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LIX.—New Neotropical Geometridæ

Louis B. Prout F.E.S.

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BUNOMYS, g. n.

General characters, including shape of skull, very much as in *Stenomys*, but differing as follows:—

Fore claws elongated, fossorial. Clitoris extremely long, as long as the penis of an ordinary murine. Mammæ 0—2=4.

Interparietal much smaller. Palatine foramina rather short. Second molar with a small antero-external cusp. Upper incisors quite flat in front; lower incisors very slender, the gnawing section of unusual length.

Range. Celebes.

Type. *Bunomys cœlestis* (*Mus cœlestis*, Thos.*).

As with *Stenomys verecundus* the great peculiarity and doubtful generic position of this animal were noted in the original description, where a full account of it will be found. The genus is no doubt the Celebean representative of *Stenomys*.

LIX.—*New Neotropical Geometridæ.*

By LOUIS B. PROUT, F.E.S.

[Concluded from p. 440.]

Bryoptera leucophaës, sp. n.

♀. 28 mm.—Face white, sparsely dotted with fuscous; palpus the same, dark fuscous externally; thorax and abdomen white, speckled with fuscous. Wings shining silvery white, sparsely and irregularly sprinkled with fuscous atoms, which are thickest at base, costa, inner-marginal half of median area, and distally to the postmedian from near costa to M¹; the lines sharply expressed, blackish; antemedian from one-fourth costa, curved, and with an indentation on SC; preceded by a less distinct interrupted brown line; cell-spot round, moderately large, blackish; a fine dark median line, angled on SC, outcurved round the cell-spot, then nearly vertical from M to inner margin; postmedian line from costa at about two-thirds subdentate to R¹, incurved and somewhat thickened to R³, again incurved below, reaching inner margin at just before two-thirds; followed by some faint irregular brown shading, and with two thick elongate black marks between the radials just behind the sinus; subterminal line white, very ill-defined, some dark

* Ann. & Mag. Nat. Hist. (6) xviii. p. 248 (1896).

shading distally to it at costa, radials, and near inner margin; terminal spots black, rather large; fringe concolorous. Hind wing with the central shade proximal to cell-spot, diffuse and approximated to postmedian at inner margin, receding from it and becoming more slender towards costa, obsolete beyond cell; discal spot smaller than in fore wing; postmedian distinct, thickened at base of R^3 and M^1 , followed by a large roundish blotch between radials, and a second near inner margin; subterminal indicated only by a scarcely interrupted series of dark spots which follows it; terminal line less broken into spots than on fore wing, yet strongly interrupted at the vein-ends. Underside white, both wings with small dark cell-spot, the fore wing in addition with traces of a postmedian line, and with a roundish, rather ill-defined subapical cloud.

San Antonio, W. Colombia, 5800 feet, November 1907 (M. G. Palmer); one ♀.

A more glossy, less rough-scaled insect than its congeners.

Melanolopia accurata, sp. n.

♂. 44 mm.—Head and body concolorous with wings, face and occiput slightly brighter brown. Shape of wings nearly as in the group of *commotaria*, Mssn., fore wing somewhat broader than in that species; brown, slightly tinged with olive, and with scattered blackish scales, especially near base and in distal area, on costa of fore wing, and at inner margin of hind wing; the lines ferruginous, shaded with ochreous; fore wing with antemedian from one-seventh costa, very oblique outwards to cell, and somewhat darkened; then nearly vertical, incurved on M and indented on SM^2 ; median at before two-fifths, almost obsolete; postmedian from two-thirds costa, parallel with termen throughout, minutely toothed on veins, the teeth accompanied by dark dots; subterminal from five-sixths costa, nearly parallel with termen, indicated by a series of black dots between the veins, margined distally by small, somewhat lunulate whitish marks; the dots anterior to R^1 moderate-sized, those between radials large, the posterior ones minute and indistinct, grey rather than black; discal dot small, black, distinct; terminal dots small, black, distinct, especially anteriorly; fringe concolorous with wing. Hind wing with no antemedian line, postmedian straight, from inner margin at two-thirds to the fold between C and SC at nearly three-fourths, here weakly angled, but becoming almost entirely obsolete; subterminal spots all small; terminal dots minute and for the most part indistinct. Underside nearly unicolorous grey-brown, weakly

dusted and strigulated with blackish, the costa of fore wing somewhat olivaceous; the faintest possible suggestion of a subterminal band of a similar tone; cell-spots and terminal dots nearly as above.

San Antonio, W. Colombia, 5800 feet, December 1907 (*M. G. Palmer*); one ♂.

Probably akin to *muscitincta*, Warr. Nov. Zool. xii. p. 354. Warren calls the whole of this group by the untenable name of *Cymatophora* (Hüb. Tentamen, ined.?, Packard; nec Treitschke). The group contains *canadaria*, Guen., the type of *Melanophia*, Hulst. In the present species SC^{1-2} of fore wing are stalked as usual, but SC^1 anastomoses with C.

Melanophia digna, sp. n.

♂. 42-43 mm.—Face pale ochreous, with triangular dark marks at sides and above; palpus pale ochreous at tip and on the inner side, fuscous beneath and exteriorly; antennal shaft fuscous, ringed with pale ochreous; legs pale ochreous, fore and middle pairs irregularly banded with fuscous, hind sparingly spotted with fuscous; vertex, thorax, and abdomen concolorous with wings. Wings shaped as in the preceding species, termen of fore wing perhaps slightly more elbowed at R^3 ; lavender-grey, speckled with black and very sparsely with tawny, the veins very pale yellowish; lines very ill-defined, indicated by an increase of the tawny and black scales, slightly mixed with ferruginous, commencing from dark marks on costa; antemedian at one-fifth, outbent in cell and on submedian fold; median well before one-half, obsolescent, but sometimes with a distinct black spot on M at the base of M^2 ; postmedian from costa at two-thirds, forming an indentation between R^1 and R^3 and again above and below SM^2 , these indentations being filled up with black spots; minute black dots on the veins; subterminal at five-sixths, indistinctly pale, preceded from costa to R^1 and from inner margin to submedian fold by some small black spots, and preceded and followed on either side of R^2 by strong black marks, the distal the larger; termen with small black dots between the veins; fringe concolorous with wing. Hind wing with the black dusting rather strong basally; antemedian line from inner margin at two-fifths, mixed with dark grey; postmedian at before two-thirds, slightly lunulate-dentate, bending towards tornus from submedian fold; accompanied by some dark marks towards inner margin; subterminal indicated by a series of small black dots, followed by pale scales; its course parallel to termen until near inner margin, where it bends towards tornus; terminal dots as in

fore wing. Both wings with very small black cell-spot. Underside more brownish grey, dark-dusted, fore wing with the costa spotted with dark, a vague dark narrow submarginal band, most distinct on anterior half, followed at apex by an ill-defined whitish spot; hind wing similar, the apex not whitened; both wings with the cell spot.

Torné, Colombia, August 1907; four ♂♂.

Notwithstanding its similarity in markings to several other species of the group (*commotaria*, &c.), its delicate coloration gives this species a rather distinctive appearance.

The venation varies slightly, SC¹ of fore wing anastomosing with C in one only of the four.

Odysia punctilineata (Warr.), ab. (?) *extensata*, nov.

♀. 41 mm.—Face dark fuscous, narrowly wood-brown at base of antennæ; palpus and fore leg dark fuscous, the femur and tibia pale on outer side; head and thorax wood-brown, with fuscous speckling; abdomen dorsally fuscous, with anal segments paler. Wings elongate. Fore wing wood-brown, darkened with numerous fine fuscous speckles and suffused with dull blackish before the outer line, the suffusion extending basewards along submedian fold and outwards beyond cell; lines all very obscure and marked mainly by black pale-tipped dashes on veins and submedian fold; the inner line double, oblique outwards and angled in cell, then oblique inwards; second line curved from costa before middle, outer from three-fourths, approximated to second line on inner margin; subterminal marked by dark pale-tipped lunules; black marginal spots between the veins; beyond them the paler fringe is chequered with dark. Hind wing with the median space darker, especially along the outer line; all the lines blacker and plainer; the marginal spot between R¹ and R³ distinctly double, as in several species of the group. Underside uniform dull smoky fuscous, the fringes pale.

San Antonio, W. Colombia, 5800 feet, December 1907 (*M. G. Palmer*); one ♀.

I have described this form fully and independently on account of its different aspect, but I believe it will prove to be a much darkened aberration (perhaps even the normal ♀ form) of *Odysia* (?) *punctilineata*, Warr. Nov. Zool. vii. p. 198 (*Stenalcidia*), of which I possess the ♂ from the same locality. In the paucity of generic characters in the large group (*Boarmia*, sens. lat.) to which this species belongs, it may be referred to *Odysia*, Guen., = *Isandria*, Warr., to the type species of which (*O. molaria*, Guen., = *ineffectaria*,

Walk.) it is evidently related. The antennal pectinations (♀) reach a length of about $2\frac{1}{2}$ (in terms of the width of shaft) and each is surmounted by a single bristle; in *malaria* each bears at its extremity a pair of short, slender, divergent bristles; in the apical third the antenna becomes merely serrate and with the bristles, and at the extremity nearly simple. The termen of hind wing is less strongly dentate than in *malaria*. In venation and general aspect *Odysia* agrees with *Stenalcidia*.

Odysia accessilinea, sp. n.

♀, 38 mm.—Face dark reddish brown; palpus dark fuscous, lighter at the tip; fore leg fuscous above; head, body, and upper surface of wings light brown, densely irrorated with darker, redder brown, this colour forming a rather conspicuous shade or band distally to the postmedian line in both wings; the lines black. Fore wing elongate; some dark costal markings near base; first line from costa at one-fourth, strongly oblique outwards to cell-fold, thence strongly oblique inwards to inner margin close to base; consisting merely of spots on costa, SC, and cell-fold, a dash on M at the base of M^2 , and a very oblique, slightly waved line from submedian fold to inner margin; cell-spot minute; postmedian line weak, but rendered conspicuous by black dashes on the veins, from costa at two-thirds, parallel with termen to middle of wing, then incurved to submedian fold, where it closely approaches the antemedian, outangled on SM^2 and reaching the inner margin at scarcely beyond two-fifths; subterminal line whitish, strongly fuscous shaded on both sides and with the teeth accentuated distally by black dots; preceded by a black dash between SC^4 and SC^5 ; terminal line waved, fine, black, swollen into spots between the veins; fringe partly clouded with fuscous. Hind wing rather narrow, termen dentate, not strongly convex; a thick basal line in continuation of the antemedian of fore wing; a nearly straight antemedian from SC to inner margin; a rather small but distinct cell-spot; a somewhat waved postmedian parallel with and about 4 mm. removed from termen; subterminal line less sharply dentate than in fore wing. Underside dark fuscous, the fringe paler; hind wing with paler irroration, the black cell-spot distinctly visible.

San Antonio, W. Colombia, 5800 feet, December 1907 (*M. G. Palmer*); one ♀.

Antennal pectinations quite as in *O. punctilineata*, ab. *extensata*, to which, in shape and in the darkened underside, the present species makes a rather close approach. The

form and position of the lines, however, and especially the somewhat more strongly dentate termen of the hind wing, point to its specific distinctness. It is not impossible that it, too, may eventually prove to be the female to some known "*Stenalcidia*." The group containing *dimidiaria*, Guen., *quisquiliaria*, Guen., *elongaria*, Snell., and others is a difficult one, but I have given very careful attention to it without discovering any species to which *accessilinea* could possibly be referred. The females of several are already known and have simple antennæ.

NOTE.—I have two ♂♂ which probably belong to this species; the above description would apply to them, with the following differences:—33-34; somewhat lighter, more sharply marked; fore wing with a curved dark shade preceding the antemedian, meeting it on inner margin; a fine, slightly interrupted, dark median line, strongly outcurved behind cell-spot, then nearly parallel with postmedian; postmedian less sharply inbent on submedian fold, therefore less closely approaching antemedian; hind wing with discal spot nearer to antemedian than to postmedian, whereas in the type ♀ the reverse is the case; underside much paler, that of the fore wing lighter fuscous, with inner margin whitish and cell-spot distinct, that of the hind wing whitish, with costa slightly infuscated and cell-spot distinct; antennal pectinations rather long.

Oconeque, S.E. Peru, 7000 feet, July 1904 (*G. Ockenden*); Torné, Colombia, August 1907; also in coll. Dognin from San Antonio.

Perhaps nearest to the more sharply marked examples of *Stenalcidia elongaria* (Snell.), but readily distinguished by having the postmedian line of the hind wing further from the termen.

Stenalcidia præparata, sp. n.

♂. 32 mm.—Face fuscous above, whitish below; palpus fuscous; antennal shaft banded whitish and fuscous; vertex and occiput white; thorax and abdomen white, marked with fuscous. Hind tibia much dilated, the hair-pencil strongly developed. Wings white, sparsely strigulated with brown and fuscous. Fore wing with costa dark fuscous nearly to antemedian line, more broadly at base; large dark fuscous costal spots at the origin of the three lines, a larger blotch proximally to the subterminal, a narrow costal darkening at apex, and strong costal strigulation in the interspaces; costal spot at origin of antemedian line oblique outwards, reaching into cell, the line here sharply angled, becoming very oblique

inwards to inner margin near base, thickened on M and inangled on submedian fold; median shade brown, extremely indistinct; cell-spot diffuse, not very intense; postmedian line distinct, strengthened by black dashes on the veins, from costa just before two-thirds, deeply incurved in posterior half of wing, nearer to base than to termen on submedian fold, reaching termen at middle; an indistinct brown shade distally to the postmedian; subterminal line white, thick, zigzag, crossed by clear white longitudinal shades above and below the radials, and crossing a dark fuscous blotch between the radials (R^1 to R^3); terminal dots large, black; fringe white, chequered with brown at the vein-ends. Hind wing similar, the inner line becoming a large dark basal spot, the median shade a somewhat irregular, diffuse, antemedian, cell-spot rather darker and more sharply defined than in fore wing, inclining to a broadly crescentic form. Underside whitish, the fore wing slightly grey-clouded in disk, weakly grey-marked on costa and with a moderately broad fuscous marginal band which encloses small pale patches on the margin itself from apex to R^1 , from R^3 to M^1 , and from M^2 to tornus; hind wing with narrow subapical dark band to R^1 ; both wings with dark discal and terminal spots.

Pozuzo, Peru, 800 m.

Differs from *biniola*, Dogn. Ann. Soc. Ent. Belg. xliv. p. 224, in the brighter colouring, smaller discal spots, and other details.

Stenalcidia subannulata, sp. n.

♂. 34 mm.—Face dark reddish brown, narrowly pale below; palpus fuscous; antennal shaft pale; vertex and occiput white marked with brown; collar brown; shoulder white, tipped with brown; thorax and abdomen otherwise concolorous with wings. Wings white, strongly shaded with brown and dusted with fuscous; median area of fore wing (especially towards costa) and base and median area of hind wing somewhat whiter. Fore wing with the lines arising from three equidistant black spots on costa; antemedian from before one-third, lunulate-dentate, the teeth thickened with black on the veins and folds, oblique inwards from submedian fold to inner margin; median shade distinct, crossing the cell-spot; cell-spot rather large, somewhat lunular, pale, with black circumscription; postmedian line from costa at about two-thirds, grey, marked with short black dashes on the veins; oblique outwards to R^3 , then oblique inwards to submedian fold, again outbent almost at

a right angle, vertical below SM^2 , and reaching inner margin at two-thirds; subterminal line pale, dentate, filled in with fuscous spots proximally; terminal dots rather large, black. Hind wing similar, without first line; median shade fuscous brown, rather diffuse, placed proximally to the cell-spot, marked with black dashes on SC and M; postmedian less strongly angled on submedian fold. Underside pale; fore wing with costa dark-spotted and with a dark marginal band, gradually narrowing from costa to inner margin, and leaving the apex (to R^1) very narrowly pale; hind wing with faint traces of dark marginal shade at apex only; both wings with rounded grey discal spot, less clear than above and scarcely pale centred.

Sapucay, 5th November, 1904 (*W. Foster*); one ♂.

Stenalcidia rotunda, sp. n.

♂. 28–30 mm.—Head, with face and palpus, thorax, legs, and abdomen concolorous with wings; face narrowly pale below. Antennal pectinations moderate. Fore wing with costa arched, apex somewhat rounded, termen roundly convex, not very oblique; whitish, thickly irrorated with dark brown and fuscous; costa dark-spotted, more broadly at base; lines fuscous, starting from thick blackish marks on costa; antemedian thick, somewhat interrupted, strongly bent back in middle of cell, reaching inner margin just outside the fovea, which is strongly developed and dark-margined; median shade very strongly curved round the cell-spot, indistinct in lower half of wing; cell-spot rounded, moderately large, black; postmedian line only distinct through dark dashes on the veins, from two-thirds costa, oblique outwards to R^1 , parallel with termen to R^3 , strongly oblique inwards to submedian fold, there strongly angled, more weakly angled on SM^2 , reaching inner margin at slightly beyond one-half; subterminal line whitish, dentate, filled in with fuscous and with black dashes between the veins; terminal spots black, connected with black dashes running inwards towards the subterminal; fringe concolorous with wing, slightly mottled. Hind wing with a straight diffuse antemedian shade; cell-spot, postmedian (at little beyond one-half), subterminal and terminal as in fore wing. Underside much paler, the fore wing pale greyish, slightly darker distally, the costa dark spotted; hind wing nearly white, very weakly dusted; both wings with large cell-spot and small terminal spots between the veins.

Sapucay (*W. Foster*) in Coll. L. B. Prout, one ♂ (type); and Coll. Brit. Mus., one ♂, 4th October, 1903.

Differs from normal *Stenalcidia* in the more rounded fore wing. Agrees in venation (SC^{1-2} of fore wing coincident, R^2 central) and other points of structure.

Iridopsis albescens, sp. n.

♀. 41 mm.—Head, body, and wings whitish, the wings sparsely dusted with brown, smoothly scaled, and with some iridescence; the lines slender, dark grey. Fore wing with first line from before one-third, commencing in a somewhat diffuse dark spot on costa, outangled in cell, then oblique inwards to inner margin at two-sevenths; median shade weak, from a diffuse dark spot in middle of costa, crossing the cell-spot, and becoming more distinct at inner margin; cell-spot reniform, clear white, somewhat raised, surrounded by some dark shading; postmedian line from just beyond two-thirds costa to about middle of inner margin, forming a sinus between R^3 and M^2 , and another towards inner margin, rather strongly elbowed just below M^2 ; antemedian preceded and postmedian followed by weak ferruginous-brown shades; subterminal pale line indicated by dark shading on either side, strongest in anterior half of wing; a series of black terminal spots between the veins. Hind wing with rather distinct antemedian line from costa towards middle to inner margin at about two-fifths; an elongate, somewhat raised, clear white cell-mark, with fine dark circumscription; postmedian angled on radial fold (R^2), then incurved, touching the posterior margin of cell-spot, followed by weak, diffuse, ferruginous-brown line; subterminal line indicated by dark shading on either side. Fore wing beneath dirty white, with dark discal spot and dark submarginal band, which leaves the apex pure white, nearly touches the termen from R^1 to R^3 , becomes narrow and separate from termen to M^2 , and is scarcely traceable beyond; hind wing beneath dirty white, with indistinct dark apical spot.

"Venezuela," without more exact locality; one ♀.

Iridopsis nephotesares, sp. n.

♂. 45 mm.—Coloration and general aspect of *I. rupertata*, Feld., = *salmonearia*, Ob., basal and median areas of fore wing very nearly as in that species, the median shade not appreciably double, ending in a conspicuous, strongly angled, dark mark on inner margin, which is not distinctly expressed in *rupertata*; postmedian line distinctive, strongly oblique inwards, and thickened from above R^2 to lower angle of cell, very shortly bent outwards along M^1 , moderately

straight and less distinct (except on veins) from M^1 to submedian fold, thence incurved nearly as in *rupertata*; some dark fuscous and red-brown clouding on and about R^3 on either side of the postmedian; apex scarcely paler than the subapical patch. Hind wing with antemedian scarcely double, the dark shade behind it being almost entirely obsolete; postmedian fine and ill-defined in costal half of wing, more distinct, and with thickened marks on the veins, in inner-marginal half, angled on radial fold (R^2) and bent inwards below, to lower angle of cell, as in fore wing. Underside of fore wing with the dark costal shading and discal spot and the normal subapical patch, sometimes with some weak dark submarginal shading from this patch to below M^1 , and a weak curved line, darker-dotted on the veins, from the proximal edge of the patch parallel with termen to M^2 , some dark postmedian clouding about R^3 ; underside of hind wing unmarked, or with a dark cell-spot.

Santo Domingo, Carabaya, S.E. Peru, 6000 feet; type. I have also seen one or two others from this locality. Oconeque, S.E. Peru, 7000 feet, July 1904; a fine ♂ in Coll. Brit. Mus.

Iridopsis w-notata, sp. n.

♂. 36–39 mm.; ♀. 40–44 mm.—Head (with face), thorax, and abdomen whitish, mixed with fuscous, palpus more strongly fuscous. Wings scarcely iridescent, whitish, dusted with coarse fuscous atoms, and in the ♂ more or less strongly shaded with tawny brown on the veins, about the margins (especially in the middle of inner margin of fore wing), and beyond the postmedian of fore wing subapically, but without the strong subapical patch of the *sygniaria* group. Fore wing with the antemedian line as in most of the genus, slender, grey, ill-defined, preceded by an ill-defined diffuse shade, grey in the ♀, more tawny in the ♂, both line and shade starting from dark spots on costa, and closely approximating posteriorly; median line usually obsolescent except for a dark spot on costa above the cell-spot and another just before middle of inner margin; cell-spot large, roundish, dark grey; postmedian line from a dark spot on costa at beyond two-thirds, forming a black **W** between SC^5 and R^2 (with its base pointing distad), terminating abruptly immediately below R^2 and scarcely discernible in a few dark scales beyond (which show that it follows nearly the same course as in *I. sygniaria*), and a blackish comma just beyond the middle of inner margin; subterminal pale line very indistinct, only rendered visible by some accumulation of the dark atoms,

particularly between R^1 and R^3 ; terminal line fine but continuous, blackish, lunulate-dentate, the teeth sometimes expanding into black spots between the veins; fringe concolorous with wing, slightly dark shaded at vein-ends and divided by a faint fuscous central line. Hind wing with dark marks on inner margin before one-half, representing the beginnings of nearly obsolete double antemedian line; an oval pale cell-spot with dark circumscription; a postmedian dark line, sharply angled outwards on the radial fold (R^2), thence slightly incurved to near the cell-mark—in one specimen even touching it; a slight tawny brown shade accompanying the postmedian distally, especially in the ♂; the pale subterminal indicated by weak dark shading in the distal area; terminal line as in fore wing. Underside white, usually with only the same markings as in *syrmia*, in the type (♀) also with narrow dark shading continued from the proximal part of the subapical blotch of the fore wing as far as M^2 , a distinct dark cell-spot, and suggestions of a dark submarginal line in hind wing.

Cuença, Ecuador, 3 ♂♂, 2 ♀♀, April and May 1906 (*D. G. Hum*), kindly presented by Mr. F. B. Cross; the type (a ♀) dated May 1906.

Distinguished from all previously known species by the W-like angulations of the postmedian line of fore wing.

Acrotomodes casta, sp. n.

♂. 31–34 mm.—Face, palpus, and antenna rufous; vertex, thorax, and abdomen bluish white, the latter with a rufous band on the basal segments dorsally. Fore wing very pale bluish white, in basal and costal areas speckled and striated with rufous; lines rufous; inner line thick, at two-fifths, acutely angled outwards on SC, then oblique, slightly waved inwards; outer line from two-thirds costa, oblique outwards and thick to SC^2 , thence fine and slightly incurved to M^2 , outcurved to SM^2 , and vertical; a diffuse rufous patch at end of cell; subterminal line preceded by a triangular rufous blotch on costa and by rufous patches beyond outer line, mixed with black dots and a black spot on submedian fold; at anal angle also followed by a rufous cloud; fringe deep rufous. Hind wing with a rufous band at base, a median waved line, and large rufous diffused patch at apex; coarsely sprinkled with black scales; fringe rufous in apical half, bluish white below. Underside suffused with pale rufous and dotted with black; the fore wing terminally suffused with red-brown including the fringe, the inner margin white, the costal area yellowish, at apex bluish white.

Chanchamayo, Peru : three ♂♂.

Close to *A. leprosa*, Warr. Nov. Zool. xiv. p. 297, of which it may prove a local form. The three specimens do not vary except in size; they are much paler and more weakly marked than Warren's species, the outer line of fore wing less "crenulate," &c. Venation as in that species (SC^1 and SC^2 of fore wing both free).

Acrotomodes hemicantha, sp. n.

♂. 32 mm.—Head purplish, basal segment of palpus yellow; thorax and abdomen purplish above, yellow beneath; legs in part ochreous, fore and middle tibiæ and all tarsi dull purplish. Fore wing deep slaty purple, lines finely grey; antemedian outcurved from one-fourth of costa to submedian fold, thence approximately vertical, incurved between M and SM; externally edged with darker; postmedian from two-thirds costa shortly oblique outwards, angled on SC^3 , then inwardly oblique to three-fifths inner margin, paler at costa and preceded by a dark line; upper end of cell and space beyond to angle of postmedian line dull olive, showing a blackish vertical linear cell-spot, veins SC^5 and R^1 along it dotted with dark; subterminal line invisible except at costa, where it is preceded by a dark triangular shade, the extreme apex bluish grey; fringe dark purplish. Hind wing concolorous, with a median dark, pale-edged line; costal area, especially at base, dull pinkish. Underside dull slaty purple, the base of fore wing, and the hind wing to beyond one-half, dull deep yellow.

Pozuzo, E. Peru, 800 m., October 1907; one ♂.

Of closely the shape and general aspect of *Acrotomodes*, and agreeing therewith in many points of structure, but the generic position somewhat uncertain. Apex of fore wing somewhat less acute, termen less oblique posteriorly and not at all gibbous at R^1 ; SC^{1-2} longish stalked, their stalk connected (by a backward-running bar) with C. In all the other *Acrotomodes* which I have been able to examine SC^1 is unconnected with C, though it varies in being either short-stalked with SC^2 (*sporadata*) or free (*leprosa* and *casta*).

Gynopteryx (?) *punctinotata*, sp. n.

♂. 38 mm.—Head, thorax, abdomen, and legs all yellow; hind tibia with a pencil of reddish hairs. Fore wing pale lemon-yellow, with a few red speckles; costa streaked and dotted with dull red-brown, especially in basal half; inner line shown by three red-brown dots in a slight curve, on SC, M, and SM^2 , the first the largest; outer line from costa at

nearly five-sixths, incurved in lower half, followed on costa by a triangular red-brown apical blotch, and on inner margin by an erect oval spot reaching submedian fold, the line itself marked by red-brown dots on the veins except R^2 , each dot followed by some white scales; a small red-brown cell-dot; fringe yellow (damaged). Hind wing pale yellow, with red-brown cell-dot and postmedian curved row of vein-dots; a submarginal row (rather nearer to postmedian than to termen) showing through from beneath. Underside somewhat paler, with the markings fainter; dots of outer line of fore wing doubled; hind wing with submarginal curved row of red-brown dots.

Mexico, without more exact locality; one ♂.

I have been unable to find a genus with which this species agrees in its characters. The shape and coloration recall *Gynopteryx*, though it is a somewhat more slender-looking species; but its subcostal venation shows triple short anastomosis (SC^1 with C, SC^2 —arising from cell—with SC^1 and again with SC^{3-4}); the discocellulars are incurved; C of the hind wing is closely approximated to SC to one-half of cell; the hairs of the face are abraded, but the face itself is not protuberant; the antennal pectinations are short and rather stout.

Gynopteryx gladiaria ustimacula, subsp. n.

♂. 29–37 mm.—Agrees with typical *G. gladiaria*, Guen., in structure and in ground-colour; subapical spot of fore wing always strongly developed, usually larger than in typical *gladiaria*; antemedian line grey, usually well expressed, sometimes thick, sometimes terminating in a round, scorched-coloured spot on inner margin; postmedian somewhat incurved, therefore further from termen, in its lower part, than in any but very rare aberrations of *gladiaria*; ending in a large burnt-coloured spot on inner margin; submarginal spots usually developed, though not as deeply as in the ab. *seriaria*, sometimes connected into a zigzag line. Hind wing with median line and submarginal spots or line well expressed. Underside with the markings well expressed, usually redder-tinted than in the other forms, the postmedian curved, as above.

Chanchamayo (type and others) and Pozuzo, E. Peru, a short series; numerous others seen.

With so variable a species as *G. gladiaria* this form would scarcely have merited a separate name, but that it forms a definite race in E. Peru. The characteristic spot on inner margin at end of postmedian is much larger than in even

strongly marked *seriaria* forms; while the rest of the spots, which equal the inner-marginal one in size in *seriaria*, are obsolete or extremely faint. I should have supposed *ustimacula* to be a species, but that I have one specimen from Peru with the spot weak, and one with it absent (*i. e.* approaching typical *gladiaria*), while, on the other hand, one *seriaria* from Sapucay, Paraguay, apparently taken among other *gladiaria* forms, is certainly referable to *ustimacula*, and another is intermediate towards *seriaria*, having the large spot of *ustimacula* with additional small spots on the line. I therefore consider that we have here an example of the "var." of one locality (in Staudinger's terminology) tending to become the "ab." of another.

Anisoperas pectinata, sp. n.

♂. 36–38 mm.—Head, thorax, and abdomen concolorous with wings. Fore wing grey-brown, densely striated with fuscous; costa, especially towards the apex, paler; inner and outer lines fuscous, conversely edged with leaden grey; the inner bent on SC, then vertical; the outer bisinuate, outwardly dentate on veins, with a small white spot beyond it below SC; a cloudy black cell-spot; the inner third of central fascia and a sinuous band of the same width beyond it paler, greyer; subterminal line dentate, indistinct, finely marked with grey scales. Hind wing without inner line; outer and subterminal lines more plainly dentate, the teeth more conspicuously followed by pale dashes on the veins; a pale grey band between the lines. Underside paler, with outer and subterminal lines marked.

El Congo, Colombia, June 1907 (type); Torné, Colombia, July to August 1907; three ♂♂.

The insect is almost an exact replica of *A. atropunctaria* (Walk.)*, except that the antenna of the ♂ is bipectinate; slightly more crenulate wing-margins and more dentate outer line of hind wing may perhaps also be taken as distinctive. *Tetragonodes rufata*, Dogn. Ann. Soc. Ent. Belg. xliv. p. 231, is probably a related species, but M. Dognin, to whom I have shown my *pectinata*, says it has different colour and scaling, the postmedian line of the hind wing more in the middle, &c. *Anisoperas jodea*, Druce, Biol. Centr.-Amer., Lep. Het. ii. p. 532, t. 98. f. 17, is another pectinated species of the genus.

Dasystole colopholeuca, sp. n.

♂. 40 mm.—Head, thorax, and abdomen coffee-brown,

* *Azelina atropunctaria*, Walk. List Lep. Ins. xxvi. p. 1517.

palpus more ochreous brown internally, externally blackish. Fore wing coffee-brown dusted with blackish; lines greenish grey, white at costa; antemedian oblique outwards from costa, shortly angled in cell, excurved between M and SM² and between SM² and inner margin, dentate inwards on veins; postmedian slightly oblique outwards to SC⁴, nearly vertical to R³, oblique inwards to M², then again nearly vertical—slightly outbent near inner margin; above R³ marked by white dots on veins; subterminal line lunulate-dentate, whitish, very indistinct, except from costa to R¹, where it is followed by a grey-white apical patch; marginal dots between the veins greenish grey with black scales round them; cell-mark oval, black-edged, with centre of slightly raised greenish-grey scales; in anterior part of wing a dark curved median shade midway between cell-spot and postmedian; fringe brown. Hind wing paler brown along inner and distal margins, costal half dull whitish; a large round black cell-spot, followed by a sinuous greenish-grey postmedian line from R³, curved and ending in a black, white-edged spot on inner margin near tornus; marginal dots as in fore wing; fringe brown. Underside of fore wing shining whitish in inner-marginal half, brown thickly black-dotted in costal; cell-mark nearly as above; edge of postmedian line on costa and apical patch whitish; underside of hind wing whitish, thickly black-speckled, tinged with brown in costal half; a large round black cell-spot and black dotted postmedian line, the latter blotched with black towards inner margin.

Torné, Colombia, July 1907; one ♂.

Meticulodes ambusta, sp. n.

♂. 49 mm.—Face, palpus, and antenna ferruginous brown; thorax and basal segments of abdomen blackish, dotted with black scales; abdomen grey-brown, brighter beneath. Fore wing with basal area ferruginous red-brown coarsely speckled with black, vein M and part of cell above it yellow, the other veins also more or less yellow; median area blurred purplish brown without the speckling; terminal area above M¹ dark iron-grey, below it brownish ferruginous; antemedian line black and thick, very oblique from costa, bluntly rounded above M, and oblique inwards to one-third of inner margin, interrupted below SC, followed in cell by a dull ferruginous patch, bounded by a dull blackish smear on DC; the costal part of median area and the space immediately following antemedian line suffused with deeper purple; postmedian black and fine, somewhat thicker from M¹ to

inner margin, starting from a minute pale spot at six-sevenths of costa, obliquely curved inwards to two-thirds of inner margin, with a slight outward bend above SM^2 ; the iron-grey terminal area with a pale smear beyond postmedian line between R^2 and M^1 ; the lower ferruginous space thickly striated with black, with an ill-defined subterminal line edged with paler ferruginous; fringe ferruginous above R^1 and below M^1 , blackish grey between, cut by ferruginous at the vein-ends. Hind wing dingy luteous grey speckled with dull black as far as the black, yellow-edged postmedian line; terminal area below M^1 bright ferruginous with black striation, above M^1 blurred grey with a purple tinge; inner margin below SM^2 bright ferruginous with black strigæ; fringe ferruginous. Underside of fore wing dull dark grey above M , dull white below; the veins brown; costal streak ochreous striated with grey-brown; a diffuse black blotch at middle of termen, and two subterminal dots above it; hind wing dull ferruginous brown, brighter ferruginous beyond the black postmedian line; inner margin yellow ochreous; the whole covered with black striations, except near costa.

Torné, Colombia, August 1907; one ♂.

A very richly coloured species, evidently a rather near relative of *M. periculosaria*, Öb. Ét. Ent. vii. p. 27 (*Azelina*), of which I have a typical series from Torné. It is distinguished, apart from the rich coloration, by the *blackish* front of thorax, dark (not white) discal mark of fore wing, more regular postmedian line of hind wing, &c.

Nephodia xanthostigma, sp. n.

♀. 40 mm.—Antenna bipectinate, with moderate, rather slender branches. Otherwise very similar to *betala*, Druce*, but differing in having the face and vertex clearer yellow (concolorous with the submarginal spot), and in being somewhat darker, the lines of the fore wing less distinct, closer together—first line from costa at 7 mm. to inner margin at 6 mm., second from costa at 12 mm. to inner margin at 10 mm., somewhat incurved at middle; the line of hind wing still more indistinct, and much nearer base than in *betala*—crossing the middle of the wing, hence cutting the lower arm of cell, whereas in *betala* it is considerably posterior to the cell. The characteristic yellow spot quite agrees with Druce's species.

* *Therina betala*, Druce, Biol. Centr.-Amer., Lep. Het. ii. p. 50, tab. xlv. f. 27 = *Nipteria luteopunctata*, Th.-Mieg, Le Nat. xxix. p. 225 (nov. syn.).

San Antonio, W. Colombia, 5800 feet, December 1907 (*M. G. Palmer*); one ♀.

Druce's *betala* belongs to the *Nipteria* section, the ♀ antenna being non-pectinate.

Nephodia (Nipteria) consequens, sp. n.

♀. 43 mm.—Face and palpus luteous; head, body, and wings uniform pale brownish grey, the wings thickly irrorated with slightly darker scales, somewhat less glossy than in most of the genus; the lines fine, darker brownish grey. Fore wing with antemedian from SC at one-third, slightly outcurved in cell, then straight from base of M^2 to inner margin, barely traceable between costa and SC; postmedian from costa at nearly three-fourths, gently outcurved beyond cell, nearly parallel with termen from R^3 to inner margin; a slightly elongate cell-spot concolorous with the lines; no dark terminal line; fringe concolorous. Hind wing slightly less irrorated, especially in basal part, a curved postmedian line from just before SC^2 at two-thirds (of wing) to inner margin at five-sevenths. Underside slightly paler than upper, the lines of fore wing faintly showing through.

Antenna nearly simple, agreeing with the ♀ antennæ of the rest of the *Nipteria* section, so far as known to me.

Santo Domingo, Carabaya, S.E. Peru, 6000 feet; one ♀. I have seen a second from the same locality.

Much paler than *N. tiza*, Dogn. Ann. Soc. Ent. Belg. xlii. p. 348, = *turpis*, Warr. Nov. Zool. xi. p. 104 (nov. syn.); also paler than *ellopiata*, Dogn. loc. cit. xlii. p. 346, of which it reminds in texture and scaling, but which has the postmedian line different, the underside much darker, &c.

Nephodia (Nipteria) falculata, sp. n.

♀. 43 mm.—Fore wing with apex bluntly falcate, the termen having a shallow rounded excision below it. Head, thorax, abdomen, and upper surface of wings uniform glossy brownish grey, as in the *N. incoloraria* (Guen.) group. Under surface darker and redder, dusted with fuscous, the fore wing with an indistinct darker marginal cloud from about SC^5 to tornus, narrowing off to a point at tornal end; inner marginal half of fore wing otherwise slightly paler than costal; both wings with minute dark cell-spot, and faint dark postmedian line, strongly dark dotted on the veins; that of fore wing from costa at 4 mm. before apex, very slightly oblique inwards; that of hind wing also at about 4 mm. from termen, nearly parallel therewith, but

slightly less strongly curved and consequently a little further from termen in middle.

San Antonio, W. Colombia, 5800 feet, December 1907 (*M. G. Palmer*); one ♀.

Distinguished by the falcate fore wing. Belongs to the *Nipteria* section, the antenna being rather shortly but thickly ciliated.

Astyochia emphanes, sp. n.

♂. 25–27 mm.—Head (with face, palpus, and antenna), body, and legs brown-black; tongue bright yellow. Wings proximally white, semitransparent, distally glossy brown-black. Fore wing with costa to SC of same colour, and with the distal border commencing at scarcely beyond two-fifths (well before end of cell), its proximal edge usually with a slight projection inwards on M, but running nearly straight in the direction of tornus to submedian fold, thence sharply bent back to inner margin at two-thirds; a few dark scales in basal part of cell; an oblique oval subapical white spot from before R¹ to beyond R², somewhat variable in size and shape. Hind wing with costa very narrowly blackish; the dark distal border from before two-thirds costa to about one-half inner margin, continuing extremely narrowly along inner margin to base; its proximal edge vertical to SC², then strongly bent back towards termen, rounded on R³ at about 2 mm. from termen, thence nearly parallel with termen. Underside the same.

La Oroya, Rio Inambari, S.E. Peru, 3100 feet, January 1906 (type); also a long series of ♂♂ from the same locality, September and November to January in Coll. L. B. Prout, Coll. Brit. Mus., &c.

I am told that this species has been confounded with *A. dolens*, Druce, Ann. Mag. Nat. Hist. (7) iii. p. 301, = *negrita*, Warr. Nov. Zool. vii. p. 187, from Bolivia, which is a much darker and duller insect.

Devarodes (?) *subfenestrata*, sp. n.

♂. 29 mm.—Face and cheeks white, vertex, palpus, and antenna black, the latter with very short stout pectinations, little longer than the width of shaft; thorax varied black and white above, white beneath; abdomen dorsally black, white-ringed, ventrally white. Fore wing black, with a large white inner-marginal blotch reaching, on the margin, from the fovea to about two-thirds, its upper (anterior) margin rounded, reaching to the cell-fold. Hind wing with inner half white, outer black, the boundary of the two

colours gently curved, nearly parallel with termen; veins partly blackened, especially towards base. Underside of fore wing with white blotch as above, in addition with a white streak between C and SC from base to about one-third and a small elongate white subapical blotch; of hind wing with the dark border reduced to a narrow median bar and diffuse streaks from this to the termen on R^1 , R^3 , M^1 , M^2 and from SM^2 to inner margin, the interspaces remaining white; the dark lines on SM^2 and at base of C and of M thicker than above.

Huancabamba, Cerro del Pasco, E. Peru; one ♂.

Shape and general aspect agree with such species as *charisea*, Druce, &c.; but SC^{1-2} are stalked instead of anastomosing, their stalk connected by an extremely short bar with C, and in the hind wing the discocellulars are strongly oblique and SC^2 is very short stalked with R^1 . In the group mentioned, so far as I have tested it, the ♂ antenna is very much more strongly bipectinate, SC^1 anastomoses (often quite strongly) with C, and SC^2 arises separately—either from cell or from base of stalk of SC^{3-5} —anastomosing with SC^1 ; but variation in some of these details will almost certainly be found.

LX. — *Additions to the non-Marine Molluscan Fauna of British and German East Africa and Lake Albert Edward.*

By H. B. PRESTON, F.Z.S.

[Plates VII.-IX.]

Gibbulina expatriata, sp. n. (Fig. 1.)

Shell small, cylindrical, with very blunt apex, scarcely rimate, whitish; whorls 7, flat, sculptured with fine, closely set, transverse, arcuate striæ; sutures very lightly impressed, slightly crenellate below by the terminations of the transverse striæ; columella rather broadly expanded, descending nearly vertically, and extending into a broad, thick, white, well-defined callus, which joins the lip above; labrum white, thickened, reflexed, somewhat sinuous above; aperture rectangular; interior of shell glossy, showing the transverse sculpture through the shell.

Alt. 9, diam. maj. 3 mm.

Aperture: alt. 2, diam. 1.5 mm.

Hab. Shimbi Hills, British East Africa.