

mouth, thin and scale-like, blunt at the extremity, with a strong molar tooth at the base. The maxilla has a long fleshy outer lobe and the inner lobe is strongly chitinized and furnished with a double row of extremely long and sharp teeth. The mentum is quadrate, with a terminal fringe of long hairs, and the ligula prominent and bilobed.

There is no stridulatory apparatus such as characterizes the Orphuinæ, Ochodæinæ, and Idiostominæ.

The specimen I have dissected is a male, but I have found no external sexual distinction. The species is from the White Nile and is at present without a name. It is extremely close to *Dynamopus plicifrons*, Fairm., from Senegal, of which I have seen the type in M. René Oberthür's collection, but differs in having the pronotum more coarsely and less densely punctured. *Dynamopus athleta*, Sem., of Western Asia, is a rather smaller and relatively shorter insect.

The new species is shortly diagnosed as follows:—

*Dynamopus semenowi*, sp. n.

Læte rufo-testaceus, capite prothoracisque disco brunneis, capite omnino grosse rugoso; prothorace lato, grosse punctato, punctis antice confluentibus, postice discretis, lateralter sparsis, disco postice lævissime impresso, lateribus fortiter arcuatis, angulis posticis nullis; scutello lævi; elytris profunde æqualiter punctato-striatis, interstitiis sparsissime punctatis.

Long. 9 mm., lat. max. 5 mm.

*Hab.* White Nile.

The specimens in the British Museum were collected many years ago by Mr. Petherick. The species is also contained in Herr Carl Felsche's collection.

LXXIII.—*New Species of Heterocera from Costa Rica*.—VIII. By W. SCHAUS, F.Z.S.

Syntomidæ.

*Euagra delectans*, sp. n.

♂. Palpi red on basal half, the apical half brown; frons buff; vertex and neck crimson; collar and thorax black, streaked with dark blue; abdomen above blue-black, ventrally white; fore coxæ white. Fore wings black, tinged

with purple ; a metallic-blue streak on base of costa, and a broader and brighter blue streak above submedian to near middle ; a large hyaline space between veins 2 and 3, not quite reaching termen. Hind wings blue-black ; a hyaline fascia from base below cell and vein 3 to close to outer margin.

Expanse 34 mm.

*Hab.* Guapiles.

Near *E. angelica*, Butl.

*Propyria normani*, sp. n.

♂. Body black ; the shoulders crimson. Fore wings leaden black ; a broad red stripe from entire base of wing above submedian, along costa, and tapering to apex, leaving the apical third of costa narrowly black. Hind wings purplish black ; some roseate on base of costa. Underneath similar, but the hind wings have the base of costa crimson.

Expanse 24 mm.

*Hab.* Alajuela.

Named after my young friend Norman Clark, of Alajuela.

Arctiadæ.

*Parevia parnelli*, sp. n.

♂. Palpi buff, shaded with red above. Frons, collar, and thorax dark lilacine brown ; vertex yellow, shaded with red in front and behind ; abdomen red above, with three small dark spots dorsally ; anal hairs yellow. Fore wings lilacine brown ; a red streak at base below submedian ; a small red spot medially and one postmedially on inner margin, the latter with another above submedian ; a large yellow spot medially on costa, its hind margin downcurved to median ; a smaller spot postmedially on costa, and a slightly larger one near apex ; a yellow space on outer margin, its inner edge straight from 5 to below 3, indented to 2, and again straight to submedian ; the yellow spots all separated from dark portion by crimson lines. Hind wings yellow ; the outer margin broadly black, tapering at anal angle.

Expanse 22 mm.

*Hab.* Sixola.

Near *P. metachryseis*, Hmps.

*Calidota rudis*, sp. n.

♂. Palpi, frons, thorax, and fore wings lilacine brown ; vertex, collar, shoulders, and abdomen above orange ; a black

point on tegulæ and patagia; abdomen ventrally fuscous grey; legs brown. Fore wings: a black point and some ochreous hairs at base; a faintly darker subterminal shade, outcurved to vein 4, then straight to tornus. Hind wings thinly scaled, smoky brown; the base of costa luteous; the inner margin with yellowish-buff hairs.

Expanse 47 mm.

*Hab.* San Mateo.

*Paranerita flexuosa*, sp. n.

♀. Palpi and vertex yellow; frons, collar, and thorax violaceous; abdomen above crimson, underneath white; anus yellowish white. Fore wings roseate purple; a large yellow space on costa, its hind margin obliquely flexuous to vein 3, then upwardly oblique to above 4, and faintly incurved to costa; the apex and outer margin yellow, narrowly and lunular from 7 to below 5, then wider and straight to 3, incurved and oblique to just above tornus; a black edging to dark portion. Hind wings: cell and inner area roseate; costa narrowly yellow; otherwise black.

Expanse 28 mm.

*Hab.* Sixola.

*Paranerita lophosticta*, sp. n.

♂. Palpi and body above crimson; a large yellow spot on vertex, a transverse silvery-white band at base of abdomen dorsally; anal hairs yellow; body below white, fore coxæ and tibiæ red. Fore wings red, irrorated with violaceous; a yellow fascia, wide on middle of costa, crossed by a red streak on subcostal, narrowing between 3 and 4, and expanding on outer margin above tornus, and following narrowly the outer margin to apex; the red portions where next to yellow edged with crimson; a medial curved crimson streak below cell; a small yellow spot edged with crimson below cell towards base. Hind wings roseate, tinged with lilacine on costa; the outer margin excised at apex. Fore wings below with elongated fovea below cell clothed with white hairs.

Expanse 30 mm.

♀. The yellow fascia more constricted between 3 and 4; no yellow spot near base; hind wings red, normal.

Expanse 33 mm.

*Hab.* Sixola, Juan Vinas.

Near *P. carminata*, Schs.

## Notodontidæ.

*Azavia dyari*, sp. n.

♂. Palpi fuscous brown, shaded with reddish brown above; head buff; collar reddish brown and buff; thorax mottled green, lilacine, and dark grey; abdomen brown, basal tufts white, anal hairs tipped with dark red. Fore wings dark lilacine grey; the costal margin shaded with green; the inner margin whitish, the lines on it green and olive-brown; the apex and tornus whitish, shaded with green; a black basal line; antemedial geminate, the inner part heavier marked, and inbent on submedian; a darker medial shade and some medial green and reddish-brown shadings below cell and vein 2; a broad velvety black-brown lunate discal mark; veins on outer space irrorated with black; a fine reddish-brown, geminate, lunular, postmedial line; fuscous submarginal spots between 5 and 7. Hind wings whitish, irrorated with fuscous grey chiefly on outer margin, and leaving a faint postmedial white shade; a brown streak on inner margin; a fuscous spot at anal angle.

Expanse 34 mm.

*Hab.* Sixola.

Allied to *A. luteilinea*, Druce.

*Antiopha? marcella*, sp. n.

♀. Palpi dark brown, streaked with buff above; the second joint very long and heavily fringed. Head and collar mottled brown and buff; thorax mottled with grey; abdomen fuscous brown. Fore wings greyish buff, irrorated with brown; a darker basal shade not reaching inner margin; an inner fuscous-brown shade, angled at median, most noticeable between fold and submedian; a white streak at end of cell to discocellular, beyond which it forms a slight longitudinal crescent; a large brown shade below this is angled just below vein 2 and extends upwards postmedially to the costa, being outwardly limited by a whitish shade above vein 4; the outer margin dark, shaded and crossed by a submarginal, irregular, fine dark line. Hind wings fuscous brown, thinly scaled on inner margin; cilia whitish buff.

Expanse 34 mm.

*Hab.* Sixola.

*Arhacia lignaris*, sp. n.

♂. Palpi and frons brown; vertex buff, separated from brown frons by a darker brown line; some brown hairs at

base of antennæ; collar brown, darkest medially; thorax buff-brown, the patagia streaked with dark brown; abdomen buff, a dark brown dorsal tuft at base. Fore wings buff, shaded with pinkish brown; a greyish-brown shade through cell to termen between 5 and 7, interrupted at end of cell by buff and pale reddish-brown transverse streaks on and at either side of discocellular; a geminate dark brown streak below cell from base to middle of wing, surmounted and followed by a greyish-brown shade to below vein 5 near post-medial; a geminate fine brownish streak along submedian; the postmedial fine brownish, forming very deep and narrow curves, the inward curve between veins 4 and 5 marked with black; the margins, except at base of wing, dark reddish brown, streaked with fuscous brown; a whitish-buff subterminal line, angled and outcurved at submedian fold; a fine lilacine white line on outer margin and lighter brown shadings chiefly towards apex. Hind wings yellowish white; dark brown shadings at anal angle crossed by whitish lines. Underneath yellowish white; fore wings finely brown on costa towards apex and on cilia.

Expanse, ♂ 54 mm.

Expanse, ♀ 73 mm.

*Hab.* Sixola, Tuis.

*Arhacia*, H.-S., and *Lirimiris*, Wlk., had better be separated by the fasciculate antennæ in the former and the pectinated antennæ in the latter, as the separation of veins 3 and 4 on hind wings seems to vary. *A. combusta*, H.-S., is represented in the British Museum by three females, and I have not yet seen the male, which is well figured by H.-S.; the wings below are dark brown. *A. (Lirimiris) imitans*, Schs., differs in the pale costa of hind wings in ♂, and the buff-brown hind wings in ♀, also by the whitish-buff underside. *A. lignaris*, Schs., is readily distinguished from either by the dark shade beyond cell. *A. fascis*, Schs., *A. meridionalis*, Schs., and *A. elongata*, Schs., should be transferred to *Lirimiris*. *A. corina*, Schs., had also better be placed with these last species, although the antennæ are simple in the female.

*Notoplusia eunoteloides*, sp. n.

♂. Head and collar reddish brown; thorax violaceous brown, some grey shadings posteriorly; abdomen above lilacine brown, the last two segments greyish, with a dorsal dark point on last segment. Fore wings: the basal third dark brown, except on inner margin, which is grey, limited by a darker brown line, outwardly edged with whitish; outer

two-thirds grey, medially irrorated with darker grey and beyond with light brown; a reniform brownish line at end of cell; a postmedial brown spot on costa and a larger postmedial spot on inner margin; vein 6 finely black; a subterminal straight black line from vein 8 to vein 3, inset below 3 and below 2; faint traces of a terminal dark line near apex. Hind wings whitish, the veins tinged with brown; a faint terminal fuscous-grey shade.

Expanse 33 mm.

*Hab.* Avangarez.

*Malocampa matralis*, sp. n.

♀. Head and thorax dull brown, mottled with buff, and some whitish hairs on vertex; abdomen darker brown above. Fore wings dull brown, shaded with yellowish buff on inner margin; traces of a darker geminate antemedial line on costa; two black spots on discocellular, finely edged with lighter brown; short postmedial greyish streaks on veins, preceded and followed by a few black scales; terminal black spots between the veins; cilia buff at tornus, otherwise brown, with darker shades at veins. Hind wings dull dark brown; a fuscous-brown spot at anal angle, surmounted by a buff spot; cilia yellowish buff.

Expanse 50 millim.

*Hab.* Juan Vinas.

*Rhuda difficilis*, sp. n.

♀. Palpi and frons mottled brown and whitish buff; vertex, collar, and thorax brown; a fuscous-brown shade on collar in front, partly edged with white; a fuscous-brown shade on thorax near collar; patagia shaded with lilacine. Abdomen dull smoky brown above, with yellowish hairs at base, underneath yellowish. Fore wings: base and inner margin broadly dark silky olive, with a whitish patch below median at base and some white and greyish irrorations at base of inner margin; a velvety black basal line, outbent from cell to submedian and edged with whitish below cell; a darker olive-brown space on costal margin, its posterior edge shading to black, oblique from costa across cell, straight along vein 4 for half its length, upturned and slightly incurved on costa near apex; a narrow white shade follows behind this space, crossed by a dark antemedial line on costa, and a subterminal line from vein 6-8, terminating in a black streak; a broad roseate shade follows the white from cell to

vein 7 ; three fine brown postmedial lines below veins 4-2, and an angled line between 3 and 2 ; a postmedial black point on submedian and one below it ; the outer margin shaded with brown below vein 5 and with yellow above it, crossed from below vein 7 by an irregular fine black line ; terminal white points on veins ; the costal margin irrorated with white and with some fine black streaks ; a geminate fuscous postmedial line above vein 6. Hind wings fuscous brown ; the inner margin and cilia yellow ; a small postmedial yellowish patch between veins 2 and 5.

Expanse 65 mm.

*Hab.* Avangarez.

*Blera modulata*, sp. n.

♂. Palpi fuscous, fringed with grey ; head grey, mottled with brown ; collar mottled light and dark brown ; thorax dark grey-brown, tufted with white behind ; abdomen above dark brown, some greyish tufts at base, terminal segment white, thinly irrorated with brown, ventrally white. Fore wings dark greyish brown ; a white shade at base of inner margin ; a whitish-grey shade medially on inner margin ; a fine dark basal line ; antemedial fine, sinuous, black, inwardly angled on submedian ; outer line similar, incurved at vein 4 ; a subterminal white line, nearly straight from 9-5, then inset and outwardly oblique to below 4, inset on vein 3, and wavy to tornus, followed by a grey shade ; a marginal black line straight from apex to vein 4 and inwardly edged with white, followed by a terminal brown shade, below vein 4 lunular, followed by white. Hind wings white ; the veins outwardly and a terminal shade brown, with a white point at anal angle.

Expanse 34 mm.

The female only differs in having brown hind wings.

Expanse 37 mm.

*Hab.* Juan Vinas, Tuis.

Allied to *B. tenuis*, Schs. (♀ *costaricensis*, Dogn.).

*Meragisa dejecta*, sp. n.

♂. Head, collar, and thorax greyish green, a lateral black streak on palpi. Abdomen brownish, shading to grey, irrorated with dark brown on terminal segments ; the base with ochreous hairs. Fore wings green-grey ; a faint dark geminate line at base ; antemedial black, geminate, filled in with dark ochreous scales, finely wavyly oblique from costa to median, obsolescent below cell, with a lunule above submedian and one outset below it, very indistinct ; a whitish

line on discocellular with a dark point and some ochreous scales, preceded by a white point on subcostal; a fine, indistinct, lunular, postmedial dark line, followed by geminate black lunules separated by ochreous scales, these lunules inwardly oblique from costa near apex, the one between 3 and 4 slightly outset; an irregular dark marginal line, forming oblique streaks from below vein 5; paired terminal black points; cilia yellowish white. Hind wings dull brownish black; the inner margin pale yellowish; cilia yellowish white.

Expanse 54 mm.

Hab. Juan Vinas.

*Meragisa innoxia*, sp. n.

♀. Head mottled olive-grey and fuscous brown. Collar and thorax dark olive-green, thinly streaked with whitish grey. Abdomen fuscous brown, the terminal segments whitish grey. Fore wings olive-grey; a black point at base of submedian and a fine geminate dark line, followed by a faint darker grey shade almost straight; the antemedial dark, geminate, oblique to median, inbent to submedian fold, twice outcurved below it, filled in with an indistinct whitish-grey shade from below cell; a black streak on discocellular and a dark line on costa above it, followed by a fine dark line, oblique and angled on costa, incurved to vein 3 and again to submedian; postmedial from costa towards apex, consisting of fine geminate black lunules separated by whitish scales, incurved to inner margin near tornus, the lunule between veins 3 and 4 outset; some darker grey shades follow the postmedial except between 3 and 4 and below submedian fold; a submarginal black line, interrupted by veins and inwardly edged with white, nearly straight from apex to vein 3, inset below 3 and 2; terminal outcurved lunules at end of veins. Hind wings dark lilacine brown; cilia pale yellowish, tipped with white.

Expanse 46 mm.

Hab. Juan Vinas.

This is the only *Meragisa* I know without the paired terminal points on fore wings.

*Meragisa montana*, sp. n.

♂. Palpi black, fringed and tipped with grey. Head and collar streaked with reddish-brown and grey hairs; thorax more uniformly paler grey. Abdomen dark brown, terminally mottled reddish brown and white, the base with long

lighter brown hairs. Fore wings grey, irrorated with brown; the antemedial line brown, geminate, wavyly lunular, oblique to beyond middle of inner margin; some yellowish scales at base and traces of a faint basal line; some yellow and black scales on discocellular; postmedial oblique on costa, below vein 8 consisting of incurved lunules, the first line black, outwardly filled with ochreous scales, inwardly oblique from veins 7-4, outset between 4 and 3, then slightly oblique, the second line brown, outwardly shaded with grey, and also a brownish shade from veins 8-4; an irregular marginal black line and paired terminal points; the inner margin shaded with brown. Hind wings dull brownish black, with light brown hairs at base and along inner margin; cilia ochreous at base, shaded with fuscous and tipped with white. Fore wings below fuscous, the base, costa, and outer margin ochreous. Hind wings below ochreous; a broad subterminal fuscous shade.

Expanse 50 mm.

The female has the two postmedial lines black; the antemedial lines suffusing and shaded with black below cell.

Expanse 54 mm.

*Hab.* Poas, 7000 feet.

*Meragisa siavina*, sp. n.

♂. Head, collar, and thorax streaked grey and brown; abdomen dorsally ochreous on two basal segments, then brownish, the two terminal segments whitish, irrorated with brown; underneath yellowish buff. Fore wings grey, thickly irrorated with brown; the usual lines indistinct brown, geminate; a fine dark line on discocellular, faintly edged with white, preceded by a minute white spot below subcostal. Hind wings dull fuscous brown; some buff hairs on inner margin; cilia whitish buff.

Expanse 55 mm.

♀. Head and thorax greyer; the ochreous shade at base of abdomen faint. Fore wings: the base, costal margin, and outer space grey, more thinly irrorated with brown; the middle space dark brown behind; antemedial oblique from costa to median, geminate, fuscous brown, filled in with dark brown, sinuous and outwardly oblique below median, inwardly angled on submedian, fine, geminate, black; the line on discocellular black; a medial streak on costa above end of cell; a postmedial dark lunular shade, geminate and distinct on costa, only faintly indicated otherwise; subterminal fine, black, deeply lunular, geminate, filled in with brown, and

followed by brown shadings; the marginal line very deeply incurved between the veins. Hind wings: the hairs on inner margin brown.

Expanse 58 mm.

Hab. Juan Vinas.

*DOTTIA*, gen. nov.

♂. Antennæ pectinated, but not to tips; palpi extending beyond frons, third joint small; anal hairs bifurcating. Fore wings: a tuft of hair on inner margin; 2 from beyond middle, 3 and 4 from lower angle; 5 from above middle of discocellular; 6 from areole towards base; 7, 8, 10 from end of areole. Hind wings: veins 3 and 4 slightly apart; 5 from near middle of discocellular; 6 and 7 from upper angle; 8 close to 7 to near end of cell.

*Dottia effecta*, sp. n.

♂. Palpi dark brown, fringed with lilacine brown. Head, thorax, and basal tufts on abdomen lilacine brown; abdomen fuscous brown, anal hairs reddish brown. Fore wings brownish buff, darkest and tinged with lilacine to postmedial except between veins 2 and 4; a pale greenish streak at base on submedian fold and a fuscous streak at base of submedian, both terminating at inner line, which is dark brown, fine, geminate, dentate on costa and in cell, slightly outcurved between fold and submedian, and contains a small white spot above fold; a dark brown line on discocellular, followed by a brown streak to termen between 5 and 6 and a shorter streak between 4 and 5; a fine brownish postmedial line angled beyond cell, lunular from vein 5 to inner margin, closely followed by another similar line, but which is more remote from vein 5 to costa; terminal dark brown shades from vein 3 to tornus, with a white spot between 2 and 3; a smaller white spot between 5 and 6, cilia with dark brown spots at veins. Hind wings fuscous brown, an indistinct medial buff shade; cilia yellowish, tipped with white; a dark brown shade at anal angle, crossed by a whitish oblique line.

Expanse 46 mm.

Hab. Banana River.

*Saturniadæ*.

*Ormiscodes flora*, sp. n.

♂. Head and thorax dark reddish brown; the patagia shaded with brown, some of the long hairs ochreous. Abdo-

men above black, underneath brown; a lateral row of buff spots; sublateral buff spots on segments 5 and 6. Fore wings: the basal third roseate, with an oblique dark brown shade from base of costa to inner margin; the medial space dark roseate brown; a large irregular yellowish-white spot at end of cell, containing an irregular brown spot divided more or less by a whitish line; this discal spot is upright, and not oblique as in *O. pulchricornis*, Wlk.; outer space lighter brown, with a subterminal greyish shade, followed by a roseate shade, leaving the termen from vein 2 below apex reddish brown. Hind wings brownish; the outer margin narrowly tinged with roseate.

Expanse, ♂ 69, ♀ 89 mm.

*Hab.* Tuis, Juan Vinas.

*Dirphia horcana*, sp. n.

♂. Palpi, head, and thorax black, the collar and patagia faintly tinged with brown. Fore wings: the base narrowly and obliquely black from base of costa, followed by a whitish-grey space extending to middle of costa and inner margin in a sharp point, and narrow from within cell to submedian fold, streaked on costa with brown and outwardly shaded with brown, leaving a clear white terminal edge; medial space black, faintly tinged with brown, limited by a straight white outer line; a white line on median to discal spot, which consists of a large white oblique lunular spot containing an ochreous streak; the terminal space whitish grey, shaded with brown; a fine brown line follows the outer white line, and beyond it are black streaks except between veins 4 and 5; these streaks coalesce on costa and between veins 2 and 3. Hind wings ochreous red; a black streak on discocellular; a subterminal fuscous line; a marginal reddish-brown shade, followed by a greyish shade on termen and cilia.

Expanse 78 mm.

*Hab.* Tuis.

Allied to *D. horca*, Dogn., and *D. subhorca*, Dogn.

*Hylesia dalina*, sp. n.

♂. Head, collar, and thorax lilacine brown. Abdomen bright ochreous brown, with fuscous shadings dorsally at base; tarsi red. Fore wings lilacine; an antemedial brown line inwardly oblique from costa; a broad brownish streak on discocellular; a broad postmedial brownish line, widest on costa and inwardly oblique; a subterminal darker shade

slightly outbent at vein 4; a terminal darker shade from veins 7-3. Hind wings paler, tinged with buff; a faint darker line on discocellular; a subterminal narrow darker shade, followed by a fine indistinct dark line.

Expanse 44 mm.

*Hab.* Sixola.

Closely allied to *H. alinda*, Druce, but the lines do not converge on inner margin and the outer line is more remote from discocellular. Both species show considerable variation, but seem quite distinct.

*Hylesia rubrifrons*, sp. n.

♂. Palpi, frons, and hairs at base of antennæ dark red; collar and thorax dark lilacine brown; abdomen dark brown, dorsally banded with black and overlaid with ochreous hairs. Fore wings lilacine brown; the antemedial straight, dark brown, preceded by a narrow lilacine shade, and followed by a broader lilacine shade; the discal spot darker brown, followed closely by the broad darker brown postmedial, which is slightly oblique as in *H. alinda*, Dr., but is not followed by a pale lilacine shade; a subterminal lilacine shade from vein 5 to outer margin above tornus; a lilacine shade at apex. Hind wings lilacine; a brown spot on discocellular; a dark postmedial line, and a broad subterminal brownish shade.

Expanse 44 mm.

*Hab.* Tuis.

The fore wings are not falcate as in *H. alinda*, Dr., the lines are straighter, and the subterminal shade on hind wings is much broader.

*Hylesia rufipes*, sp. n.

♂. Palpi brown; head lilacine brown; thorax fuscous brown, mottled with lilacine-brown hairs; abdomen black above, laterally, below, and anal hairs red; thorax below and legs red. Fore wings roseate lilacine, the veins finely olive-brown; an antemedial olive-brown line, oblique on costa, upbent on subcostal to near discocellular, then nearly straight to inner margin, inwardly shaded below subcostal with fuscous brown, becoming wider to submedian fold; a large dark brown shade on discocellular; a fine postmedial dark shade suffusing at vein 4 with another line remote and outcurved on costa, heavily marked below vein 4; a terminal dark brown shade on costa; a subterminal shade parallel to outer line to vein 4, then outcurved between

4 and 3, and between 3 and 2, outbent below 2 to tornus; a terminal brownish shade from above vein 3 to vein 7. Hind wings roseate lilacine; the inner margin shaded with brownish hairs; a faint dark shade on discocellular; a dark postmedial line, and a subterminal fuscous shade. Hind wings below with a straight dark postmedial line from apex to inner margin, followed by a dentate fuscous shade; the termen from vein 3 to vein 6 reddish.

Expanse 41 mm.

*Hab.* Sixola.

*Hylesia umbrata*, sp. n.

♂. Head, collar, and thorax dark lilacine brown, the thorax streaked with ochreous hairs; abdomen ochreous brown. Fore wings dull lilacine; the base darker limited by a brownish line angled on subcostal, and faintly incurved below cell; a large dark shade at end of cell; the postmedial brownish shade broad, outcurved on costa, followed by a pale lilacine shade on costa, and throughout by a lilacine brown shade limited by the irregular subterminal, which is incurved between veins 6 and 4. Hind wings dull lilacine, broadly shaded with brown on inner margin; the discocellular and veins darkly streaked; a dark postmedial shade and faint subterminal line.

Expanse 49 mm.

*Hab.* Tuis, Sixola.

This species is nearest *H. approximans*, Wlk., and shows considerable variation in the intensity of the markings, but can be recognized by the broad postmedial shade.

*Hylesia frigida*, sp. n.

♂. Head, collar, and thorax black-brown; a few ochreous hairs on thorax; abdomen black dorsally, with a few scattered ochreous hairs, lateral and anal hairs ochreous. Fore wings lilacine, the veins brownish; an indistinctly darker basal shade; a broad dark shade, crossing end of cell and enclosing a fuscous line on discocellular, its inner margin nearly straight, its outer wider and slightly excurved on costa, then inwardly oblique; a darker subterminal shade, indistinct and irregular. Hind wings lilacine; the discocellular and veins darkly streaked; a subterminal darker and very indistinct shade.

Expanse 43 mm.

*Hab.* Volcano Turrialba, 5800 ft.

This species is apparently confined to the higher elevations.

*Hylesia annulata*, sp. n.

♂. Palpi light brown, streaked with dark brown behind; frons greyish brown, edged laterally with ochreous; collar and thorax black, with a few scattered hairs; abdomen dorsally black, subdorsally golden ochreous. Fore wings brownish grey; the inner line fuscous, inwardly shaded with greyish buff on costa, outbent in cell, limiting a light brown space in cell, inset below cell, deeply outcurved below submedian fold, and outbent below submedian, partly shaded inwardly with light brown, where crossing a fuscous shade which extends below cell, from near base to middle of wing; a large fuscous annular spot at end of cell filled in with light brown; the outer line fine dark brown, outwardly edged with greyish buff, indicated above vein 7 by a fine inbent dark line; the costa apically fuscous; an irregular subterminal brownish shade; the termen darker shaded and irrorated with olive-brown. Hind wings olive-grey; the cell and inner area shaded with fuscous; a fuscous line on discocellular, surrounded by a vague round shade; a fuscous postmedial line and rather broad subterminal shade; some ochreous-buff hairs on inner margin.

Expanse 56 mm.

Hab. Sixola.

*Hylesia rosacea*, sp. n.

♂. Head, collar, and thorax olive-brown; abdomen dark brown, covered with ochreous hairs. Fore wings roseate; a dark olive-brown streak at base of inner margin; the veins finely brownish on outer half; an oblique olive-brown spot on discocellular; a fine dark postmedial line; a marginal brownish shade from veins 7-3, reaching postmedial below vein 7, and tapering to vein 3 on outer margin. Hind wings roseate, darkest on inner margin; a fine postmedial dark line; a very faint postmedial fine shade. The apex of fore wing is produced and somewhat falcate.

Expanse 46 mm.

Hab. Sixola.

*Hylesia hamata*, sp. n.

♂. Palpi brown; head, collar, and thorax black, faintly tinged with brown; abdomen ochreous. Fore wings with the apex falcate, dark lilacine, the apical area shaded with fuscous; an oblique black streak from base of costa to inner margin; a fine faint darker line on discocellular; a fine dark postmedial line, followed by a less distinct fine subterminal

line. Hind wings dull dark lilacine; the veins and disco-cellular finely darker; brownish hairs on inner margin; an indistinct darker postmedial line.

Expanse 47 mm.

*Hab.* Tuis.

Near *H. acuta*, Druce.

### Ceratocampidæ.

#### *Othorene pollens*, sp. n.

♂. Body light ochreous brown above, tinged with lilacine; abdomen underneath lilacine. Fore wings: the base and outer margin lilacine, the basal part limited by a fine black line, slightly curved, the outer margin by a fine black line from apex to inner margin at two-thirds from base; the medial area olive-brown; a small round white spot on disco-cellular. Hind wings dark red; the costal and outer margin broadly roseate brown; a large vague black spot at end of cell. Fore wings below: the base and discal area roseate; a large black spot at end of cell; the costa and apical space beyond cell light brown; a black line from costa close to apex to inner margin; the outer margin lilacine. Hind wings below lilacine; the inner margin broadly whitish buff; a faint subterminal dark line from costa to vein 5.

Expanse 75 mm.

*Hab.* Sixola.

#### *Othorene talamanca*, sp. n.

♂. Body above buff-brown, underneath whitish buff. Fore wings ochreous brown, with a few black striæ and irrorations; the base and outer margin tinged with lilacine, the former limited by a fine slightly curved black line, the latter by a line from costa at apex to inner margin; a small white spot at end of cell. Hind wings ochreous brown, the discal area and inner margin dark red. Fore wings below as in *O. pollens*, but the black spot at end of cell much smaller. Hind wings below whitish buff, thinly irrorated with black.

Expanse 78 mm.

♀. Fore wings dull brown, thickly irrorated with fuscous striæ; the medial area tinged with roseate; a vague darker shade at end of cell; the lines fine, dark brown, the outer line to middle of inner margin. Hind wings as in the male. Fore wings below brownish tinged with red on inner margin; a large black discal spot; black striæ towards apex and on outer margin. Hind wings below buff-brown, with coarse

black irrorations except on inner margin, which is broadly pale buff.

Expanse 97 mm.

*Hab.* Sixola, Tuis.

*Othorene vilderi*, sp. n.

♂. Body above light ochreous brown, the thorax tinged with lilacine. Fore wings ochreous brown between the lines; the base broadly lilacine, limited by a straight fuscous line; the outer space lilacine, limited by a dark line from costa near apex to vein 2 medially, then angled and outbent to inner margin; a white line on discocellular, expanding posteriorly into a triangular spot; some scattered dark striæ on costa and outer space. Hind wings dark red; the costal and outer margin roseate brown. Wings below similar to *O. talamanca*.

Expanse 76 mm.

*Hab.* Sixola.

This species, *O. pollens*, and *O. talamanca* were all taken in March at Sixola and may be aberrant forms of one species.

*Adelocephala pacifica*, sp. n.

♂. Head, collar, and thorax ochreous; abdomen whitish buff, tinged with ochreous dorsally. Fore wings ochreous, thinly irrorated with fuscous striæ; the base tinged with lilacine, limited by a brownish line, angled on subcostal; a round brown spot at end of cell; a fine brown line faintly sinuous from apex to inner margin beyond middle, beyond which the wing is slightly darker. Hind wings ochreous buff; the inner margin broadly red to beyond middle. The female is more thickly irrorated with fuscous; the discal spot indistinct; the hind wings darker and only faintly tinged with roseate on inner margin.

Expanse, ♂ 50 mm.

Expanse, ♀ 62 mm.

*Hab.* Avangarez.

**Dalceridæ.**

*Anacraga rebella*, sp. n.

Entirely lemon-yellow with a slight orange tint. Hind wings a little paler than the fore wings and somewhat translucent.

Expanse 13 mm.

One male, Banana River, Costa Rica, March 1907.

Similar in coloration to *Anacraga goes*, Schaus, though much smaller and not quite so vivid a yellow. The venation differs, the centre of the cell being well retracted, making the accessory cell and lower angle appear prominent, while in *goes* the end of the cell is not thus retracted, but nearly straight across.

### Cossidæ.

#### *Zeuzera comisteon*, sp. n.

Head and collar dark grey-brown; thorax white; abdomen buff-white above, sometimes grey, laterally grey, underneath dark grey. Fore wings white, with transverse brownish streaks, rather widely apart; costa to near middle fuscous brown with black spots; costa beyond with black spots, the largest postmedially; cell for more than half from base brownish; a similar patch below end of cell; a brownish shade from within cell, along vein 4 to near termen emitting above and below thicker streaks; a terminal brownish patch between 6 and 7; terminal brown spots at ends of veins extending on to cilia. Hind wings greyish white, with faint grey striæ; the inner margin darker grey; terminal dark spots at end of veins.

Expanse 37–60 mm.

*Hab.* Sixola, Tuis, La Florida.

#### *Psychonoctua terrafirma*, sp. n.

♂. Head and collar mottled buff-brown, the latter edged posteriorly with grey; thorax mottled grey and brown, with dark brown tufts behind; abdomen grey. Fore wings buff-grey, with fine brown and black reticulations, the heaviest marked along inner margin; basal third of costa, cell space below it, and a shorter shade below cell dark brown shaded with black; a small black spot on discocellular. Hind wings buff-white; dark brown spots on cilia at end of veins.

Expanse 34–57 mm.

*Hab.* Sixola, La Florida.

#### *Hemipecten gaudeator*, sp. n.

♂. Palpi black, tipped with light brown; frons brown; vertex and collar in front black; collar otherwise and thorax white, thinly irrorated with black; abdomen grey to fuscous brown above. Fore wings whitish, thickly suffused with fuscous grey and brown, and crossed by dark grey striæ; a

narrow white space at base; a vague antemedial fuscous shade; a large buff-brown space on terminal area from veins 2-9, inwardly finely edged with dark velvety brown, above and below more broadly so, and outwardly broadly edged with reddish brown; this space contains a broad dark brown band, incurved from vein 8, and suffusing with brown outer margin between veins 4 and 5. Hind wings dark brown with indistinct dark reticulations; cilia light brown, spotted with dark brown.

Expanse 69 mm.

*Hab.* Tuis.

*Hemipecten alfaræ*, sp. n.

♂. Head, collar, and thorax whitish grey, thinly irrorated with black, some reddish brown on thorax posteriorly. Fore wings whitish grey, whitest on costal and inner margins; the costa medially finely dark grey, and with short downward grey striæ, and upward striæ from subcostal; the inner margin crossed by numerous brown lines, and others across middle of wing, but further apart, the medial and line at end of cell broader; the lines on postmedial area between 2 and 5 suffusing; a round velvety black-brown spot subterminally between 6 and 8, and a smaller dark brown spot nearer termen between 3 and 4; a narrow steel-grey terminal shade. Hind wings light brown.

Expanse 36 mm.

*Hab.* Tuis.

Named after Mr. Alfara, Director of the Museum in San José.

*Givira amanosa*, sp. n.

Palpi fuscous brown; frons buff; vertex and collar dark brown, the latter edged behind with lighter brown; thorax light brown, with dark lines and shadings; abdomen fuscous brown, with pale transverse lines. Fore wings: base brown; antemedial dark brown spots coalescing, the spot in cell more remote from base, outwardly edged with buff, and followed by buff-brown on costa and in cell, and a large olive-brown spot below cell; the median space constricted below cell, bifurcating on inner margin, brown, spotted with buff on costa; outer portion of wing below vein 5 dark brown, with three round light brown spots between 2 and 3, one near cell between 3 and 4, and also between 4 and 5; terminal light brown shades between 3 and 5, enclosing dark brown terminal spots at veins 3 and 4; light brown semilunar spots on inner margin; a broad dark brown space beyond cell from costa to

vein 5, followed by a narrow buff shade, and three small dark spots; the terminal space light brown, with a large subterminal irregular dark spot from costa to vein 6, emitting branches, of which two extend to vein 5; marginal buff lines, forming terminal spots. Hind wings fuscous brown, with darker spots medially below costa, and a broad postmedial shade, narrowing towards vein 2; pale marginal lines forming terminal spots.

Expanse 45 mm.

*Hab.* Tuis, Limon.

*Givira morosa*, sp. n.

Head, collar, and thorax mottled lilacine brown and violaceous black; abdomen buff-brown, irrorated with dark brown and black scales, the base and terminal segment violaceous black. Fore wings chiefly steel-grey, reticulated with black-brown; the inner margin narrowly, a basal shade below cell, a large shade about discocellular, and subterminal shade, except between veins 5 and 6, tinged with buff-brown; an inwardly oblique thick black antemedial line from median to vein 1 *b*; cilia with alternate fuscous-grey and brownish spots. Hind wings whitish, finely reticulated with brown; the inner margin broadly brownish; cilia grey-brown at base, terminally white interrupted by dark spots.

Expanse 37 mm.

*Hab.* Juan Vinas.

*Givira fidelis*, sp. n.

Head, collar, and thorax violaceous brown, irrorated with white; abdomen more reddish brown, irrorated with white. Fore wings: base, costal and inner margins, and median vein lilacine brown, crossed by darker brown striæ; a velvety black line along inner margin from near base to beyond middle; a space below cell and postmedial line to subterminal more thinly scaled fuscous grey, with short darker striæ across the veins; a subterminal black line, curved and parallel with termen; the outer margin silvery grey, with a few black streaks and a line before apex; cilia light reddish brown. Hind wings fuscous grey, thinly scaled in discal and postmedial area; some indistinct darker striæ; a greyish marginal shade below vein 2; cilia light reddish brown.

Expanse 33 mm.

*Hab.* Avangarez.

*Givira tigrata*, sp. n.

Palpi reddish brown; frons buff-brown; vertex and collar in front reddish brown; collar behind and thorax whitish buff, with transverse reddish-brown shades; abdomen light reddish brown, with transverse whitish-buff lines. Fore wings ochreous, crossed by reddish-brown spots and short thick lines partly edged with pale golden scales; some small basal spots followed by larger coalescing spots, darker below cell; three antemedial small spots, on costa, in cell, and below cell, and geminate spots above and below 1*b*; a large medial darker spot across costa and end of cell, and a similar spot from below end of cell to inner margin, the two sometimes coalescing and forming a broad band; a broad postmedial line from 7-2, followed by short lines, and a broken subterminal; broad terminal streaks on outer margin down bent and outwardly oblique. Hind wings ochreous, with indistinct darker transverse striæ.

Expanse 30 mm.

*Hab.* Juan Vinas, Tuis.

*Lentagenia tristani*, sp. n.

Head and thorax grey, streaked with brownish hairs; a darker brown-grey shade posteriorly on thorax; abdomen grey, banded with fuscous. Fore wings whitish, shaded with grey postmedially, and reticulated with fine darker grey lines; the costal margin, base of cell, inner margin, and apex shaded with brown; a fine brown streak on discocellular; a broad dark brown streak medially above submedian; reticulations on outer margin more heavily marked, dark brown; dark brown shades on cilia at end of veins. Hind wings semihyaline whitish grey; the margins, veins, and some striæ brown.

Expanse 39 mm.

*Hab.* Juan Vinas, Tuis, Sixola.

Named after Prof. Tristan, of San José, who has assisted greatly in a knowledge of the fauna of Costa Rica.

*Trigena crassa*, sp. n.

♂. Body mottled dark steel-grey and brown, the abdomen somewhat irrorated with white. Fore wings dark steel-grey, irrorated with light brown; a fine subbasal black line; a heavier marked antemedial line, bifurcating in cell, the inner line in bent towards inner margin; a fine postmedial line and a more distinctly marked subterminal line, thickening in places and emitting curved lines to termen; some whitish

mottlings on postmedial area from vein 3 to costa. Hind wings white; a broad fuscous shade from base to outer margin near inner margin.

Expanse 46 mm.

*Hab.* Sixola.

Closely allied to *T. parilis*, Schs.

*Cossus infantilis*, sp. n.

♂. Body fuscous brown, the collar and thorax mottled with white. Fore wings brown; a white spot on discocellular; a fine postmedial and subterminal fuscous-brown line, each emitting downwardly oblique branches; some greyish shadings on branches of subterminal. Hind wings fuscous brown.

Expanse 20 mm.

*Hab.* Esperanza.

*Cossus nina*, sp. n.

Head and thorax whitish grey, with some dark irrorations; Abdomen grey, palest on terminal half, and banded with fuscous. Fore wings grey; a whitish shade at end of cell and between veins 2 and 4; a few fine velvety black striæ, forming a medial line, which crosses a darker grey spot above inner margin; a postmedial line from vein 8 to tornus, followed by a subterminal line inbent from near apex to vein 5. Hind wings dark grey.

Expanse 33 mm.

*Hab.* Sixola.

*Hypopta cinerea*, sp. n.

Head and thorax brown, mottled with buff hairs; abdomen greyish buff, faintly banded with fuscous. Fore wings greyish buff, thickly covered with brownish striæ; subterminally a small brownish spot between 4 and 5, and 6 and 7, both very indistinct, geminate darker spots at end of veins; cilia dark brown, with faint intervenal greyish-buff spots. Hind wings similar; the inner margin broadly brownish.

Expanse 35 mm.

*Hab.* Sixola.

*Cossula albicosta*, sp. n.

Body brown, thickly mottled with white hairs, giving it a grey appearance. Fore wings: the costal margin to near apex whitish, crossed by a few dark striæ near base; the inner margin finely white to beyond middle; space below

cell and vein 2 brown, crossed by whitish-buff striæ; cell and outer space above vein 2 dark grey, becoming whitish on termen, and crossed by darker grey striæ; vein 2 entirely, veins 3-6 terminally white; cilia olive-brown tipped with white. Hind wings thinly scaled, grey, with darker striæ; the termen finely and cilia at base olive-brown; the margin greyish buff.

Expanse 35 mm.

*Hab.* Juan Vinas, El Sitio.

*Cossula? cærulescens*, sp. n.

Palpi crimson; frons reddish brown; vertex and collar velvety black; thorax silky steel-black; abdomen black, tinged with dark blue; anus crimson; thorax below crimson; legs black. Fore wings silky steel-black, with velvety black streaks, chiefly across costal and inner margins; a velvety black patch across middle of cell, extending slightly below it, a broad subterminal dull black band from vein 9, curving to outer margin between 4 and 5, inwardly shaded with red, and followed by a broader red shade crossed by a black line. Hind wings dark silky blue; the cilia partly white; wings below dark silky blue; the outer margin of fore wings with irregular red markings.

Expanse 64 mm.

*Hab.* Tuis, Juan Vinas.

PSYCHOGENA, gen. nov.

Antennæ dentate, with short bristles; legs and tarsi with ridges of long hairs above; abdomen long and slight; lateral tufts of hairs on terminal segments. Fore wings long and narrow, the outer margin oblique; vein 2 just beyond middle of cell; 3 near end of cell; 4 and 5 separate; 6 from near upper angle; 7 and 8 stalked; 9 and 10 free. Hind wings triangular, the outer margin incurved; the anal angle produced; 2, 3, 4, and 5 apart; 6 and 7 stalked.

*Psychogena miranda*, sp. n.

♂. Palpi, vertex, collar, and patagia black; frons and thorax dark brown; abdomen dorsally brown, laterally black, terminally mottled with buff-white. Fore wings dull light brown; the base rather broadly black, expanding on inner margin, and crossed by an irregular basal brown line; black reticulations on costa, inner margin, subterminal area, and medially, and a large black spot medially below vein 2; a

large black spot at and beyond end of cell reaching costa ; the apex broadly brown-black, the outer margin more narrowly so ; terminal light brown spots between the veins. Hind wings black, faintly tinged with brown.

Expanse 37 mm.

*Hab.* Tuis.

### Psychidæ.

*Platæcticus costaricensis*, sp. n.

♂. Body and wings fuscous grey, tinged with brown, especially on basal two-thirds of fore wings, the veins darkest. Veins all present ; 4 and 5 on fore wings on long stalk, shortly stalked on hind wings.

Expanse 34 mm.

*Hab.* Juan Vinas, Cachi.

### LXXIV.—*Seven new Asiatic Mammals, with Note on the "Viverra fasciata" of Gmelin.* By ERNST SCHWARZ.

IN preparing a revision of the Indian Viverridæ, I have recently had occasion to examine a number of specimens in various Museums. Among them I found several new species, the first of which is

*Paradoxurus celebensis*, sp. n.

A Paradoxure of the *P. javanicus*-group, most nearly allied to *P. javanicus*, but coloured somewhat like *P. setosus* of Ceram.

Skull much as in *P. javanicus* ; rostrum shorter and narrower ; intertemporal constriction shorter and less deep. Brain-case very narrow, especially behind. Bullæ similar to those in *P. javanicus*, wide apart, but much smoother, much smaller than in *P. setosus*, not inflated between carotic canal and *foramen lacerum posterius*. Opening of posterior nares long and narrow as in *P. setosus*. Cheek-teeth similar to those of *P. javanicus*, somewhat smaller and less complex, protocone and metacone of  $p^4$  strongly developed.

Back golden yellow, suffused with black and with three very faint longitudinal black lines. Limbs black and also tail except at the base and the white tip. Black face-markings reaching back behind the eyes, sharply distinguished



Schaus, William. 1911. "LXXXIII.—New species of Heterocera from Costa Rica.—VIII." *The Annals and magazine of natural history; zoology, botany, and geology* 7, 612–634. <https://doi.org/10.1080/00222931108692985>.

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