*.

Токеи (*Fenton*).

7. *Diacrisia irene*, n. s.

♂. Allied to *D. russula*, from which it differs in the total absence of black markings from both surfaces of the wings and in the brighter red colouring of the antennæ; the primaries above are also darker, being of a bright ochreous colour; expanse of wings, 1 inch 9 lines.

Токеи (*Fenton*).

8. *Rhyparioides simplicior*, n. s.

Nearly allied to *R. nebulosa*, and possibly a hybrid between that species and *R. subvaria*; it differs from *R. nebulosa* in the much more ochreous and less clouded colouring of the primaries, and the smaller and less numerous black spots on the secondaries, in which last respect it agrees well with *R. subvaria*; expanse of wings, 1 inch 10 lines.

Two males. Токеи (*Fenton*).

The receipt of a female *R. subvaria* from Japan proves it to be a *Rhyparioides*; the *R. metalkana* of Lederer also belongs to this genus, and not to *Diacrisia*.

9. *Spilarctia basilimbata*, n. s.

Allied to *S. seriatopunctata*; considerably smaller, and of a dull whitish stone-colour, the discal black dashes elongated so as to form a distinct tapering band; other spots larger; interno-median area suffused with dull olivaceous-brown; secondaries rosy greyish between the cell and abdominal margin; an additional blackish spot beyond the cell; thorax pale sordid buff, abdomen duller than in *S. seriatopunctata*; primaries below with the discal belt filled in, and forming a broad tapering band which covers nearly the whole of the interno-median area, and tapers to a point towards the apex; costal margin and cell rosy ochreous, with the usual black spots; external border broadly ochreous, with two black dots placed obliquely at about its centre; secondaries

paler than in *S. seriatopunctata*, with the same black spot at the end of the cell, but the other spots differently placed, being in the interno-median and first median interspaces; expanse of wings, 1 inch 7 lines.

One male. Tokei (*Fenton*).

Our males of *S. seriatopunctata* measure four lines more in expanse than this species, but the whole coloration is so distinct, notwithstanding a partial agreement in the pattern, that I can hardly believe it possible for the difference to be due to variation.

10. *Spilarctia bifasciata*, n. s.

Buff-coloured, the primaries crossed at basal third by an arched and unequal macular band commencing on the costa in a cuneiform black dash which runs almost to the base; a second more uniform band, elbowed at the inferior angle of the cell, and only separated by the buff-coloured nervures just beyond the middle; this band commences in a costal dash which runs towards the apex, a rather broad internal abbreviated band uniting the two transverse bands; antennæ black; abdomen with dorsal and lateral series of black spots; under surface bright ochreous, the bands of the primaries indistinct; expanse of wings, 1 inch 11 lines.

One male. Tokei (*Fenton*).

I do not know any species nearly allied to this.

11. *Euprepia phæosoma*, Butler.

Var. *auripennis*.

Differs from the typical form in having the ground-colour of the secondaries and abdomen bright golden ochreous instead of scarlet; expanse of wings, 3 inches 1 line.

One female. Tokei (*Fenton*).

I find, from an examination of four specimens of the typical form from Nikko and two from Tokei, that the coloration of the body agrees as a rule with the European *E. caja*; the species may, however, be invariably separated from the latter by the great breadth of the oblique belt from the inner margin to the end of the cell of primaries, which, unlike that in *E. caja*, always greatly exceeds in width the band from the end of the cell to the

external angle; the smaller black spots on the secondaries are usually, but not invariably, absent.

LITHOSIIDÆ.

12. *Miltochrista artaxidia*, n. s.

In general pattern and coloration similar to *Artaxa piperita*; it is, however, considerably smaller than that insect, and is allied to *M. humilis*; primaries bright buff-yellow; two pale grey spots placed obliquely within the cell, and on the interno-median interspace towards the base; the internal border, excepting at the base, and a broad irregular discal belt, continuous with the internal border, and not reaching the costal margin, near to which it is bifurcate, grey with slight violaceous reflections; secondaries pale creamy stramineous, with a broad greyish discal belt, much paler than that of the primaries, and diffused internally; body bright buff; under surface paler than above; expanse of wings, 1 inch.

One male specimen. Tokei (*Fenton*).

13. *Gampola noctis*, n. s.

Fuliginous-brown, without markings; primaries above with slight bronzy reflections, secondaries blacker in tint with slight purplish reflections; wings below of a uniform fuliginous-brown colour; legs and body below pale brown; expanse of wings, 1 inch.

One specimen of this very distinct species. Tokei (*Fenton*).

14. *Sinna fentoni*, n. s.

Very like *S. extrema* (*Teinopyga reticularis*, Felder), from Shanghai, but differing in the duller colouring of the reticulated lines on the primaries; these lines are also much more slender; the black spots on the apical area replaced by narrower greyish brown spots; surface of primaries less sericeous; expanse of wings, 1 inch 5 lines.

Two specimens. Tokei (*Fenton*).

15. *Sinna clara*, n. s.

Allied to the preceding, but the primaries of a clear pale sulphur-yellow tint; the basal half of these wings and the thorax crossed by slender ochreous reticulated

lines; no dark spots on the apical area; abdomen and secondaries shining snow-white, without stain of any yellowish or brownish tint; expanse of wings, 1 inch 5 lines.

One perfect specimen. Tokei (*Fenton*).

The absence of the apical black or blackish spots at once distinguishes this from all the other species; it is not likely to be the female of the preceding, since this sex of *S. extrema* and *S. calospila* exhibits the same characteristic markings as in the male.

LIPARIDÆ.

16. *Chærotriche niphonis*, n. s.

♂. Greyish fuliginous; primaries above densely speckled with black and buff scales, with the costal border broadly pale buff, interrupted by a few black scales where it meets the outer border; the latter also pale buff, sparsely sprinkled with black scales; a black dot at the end of the cell; base of costa black-speckled; head and collar ochreous; antennæ blackish; thorax pale buff; abdomen brownish; wings below brown, with irregular and partly diffused pale buff costal and external borders; body below ochreous; expanse of wings, 1 inch 5 lines.

One specimen. Tokei (*Fenton*).

17. *Chærotriche squamosa*, n. s.

♀. Ochreous; primaries above; a broad almost cuneiform patch of reddish, mottled with black, filling nearly the whole space between the cell and the inner margin, but not quite extending to the base, and only touching the outer margin at external angle; a black spot at the end of the cell; extreme base white; a black spot close to the base; secondaries with a black spot at the end of the cell; under surface clear stramineous; all the wings with a black spot at the end of the cell; expanse of wings, 1 inch 9 lines.

Two females, Tokei (*Fenton*); one female, Yokohama (*Pryer*). The specimen from Yokohama has the primaries of a distinctly more yellow tint (inclining to gamboge) than the secondaries.

18. *Orgyia approximans*, n. s.

♂. Nearly allied to *O. gonostigma*, but the wings narrower and more produced at apex; the white spots of primaries smaller, only two (instead of four to five) at apex; the ground colour of the primaries darker, so that the blackish spots are less perceptible; expanse of wings, 1 inch 4 lines.

One male. Tokei (*Fenton*).

19. *Orgyia thyellina*, n. s.

Somewhat allied to *O. trigotephras*, but much larger and darker; the primaries more produced at apex; the basal third and the internal border as far as the white lunule (which is large and prominent) testaceous, mottled with dull ferruginous or mahogany-brown; remainder of wing blackish brown, crossed just beyond the cell by a broad belt of scattered testaceous mottlings; three testaceous-bordered black spots in an oblique series above the white lunule near the external angle; three spots, of which the two upper are black, bordered with testaceous and white, in a reversed oblique series across the apical area; an indistinct marginal series of grey-edged subconfluent black spots; this series forms an elbow inwards at external angle, and consequently at that point becomes submarginal; secondaries very dark chocolate-brown; fringe with pale basal and external lines; body greyish; under surface of wings fuliginous-brown; primaries with shining whitish brown internal border; body below whitish brown; expanse of wings, 1 inch $3\frac{1}{2}$ lines.

One male. Tokei (*Fenton*).

A very distinct species.

20. *Porthetria umbrosa*, n. s.

Of about the average size of *P. dispar* of Europe; but at once separable from that species by the diffused ill-defined character of all its markings, and the absence of the blackish dentate-sinuate discal line beyond the cell of the primaries; the externo-discal dentate-sinuate line is present, but less clearly defined; expanse of wings, male, 1 inch 10 lines to 2 inches; female, 2 inches 3 to 5 lines.

Male and female. Tokei (*Fenton*); female, Yokohama (*Jonas*); male, Hakodate (*Whitely*).

Until the arrival of Mr. Fenton's collection, I always believed this to be a small variety of *P. japonica*, Motsch.; it appears, however, to be invariably not only much smaller, but much paler than that species; the primaries also, as compared with the secondaries, being noticeably smaller.

21. *Porthetria hadina*, n. s.

Lymantria fumida ♂ (nec. ♀), Butler, Ann. & Mag. Nat. Hist., ser. 4, vol. xx., p. 402 (1877).

The male of *P. fumida* proves to be very similar to the female (Ill. Typ. Lep. Het., ii., pl. xxiv., fig. 4), although naturally much smaller and darker. In accordance with the rule now followed, the fact that I figured the female as typical of the species (thus restricting the name to that form) renders it necessary for me to rename the male described in the 'Annals,' as being distinct from the true male of *P. fumida*.

P. hadina is referable to the *P. dispar* group, and is of about the average size of that species, but is of a decidedly blacker colour, darker even than *P. japonica*; the markings on the primaries consist of two incurved widely separated zigzag blackish lines, which limit the central third of the wing, and enclose a broad irregular diffused band of the same colour, and of a rather broad blackish border, with irregularly sinuated internal edge; the ground colour of these wings is olivaceous-brown; the secondaries are of a uniform dark brown colour; the fringes of all the wings are brown spotted with black. In some respects *P. hadina* is perhaps nearer to *P. eremita* of Europe.

22. *Porthetria lucescens*, n. s.

Allied to *P. asætria* (Hübner, Exot. Schmett., ii., pl. 178; 1806), but larger, the dots near the base replaced by a single zigzag brown line; the line which crosses the cell placed at nearly twice the distance from the two contiguous discal lines, the latter less incurved towards the base; secondaries pale shining greyish testaceous instead of yellowish white; no distinct submarginal undulated stripe, but the apical border broadly greyish; disco-cellulars grey; expanse of wings, 1 inch 9 lines.

One male. Tokei (*Fenton*).

Although the primaries of the male *P. asætria* and of this species much resemble the species of *Lymantria*, they differ in being less produced at apex; the female of *P. asætria* also has the elongated narrow-winged character of typical *Porthetria*.

23. *Dasychira argentata*, n. s.

♂. Most nearly allied to *D. abietis* of Europe; greyish fuliginous; the primaries shining; the basal third and external border silvery whitish; the whole surface of the wing crossed much as in *D. abietis* by zigzag or undulating blackish and grey parallel lines, of which the most prominent are those limiting the basal area and the external border; disco-cellulars black and angulated as in *D. abietis*; secondaries whitish towards the base; the disco-cellulars and a broad externo-discal belt dark greyish; thorax greyish white, the collar with a greenish tint; a spot on each shoulder and a band across the metathorax black; antennæ whitish, with long rust-red pectinations; abdomen whity brown; under surface of wings whity brown, with disco-cellular spots and a discal belt grey; body almost pure white; expanse of wings, 1 inch 11 lines.

Yokohama (*H. Pryer*).

Although I have noted *D. abietis* and *D. argentata* here as species of *Dasychira*, they differ from *D. pudibunda* (the markings of which are wholly dissimilar) in their more woolly thorax, and in their thick woolly wings, in which the veins are much less conspicuous; the pattern of the primaries is of a different character; in all these points of difference they correspond to "*Teara*" *rotundata*, Wlk., of Australia, with which they may be associated as a new genus under the name of *Calliteara*.

The *Dasychira fascelina* of Europe differs in neuration from *D. pudibunda*, the difference being especially noticeable in the male sex, in which the second and third branches of the median vein of the secondaries are emitted from a long footstalk; this species and *D. leucophæa* of Georgia may be separated under the name of *Dicallomera*.

SATURNIIDÆ.

24. *Antheræa hazina*, n. s.

♂. Allied to *A. yamamai*, but of a rusty orange colour, least red at the base, costal border and apical area of primaries; it differs also in having a well-defined ferruginous sinuated stripe half way between the ordinary stripes representing the central belt of the secondaries, close to the outer margin; again, there is a feebly sinuated dusky stripe (wanting in *A. yamamai*), and just within the discal whitish-bordered slaty-grey stripe is a well-defined more deeply sinuated dusky stripe; expanse of wings, 6 inches 5 to 7 lines.

♀. Differs from the male in being of a more flesh-brown tint, and with no trace of the submarginal dusky stripe on the wings; expanse of wings, 6 inches 5 lines.

Male and female. Yokohama (*Jonas*); male, Tokei (*Fenton*).

Whether this is or is not a seasonal form of *A. yamamai* I am unable to say, but it seems fairly common at Yokohama.

25. *Antheræa fentoni*, n. s.

Allied to the preceding, but of the colour of *A. confuci* of Moore; it differs from the latter in the possession of an interrupted whitish-edged slate-coloured stripe across the basal fourth of primaries, in the second stripe running behind (therefore interrupted by) the ocelli instead of nearer to the outer margin, in the presence of a similar stripe on the secondaries, in the discal stripe being black, and the line interior to it brown, instead of both being reddish, and in its being also much farther from the second stripe; from *S. hazina* it differs in being of a pale olivaceous-brown colour slightly tinted with pink in the male, especially towards the outer margin, in the discal stripe being dull black, and all the other stripes more or less olivaceous; the male has a subcostal streak of yellow at the base of the primaries, and the thorax just behind the collar is of the same colour; expanse of wings, male, 6 inches 3 lines; female, 5 inches 10 lines.

Tokei (*Fenton*).

Possibly a local race of *A. yamamai*.

26. *Antheræa calida*, n. s.

This form differs chiefly from the preceding ones in its rich ruddy chocolate-colour, with a silky greyish gloss on the primaries; the markings, although similar in pattern, are much less strongly defined, with the exception of the white border to the discal stripe of the female, which is very vivid; the latter is also placed, in both sexes at a greater distance from the second stripe; expanse of wings, male, 3 inches 3 lines; female, 5 inches 5 lines.

Токеи (*Fenton*).

Whether this was taken actually in Токеи or not I have no means of judging, as Mr. Fenton had placed all his *Antheræas* together in his collection, without appending exact habitats to each specimen; in a genus like the present, in which there is throughout a great similarity of pattern even in species from widely distant localities (differing much in the form of their pupa-cases, and probably much more in their larval characters), it is singularly unfortunate that no especial attention has been paid to this important point.

27. *Antheræa morosa*, n. s.

Differs from the preceding forms in its fuliginous-brown colour, sometimes with a yellow border to the wings, and in the ill-defined character of all the dark stripes on the wings; expanse of wings, 5 inches 3 lines to 6 inches.

Токеи (*Fenton*).

Of this form Mr. Fenton only obtained males, of which he had about half a dozen; it may be a seasonal form of the preceding.

28. *Tropæa dulcinea*, n. s.

♂. Form of *T. gnoma*, excepting that the primaries are rather more elongated; most nearly allied to *T. artemis*, but differing in the absence of the white costal margin to the primaries, of the plum-coloured band at the back of the head, and of the band on the under surface of the wings; the front wings are also decidedly longer; wings pale green, white at the base, and with white internal fringes; fringe of outer margins pale

stramineous; ocelli small, oval, stramineous, with slender linear transparent pupil, and bounded internally by a white-edged black curved litura; primaries with plum-coloured costal border; body white, back of collar plum-coloured; antennæ testaceous; expanse of wings, 5 inches 3 lines.

Male. Tokei (*Fenton*).

In a paper upon the *Sphingidæ*! published some time since by Herr Maassen, it is asserted that my *T. gnoma* owes the brown veins on its wings to rubbing, and is nothing else than *T. artemis*; I should be sorry to contradict so reliable an authority as Herr Maassen, but for the fact that the type of my species has never been examined by him; as it is, although it is true that the veins in my type *are rubbed*, and may therefore owe their *brown* colouring to this fact, I find that the female (when fresh) possesses distinctly sandy yellowish veins, the colour of which is not due to rubbing. But, in the second place, I am not aware that I laid *especial* stress upon the one character of vein-coloration; I certainly never intended to do so, for the form of the wings offers a far more important distinction between *T. gnoma* and *T. artemis*; the long narrow tails of the secondaries, common to both sexes of *T. gnoma*, are quite sufficient to separate it at a glance from *T. artemis*; but, again, Herr Maassen says that even these structural differences are not reliable, and in proof of this assertion he goes on to specify the points of difference between his examples of *Tropæa luna*. A comparison, however, of specimens of a species, so frequently reared* in confinement as *T. luna*, with those of a purely wild form must necessarily be an unfair one, since it is well known that the domestication of any animal tends greatly to increase its variability.

In the second place, Herr Maassen does not say whence the specimens which he calls *T. luna* were obtained; he does not assure us that he has seen the whole of the described forms referable to the genus, so as to be certain of the correctness of the statement that these forms (which he regards as varieties) have not been described as species; nay, on the contrary, he

* Herr Maassen implies that all his specimens are bred; he says, "Rearing has taught that all these different aberrations spring from eggs which a single female has laid."

wisely says, "so far as I know" his words are "Es ist bis jetzt, *so viel mir bekannt*, noch Niemandem, selbst nicht einmal dem gelehrten Hrn. Grote, eingefallen, aus diesem individuellen Unterschieden der *T. Luna* Artrechte herleiten zu wollen und diverse Species daraus zu bilden."

In the third place, supposing that the whole of Herr Maassen's varieties are reared from the eggs of the same female, and therefore can without hesitation be regarded as abnormally developed sports of the same species; it will be noticed that none of them appear to differ in the form of the primaries, the whole apparently possessing the extraordinary falcate character of *T. luna*, since nothing to the contrary is noted.

Lastly, the variability of one species in a genus is no certain guide by which to measure the constancy of the others; conditions of climate may readily develop aberrations in the one case which are quite unknown in the others; even the late Mr. Hewitson, whose tendency to associate allied forms is well known, saw fit at times to limit the variability of species to such an extent as to astonish his friends, some of his species of *Ithomia* * and *Pronophila* † being distinguished by the coloration of the antennæ, or the simple addition of a single white spot on the under surface.

LASIOCAMPIDÆ.

29. *Eutricha dolosa*, n. s.

♂. Nearly allied to *E. pini*; but altogether larger, duller, and darker; primaries greyish, the band just beyond the cell grey edged with black, of nearly equal width, excepting at the first median and lower radial branches, where it is abruptly constricted; the disc beyond this band dark ferruginous, with whitish external margin in the sinuations of the external border; the black spots bounding the external border internally very ill-defined; secondaries fuliginous-brown instead of mahogany-red; the costal area and outer margin greyish; the fringe blackish brown; body fuliginous-brown; under surface fuliginous-brown; the discoidal area of the primaries and an abbreviated streak beyond

* As, for instance, *I. linda*.

† Compare *P. poesia* and *P. proerna* from Bogota.

the cell of the secondaries dusky; expanse of wings, 2 inches 9 lines.

Male. Tokei (*Fenton*).

It appears to me that the genus *Æona* might be advantageously united to *Eutricha*; a comparison of *Æ. segregata* with the male of *Eutricha pini* will at once show their uniformity of character; the type of *Æona* (*Æ. punctata*) is the female of "*Odonestis*" *sodalis*, and identical with *O. abstersa*.

30. *Eutricha zonata*, n. s.

Allied to the preceding and to *Æ. segregata*; deep chocolate-red; primaries with a silvery white disco-cellular lunule; a broad piceous oblique central belt, bounded internally by a white bisinuated stripe, and externally by a dentate-sinuate white line, very sharply defined; a broad dark purplish brown external border, deeply bisinuated internally, and partly edged with whitish as usual; disc between the central belt and the outer border ferruginous; wings below with the basal three-fifths dark chocolate-brown, bounded externally by an abbreviated whitish streak, beyond which they are paler brown; expanse of wings, 2 inches 10 lines.

Male. Tokei (*Fenton*).

31. *Eutricha fentoni*, n. s.

Pale rosy ferruginous; primaries with the base, a bisinuated stripe immediately beyond the cell, a second dentate-sinuate stripe half way between the latter and the outer border, and the inner edge of the outer border dark ferruginous; outer border broad, and slightly darker ferruginous than the ground colour; an oblique lunate white disco-cellular spot upon a dark abbreviated streak; an interrupted diffused whitish stripe bounding the outer border internally; costal border of secondaries and body pale; antennæ with greyish brown pectinations; under surface pale sandy reddish; wings crossed by a darker reddish streak just beyond the middle; an ill-defined discal series of darker spots; primaries with the basi-internal area creamy whitish and sericeous; expanse of wings, 3 inches 2 lines.

Male. Tokei (*Fenton*).

Nearest to *E. superans*, male (*Odonestis superans*, Butl.), but evidently quite distinct.

I find great confusion existing in the genus *Odonestis*, and without doubt several of the species referred to it will have to be placed in *Eutricha*.

32. *Pæcilocampa subpurpurea*, n. s.

♀. Primaries above purplish piceous; a faint indication of an irregular ochraceous stripe across the basal third, and of a second undulated and slightly elbowed stripe just before the external third; a whitish oblique subapical costal litura; secondaries laky brown; body testaceous; under surface uniform sericeous-greyish chocolate-colour; expanse of wings, 2 inches 11 lines.

Female. Tokei (*Fenton*).

The wings of this extraordinary species are semi-transparent; only one slightly damaged example was obtained.

NYCTEOLIDÆ.

33. *Earias roseifera*, n. s.

Primaries above apple-green, with a large central circular rose-coloured patch, enclosing two or three grey scales at the end of the cell; outer margin dark brown; fringe purplish grey; secondaries silvery grey, with white fringe; head and thorax apple-green; abdomen leaden grey; under surface leaden grey; primaries dark, with the apex and outer half of costal margin pale green; secondaries with the apex and costal margin slightly greenish; expanse of wings, 10 lines.

Tokei (*Fenton*).

CHIONOMERA, n. g.

Allied to *Tyana*, but the outer and inner margins of the primaries more convex; the subcostal furca longer, the palpi more uniform in thickness, with longer terminal joint; the wings more glossy, of a silvery white colour, banded with orange. Type, *C. superba*, Moore.

34. *Chionomera argentea*, n. s.

Silvery white; primaries with an orange spot at the base of the costa; a transverse orange band at basal third emitting a short fork inwards upon the costal border, and edged externally with black; an oblique black-edged discal band from costa to external

angle, emitting a short angulated fork outwards towards the costa; outer border nearly to external angle orange, edged internally with black; fringe pale yellow; antennæ legs and venter sordid white; under surface white, primaries slightly tinted with pale sulphur-yellow towards the outer margin; expanse of wings, 1 inch.

Yokohama (Pryer); Tokei (Fenton); Fusi-yama (Maries).

Nearly allied to *C. superba*.

NOTODONTIDÆ.

35. *Triæna anædina*, n. s.

♂. Allied to *T. cuspis*, but much larger than even *T. major*; in pattern it only differs from *T. cuspis* in the more slender sagittate and ramose longitudinal streaks in the interno-median area of primaries; in coloration it corresponds with the darkest varieties of *T. cuspis*, excepting that the primaries are greyer; expanse of wings, 2 inches 8 lines.

Tokei (Fenton).

Our largest female example of *T. cuspis* only measures 2 inches 1 line in expanse, and our smallest male 1 inch 7 lines.

36. *Destolmia insignis*, n. s.

Greyish brown, the primaries with a barely distinguishable greenish tinge; an ill-defined angulated black line just beyond the basal third; a second arched dentate-sinuate slender black line, bordered externally with white, at external third; a slightly curved stripe upon a dark brown diffused background, running from the base through the interno-median interspace, and curving upwards at its extremity into the first median interspace; a second, but abbreviated, black stripe (upon a diffused marginal cuneiform brown patch) running from the discal line almost to the outer margin within the lower radial interspace; a small slender black dash near the costa; veins black, varied with white; secondaries with the disco-cellulars and external area slightly dusky; body slightly dusky, a black line across the front of the collar, and a black band crossing the tegulæ and thorax just behind the collar; under surface sordid sandy whitish; the wings crossed by an abbreviated greyish

streak beyond the discoidal cells; primaries with shining internal area; secondaries with dusky discocellulars; head and pectus greyish; expanse of wings, 2 inches 3 lines.

One example. Tokei (*Fenton*).

FENTONIA, n. g.

Allied to *Thiacidas*, but differing in its much more elongated primaries and abdomen, in which respects it approaches *Cucullia* and allies. Type, *F. lævis*.

37. *Fentonia lævis*, n. s.

Primaries grey, with slight cupreous reflections, crossed at basal third by a blackish-edged zigzag white line; a second similar discal line, widely arched between the first median branch and the costal margin; between the last-mentioned line and the cell is a second slightly less arched blackish brown line; a black longitudinal line on a diffused cupreous-brown streak runs from the base to the white discal line through the interno-median interspace; external border paler than the ground colour, with a sinuated and dentated whitish inner edge; outer margin black, fringe white; secondaries whitish, with brownish abdominal area crossed by a sordid white curved discal stripe; outer border brownish, darkest at anal angle; a slender whitish submarginal line, pure white at anal angle, and a slender black marginal line; fringe white; thorax sericeous-grey, antennæ and abdomen brownish; primaries below pale greyish brown, crossed by a slightly sinuous white discal stripe; internal area sericeous; secondaries white, with cupreous reflections; faint traces of a discal line and a spot at anal angle brown; fringe spotted with brown towards the anal angle; body below white, tarsi banded with brown; expanse of wings, 1 inch 9 lines.

Yokohama. (*H. Pryer*).

38. *Drymonia permagna*, n. s.

Primaries above slaty grey, semitransparent; the base, inner margin, and a zigzag band across the disc irrorated with minute yellow scales, which give them a sap-green appearance; two yellow dots on the inner margin indicating the extremities of the two ordinary

stripes, which are slightly darker than the ground colour, but not sharply defined; two yellow spots on the greenish discal band, one just below the first median branch, the second larger and close to the costa; disco-cellulars black, surrounded by a patch of brown irrorated with yellow scales; a white costal dot beyond the cell, and a second larger spot at external angle; fringe dark brown, spotted with yellow; secondaries greyish brown, whitish in the centre, and crossed by a slightly curved white discal stripe, which terminates at anal angle in a large sulphur-yellow spot, bounded on both sides by blackish; on the external boundary, which forms part of the outer border, there is a group of small pale blue scales; thorax dark grey, blackish in front, and sprinkled with yellow hairs, metathorax densely clothed with coarse yellow hair; abdomen reddish brown, dark grey at base, and greyish along the dorsal ridge; antennæ black; primaries below fuliginous-brown, with grey costal and external borders; a yellow subapical spot; fringe as above; secondaries pale grey, crossed by two parallel dusky stripes, and with a dusky external border; a creamy whitish anal dash; fringe black, spotted with yellow; body below dark grey, venter slightly brownish; expanse of wings, 2 inches 10 lines.

Tokei (*Fenton*).

39. *Calpe lata*, n. s.

♂. Very like *C. excavata*, but larger, broader, the external angle ending in an acute denticle; the coloration paler, the primaries being lilac and bronzy ochreous, transversely reticulated with minute golden yellowish lines and with olive-brown markings as in *C. sodalis*, the oblique discal line being bordered externally with red as in that species; secondaries pale sordid buff, crossed beyond the middle by a dusky diffused stripe and with a broad dusky discal belt; body corresponding in colour with the wings; under surface creamy buff, the primaries redder than the secondaries, and crossed beyond the middle by a very broad arched brown belt, which does not reach the margins; secondaries with a discal streak formed of elongated brownish spots; palpi and coxæ, femora and tibiæ of anterior and middle pairs of legs reddish orange, tarsi of the same legs brown; expanse of wings, 2 inches 2 lines.

Tokei (*Fenton*).

DREPANULIDÆ.

40. *Argyris plagiata*, n. s.

Apparently nearest to *A. ocellata*; sericeous-white, primaries with an extremely large golden bronze-coloured patch, with slaty grey centre bounded externally by four oval black spots, and partly crossed also by a curved white line on the disco-cellulars; a smaller spot of golden-bronze enclosing grey and white dots on internal area; an arched discal series of dome-shaped grey spots followed by submarginal and marginal series of elongated spots of the same colour; secondaries almost crossed in the centre by two large confluent golden-bronze patches enclosing large spots of grey, bordered with plumbageous and black; an ill-defined arched bronzy discal stripe followed by two series of grey spots, the inner series of rather large diamond-shaped spots, the outer of narrow subconfluent dashes, almost forming a submarginal line; head black in front; under surface entirely sericeous-white; expanse of wings, 1 inch 10 lines.

One rather damaged specimen. Tokei (*Fenton*).

ZENZERIDÆ.

41. *Zenzera leuconotum*, n. s.

♀. Closely allied to *Z. æsculi* of Europe, but decidedly larger, and with unspotted snow-white prothorax; expanse of wing, 3 inches 1 line.

Tokei (*Fenton*).

PSYCHIDÆ.

42. *Eumeta minuscula*, n. s.

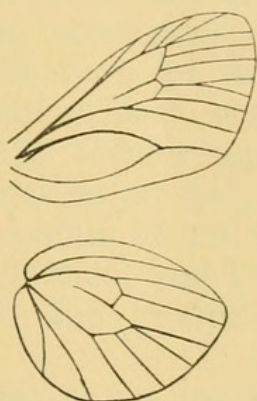
♂. Sericeous fuliginous-brown, the wings with a faint rosy reflection; veins of primaries, especially the main stem of the submedian, broadly blackish; body darker than the wings; under surface nearly as above, but the veins more slenderly blackish; expanse of wings, 11 lines.

Yokohama (*H. Pryer*).

PLATEUMETA, n. g.

Wings short and broad (somewhat like *Psyche graminella*, but of a thicker texture); thorax very broad and

robust, abdomen extending for two-fifths of its length beyond the secondaries; antennæ short and broadly pectinated; costal vein of primaries extending to beyond the middle of the margin; subcostal four-branched, the first two branches emitted before the end of the cell, the third and fourth from one point at the superior angle of the cell; two radials emitted from the upper disco-cellular, which is oblique, lower disco-cellular angulated, and emitting a short recurrent vein into the cell; median vein four-branched, the third branch being forked at about one-third of its length from the cell; submedian widely looped at its commencement, but terminating in a simple vein, secondaries with the costal vein normal, the subcostal arched, emitting one branch almost parallel to the radial vein; disco-cellular veinlet rectangular, emitting rather a long recurrent vein into the cell; median vein four-branched, the third and fourth branches emitted from one point at the inferior angle of the cell; submedian and internal veins normal. Type, *P. aurea*.



43. *Plateumeta aurea*, n. s.

♂. Body dark fuliginous-brown; wings shining golden copper-brown, changing to fuliginous in the shade; more intensely golden below than above; the costal border of secondaries above and the internal border of primaries below sericeous-greyish; expanse of wings, 1 inch 1 line.

Yokohama (*H. Pryer*).



Butler, Arthur G. 1881. "Descriptions of new genera and species of heterocerous Lepidoptera from Japan." *Transactions of the Entomological Society of London* 1881, 1–23.

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