

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

Syntomidæ.

Loxophlebia peralta, sp. n.

♂. Palpi black. Head and collar black-brown; some white scaling on frons. Thorax and abdomen blue-black; some brown dorsally on abdomen at base; a large crimson spot on patagia. Legs black-brown; some white irrorations on fore coxæ and tarsi inwardly. Wings hyaline; veins, base, and margins black, expanding at apex and tornus; the discocellular rather broadly black. Hind wings: veins and margins black, widest at apex.

Expanse 26 mm.

Hab. Peralta, Tuis.

Loxophlebia flavipicta, sp. n.

♂. Palpi and vertex black; frons white. Thorax and abdomen orange-yellow; a large spot dorsally on middle of abdomen and last two segments black, both with a few dark metallic scales. Legs yellow, part of tibiæ and tarsi brown. Wings hyaline. Fore wings: base yellow, followed by a black spot on inner margin, and a black streak on costa to discocellular, which is also rather broadly black; a black spot at tornus; apex black; costa postmedially, outer margin from vein 2 to near 4, and inner margin medially bright yellow, also veins 3-6 from just beyond cell; median and vein 2 black. Hind wings: veins and inner margin to beyond vein 2 yellow, with a black streak at anal angle and black at base of vein 2; apical part of outer margin broadly black.

Expanse 20 mm.

Hab. Tuis, Sixola.

Chrostosoma patricia, sp. n.

♀. Palpi and legs brown-black. Frons metallic blue; vertex black, irrorated with blue. Collar and thorax black-brown; a blue spot on tegulæ and on meso- and metathorax; a crimson spot on shoulders. Abdomen above black, with subdorsal crimson spots at base and lateral metallic-blue spots; ventrally white. Coxæ with white spots, the fore coxæ opalescent white. Wings hyaline, the veins black.

Fore wings: a broad medial black band, expanding along inner margin to tornus; an apical black patch from just below vein 5. Hind wings: the outer margin broadly black at apex, narrowing to anal angle.

Expanse 29 mm.

Hab. Sitio, Juan Vinas.

Chrostosoma fumosa, sp. n.

♂. Body black; a crimson spot on shoulders, on patagia, and dorsally on abdomen at base. Fore wings semihyaline, smoky brown; the veins and cilia black; the outer margin narrowly suffused with black. Hind wings semihyaline black.

Expanse 25 mm.

Hab. Sixola.

Cosmosoma galbana, sp. n.

♂. Palpi, frons, and antennæ brown; vertex black. Collar, thorax, and abdomen yellow; last segment black, expanding dorsally on previous segment. Legs chiefly light brown; coxæ yellow; hind tarsi yellowish buff. Wings hyaline; some yellow at base, followed by black; veins and outer margins black, expanding at apices and at tornus.

Expanse 33 mm.

Hab. Juan Vinas, Sitio.

Cosmosoma thia, sp. n.

♂. Palpi, head, collar, thorax, and legs dark brown; some metallic-blue shadings on frons and tegulæ; the coxæ shaded with blue-black. Abdomen bright yellow, the last two segments black. Wings hyaline; the veins and margins black, expanding at apices and at tornus; a rather heavy angled black line on discocellular.

Expanse 29 mm.

Hab. Juan Vinas, Sitio.

Cosmosoma galatea, sp. n.

♂. Palpi, collar, thorax, and legs black; frons white; two white spots on vertex; white spots on tegulæ and patagia; throat and base of fore coxæ white. Abdomen deep yellow; last four segments above black, shaded with steel-blue; below only last two segments black. Wings hyaline, the veins and margins black. Fore wings: the

base black ; the apex and termen along vein 2 more broadly black.

Expanse 29 mm.

Hab. Juan Vinas, Guapiles, Tuis.

Belongs near *zurcheri*, Dr., having the ventral valve and black thorax, but otherwise very different.

Saurita improvisa, sp. n.

♀. Head black, the frons irrorated with whitish-grey hairs, and an angled line of similar hairs on vertex. Tegulæ black, edged with whitish grey. Thorax orange, some black, with a white spot anteriorly ; patagia black. Abdomen orange ; a black band at base, interrupted dorsally. Legs fuscous brown, faintly streaked with white. Wings brownish hyaline, thinly scaled on outer third ; veins and cilia fuscous brown.

Expanse 24 mm.

Hab. Juan Vinas.

Allied to *Saurita ochracea*, Feld.

Arctiadæ.

Subfamily NOLINÆ.

Nola maia, sp. n.

Head, collar, and thorax dark brown. Abdomen greyish brown. Fore wings : basal half brown ; cell-tufts violaceous black ; a faint whitish, antemedial, perpendicular line from within cell ; outer half lighter brown, especially before post-medial, which is fine, white, edged with dark brown, out-curved beyond cell and again on submedian ; a deeply wavy subterminal dark brown shade outwardly edged with white scales. Cilia brownish, with dark irrorations and some whitish scales at base. Hind wings whitish, shaded with grey terminally. Hind wings below whitish, irrorated with olive-brown ; a black discal spot ; a broad postmedial dark line ; a fine terminal line.

Expanse 23 mm.

Hab. Poas.

Nola sperata, sp. n.

♀. Palpi brown, broadly tipped with white. Head, collar, and thorax white, irrorated with black. Abdomen fuscous grey, with white segmental lines. Fore wings white, with a few fuscous-brown irrorations ; cell-tufts

brown, edged with white; base of costa brown, followed by a small brown spot from which the fine black antemedial line starts and is angled in cell, wavy below it, and much thickened just below median; a fuscous medial line outwardly oblique, punctiform below discocellular, followed on costa by a triangular grey-brown spot; postmedial fine, brown, out-curved beyond cell, with velvety black spots on veins; subterminal brown spots, outwardly oblique from costa, and confluent on costa and above inner margin, the spot on vein 5 inset; terminal brown shade with white spots between veins. Hind wings grey, darkest terminally; a fuscous spot on discocellular.

Expanse 22 mm.

Hab. Juan Vinas, Zent.

Nola biumbrata, sp. n.

♀. Palpi grey, with dark irrorations laterally. Body lilacine grey; whitish segmental lines on abdomen. Fore wings brownish grey, thinly irrorated with dark brown; lines dark brown, broad; antemedial angled in cell, close to dark cell-spot and inwardly oblique to inner margin; a dark medial shade on costa; postmedial lunular, dentate, from below costa to middle of inner margin; a faint subterminal line indicated by irrorations. Hind wings whitish grey, thinly scaled; a faint fuscous line on discocellular and indistinct postmedial points on veins.

Expanse 23 mm.

Hab. Juan Vinas.

Nola artata, sp. n.

♂. Palpi light brown. Head, collar, and thorax white; some dark irrorations on head and shoulders. Abdomen whitish grey. Fore wings whitish grey, with a few dark irrorations forming indistinct antemedial and postmedial lines; base of costa and a spot medially dark brown and three dark points towards apex; the termen shaded with brown; terminal dark streaks between veins 4 and tornus. Hind wings fuscous grey.

Expanse 13 mm.

Hab. Tuis, Juan Vinas.

Allied to *N. apera*, Druce, but without the distinct post-medial row of spots.

Subfamily ARCTIANÆ.

Phæomolis lepida, sp. n.

♀. Palpi yellow, tipped with fuscous grey, and streaked above with fuscous grey edged with red. Head yellow; an outcurved dark line across vertex. Collar yellow, partly dark edged in front. Thorax dark red, with yellow spots, irregularly yellow in front; patagia with a large lilacine grey spot, edged with dull red. Abdomen crimson above, with some yellow at base, white underneath. Legs outwardly yellow, with red-edged grey spots at joints. Fore wings yellow; the basal third and inner margin to tornus dark lilacine grey, cut by red veins, leaving the extreme costa yellow; a subbasal triangular yellow space from costa across cell, enclosing a small dark spot; an antemedial oblique line below submedian, joining on inner margin a fine yellow medial line inbent from vein 2, inset and angled at cell and vein 2, and forming a small spot in cell; all the yellow portions separated from the dark portions by fine red edgings; dark red-edged spots at end of cell and a streak on subcostal, followed by four small spots from veins 3-8; an outer row of larger spots, geminate above vein 6, suffusing between 5 and 6 into an elongated spot, all more or less edged with red; smaller irregular marginal spots between the veins tipped with red. Hind wings roseate; a fuscous shade on anal half of outer margin.

Expanse 40 mm.

Hab. Juan Vinas, Tuis, Sixola, Avangarez.

Halisidota cinctipes fumosa, subsp. n.

♂. Palpi and frons black. Vertex, collar, thorax, and fore wings fawn-colour; collar behind, thorax medially, and patagia dorsally edged with green; a black streak on patagia; abdomen ochreous buff above, with lateral black spots; body below fawn-colour, the legs with black spots. Fore wings: markings light brown, edged with black; the veins black where crossing spots; a basal and antemedial spot on costa, connected by streaks on subcostal, in cell, and on median nervure, also a triangular spot below cell, not reaching base nor extending below submedian; a sinuous medial band crossed by black streaks in cell and on fold; a U-shaped, black-edged, ochreous discocellular spot and a small spot on costa above it; irregular subterminal spots from vein 3 to inner margin and from 4 to 7; irregular terminal spots; all

the costal spots tinged with ochreous. Hind wing semi-hyaline whitish fawn, clouded with fuscous, chiefly along inner margin; cilia mostly black from vein 2 to anal angle.

Expanse 50 mm.

Hab. Sixola, Juan Vinas.

The specimen from Juan Vinas has an antemedial black point on inner margin; the medial band expands in cell and suffuses with discocellular spot, and the subterminal spots are connected by a spot between veins 3 and 4.

Virbia fluminea, sp. n.

♂. Head and body above dark brown; legs greyish brown; abdomen below dark grey; some crimson laterally on neck and below head; a lateral yellow spot on thorax below. Fore wings above dark brown; underneath with a large yellow median spot not reaching costa. Hind wings above black; a large postmedial yellow spot from costa to just below vein 3, its inner edge straight, and leaving the outer margin rather narrowly black. Underneath duller black; the spot as above; some yellow at base of costa.

Expanse 25 mm.

Hab. Sixola River.

Allied to *V. subapicalis*, Wlk.

Lymantriadæ.

Turuenna electa, sp. n.

♂. Palpi brownish grey, tipped with white. Head, collar, and thorax roseate grey. Abdomen roseate above, greyish brown underneath. Wings brownish grey. Fore wings: the base tinged with roseate; antemedial space tinged with olive-brown and crossed by a faint lilacine shade, limited by a fine dark line, incurved from fold to inner margin; medial space tinged faintly with lilacine; a dark shade at end of cell, followed by a brownish shade from costa to inner margin; the postmedial line fine, olive-brown, incurved on costa, angled at vein 7 and straight to inner margin, inwardly shaded with lilacine; apical third of costa brown; a subterminal dark sinuous line. Underneath lilacine grey, the inner margin broadly whitish grey, traces of postmedial and subterminal lines on fore wings. Hind wings: the costal margin rather darker; a broad postmedial brown shade from costa to end of cell, followed by a fine lunular wavy line not reaching inner margin, and a subterminal shade from vein 6 to anal angle.

Expanse 42 mm.

Female: Head, collar, and thorax lilacine; a medial dark line. Abdomen roseate buff. Fore wings: the dark portions olive-brown, tinged with reddish on apical area; the base, antemedial shade, a broad shade beyond medial line, and narrow shades before postmedial and subterminal lines, also the termen, distinctly lilacine. Hind wings roseate buff; traces of an interrupted dark subterminal shade. Wings below buff, heavily shaded with lilacine, the postmedial shades and lines, also the outer margins, especially of fore wings, violaceous.

Expanse 58 mm.

Hab. Cartago, Juan Vinas.

Turuenna festiva, sp. n.

♂. Palpi dark brown, shaded above with buff. Head, collar, and thorax dull buff, with a medial darker shade. Abdomen roseate ochre above; a fuscous dorsal line; underneath dark violaceous. Fore wings: the base greyish buff, followed by a broad dull olive shade inwardly oblique from costa; the antemedial space darker than the base and crossed by a fine dark line; a distinct medial olive-brown line, somewhat incurved, followed by a dark buff space expanding to postmedial below vein 4, crossed by a vague olive shade, which is broad and darker from vein 4 to costa; the apical area also dull olivaceous; a black discal point; the postmedial line distinct, fine, dark olive, oblique from costa and angled at vein 7; the subterminal line sinuous, shaded with buff from vein 5 to inner margin. Hind wings: the costal half fuscous; the inner half yellowish buff. Fore wings below yellowish buff; the costa and a broad postmedial shade from vein 6 to costa violaceous, the latter followed by a dark curved line from costa to vein 4; the apex lilacine. Hind wings below: above median and vein 3 dark lilacine, with broad postmedial violaceous shade and a fine dark line; below cell and vein 3 yellowish buff; traces of an interrupted subterminal line.

Expanse 36 mm.

Female: Abdomen ochreous. Fore wings lilacine; the lines fine, dark olive-brown; the shadings olive-brown, not so heavy as in the male. Hind wings yellowish buff; an indistinct postmedial line and a subterminal row of black spots. Underneath brownish buff, with the dark shadings much reduced. Fore wings: the outer margin shaded with purplish; the lines visible, the subterminal straight, not

sinuous. Hind wings: the postmedial shade very narrow on costa, followed by a faint line; subterminal black spots as above.

Expanse 51 mm.

Hab. Juan Vinas, Tuis, San José.

Lasiocampidæ.

Claphe braganzoides, sp. n.

♂. Body brown; a white patch laterally on tegulæ and patagia. Fore wings white, irrorated with brown above cell; a subbasal triangular brown spot on costa and cell; an interrupted geminate antemedial brown line; two dark points on discocellular; a geminate postmedial line outcurved below costa, the outer portion terminating at vein 3; inner margin brown, separated from white space by a darker brown shade; outer margin below vein 4 brown from postmedial line, narrowly brown from 4 to just above 6; an elongated brown spot on costa beyond postmedial; subterminal dark brown spots, outwardly edged by a lunular white line, obsolescent between 2 and 3; cilia dark brown, with white points at veins. Hind wings brown; the costa broadly white, not reaching termen, irrorated and crossed by brown lines. Underneath brown; subterminal whitish lines near apices.

Expanse 35 mm.

Female: Fore wings white, thinly irrorated with brown; the inner margin and termen narrowly brown; a brown spot on costa towards apex; an inbent geminate brown line from vein 3 to inner margin; subterminal brown spots outwardly edged by a broad lunular white shade. Hind wings with the costal white area without lines and slightly irrorated with brown.

Expanse 44 mm.

Hab. Tuis, Sixola.

Allied to *C. braganza*, Schs.

Claphe phedonioides, sp. n.

♂. Head, collar, and patagia mottled brown and grey. Thorax and dorsal spot at base of abdomen fuscous brown. Abdomen ochreous buff. Fore wings whitish grey, thinly irrorated with brown; postmedial white streaks on veins, preceded by dark brown streaks, and an oblique brown shade on costa; the veins on terminal third more heavily irrorated with brown; a subterminal, deeply dentate, dark grey line;

cilia brownish, with indistinct white spots; a medial fuscous spot on inner margin. Hind wings similar, the inner margin broadly ochreous brown; a faint medial fuscous line.

Expanse 37 mm.

Hab. Juan Vinas, Tuis.

Allied to *C. phedonia*, Stoll, but smaller, paler, and with the wings less produced.

Claphe juliana, sp. n.

♂. Body and fore wings dark fuscous grey, faintly tinged with brown; hind tarsi whitish. Fore wings: a black spot at end of cell; a fine, dark, antemedial, slightly curved line, marked with whitish buff on costa; a postmedial faintly darker shade marked with whitish buff on costa and inner margin; a similar pale shade at tornus. Hind wings greyish white; the veins finely dark grey; the costal and inner margins broadly fuscous grey, tinged with brown, crossed by a postmedial pale shade.

Expanse 42 mm.

Hab. Sixola.

Closely allied to *C. giulia*, Schs., but larger, and with lines of fore wing more obsolete.

Titya perplexa, sp. n.

♂. Body whitish buff, with brown shades on head, collar, and posterior half of abdomen dorsally; the anal hairs dark brown. Fore wings buff-brown; the basal third of veins and inner margin whitish, more thickly scaled and irrorated with brown; a fine medial and postmedial brown line, almost touching on submedian; the postmedial outcurved below costa and followed by a fine geminate parallel brown line; the apex suffused with fuscous; the subterminal space from vein 8 to submedian rather broadly whitish; a terminal white line; a black point at end of cell. Hind wings whitish buff, darkest along inner margin; an indistinct postmedial brownish shade, expanding below vein 4.

Expanse 28 mm.

♀. Body greyish buff, the thorax, base of abdomen dorsally, and anal hairs tinged with light reddish brown. Fore wings grey; an antemedial brown line, outbent from subcostal to inner margin, followed by a fine lilacine white line; a large dark brown patch in cell, and a still broader dark brown space from cell to inner margin, the latter space shaded with dull red close to cell, and limited by a whitish line below cell; a dark point at end of cell; the postmedial space

to subterminal shaded with lilacine brown and crossed by darker semilunar spots forming a line; the subterminal whitish, inangled at vein 5; apical black spots between 8 and 10; a terminal white line. Hind wings buff-grey, faintly darker postmedially; veins and cilia light brown.

Expanse 37 mm.

Hab. Sitio, Tuis.

Closely allied to *T. nana*, Dr., the male tinged with brown instead of grey, the female having the dark space in cell.

Saturniadæ.

Copaxa curvilinea, sp. n.

♂. Head black. Collar whitish grey. Thorax, abdomen, and wings dull brown. Fore wings: costa to beyond middle greyish buff; faint traces of a dark antemedial line; a round hyaline spot at end of cell, outwardly edged by a black and ochreous line; a fine dark line from vein 7 near termen, incurved to inner margin beyond middle, outwardly edged with whitish lilacine from vein 6; the outer margin very faintly tinged with lilacine. Hind wings: a dark straight antemedial line; a smaller hyaline spot more broadly edged with ochreous; a postmedial dark brown shade, followed by whitish lilacine streaks and black points on veins, the latter connected by a faint dark lunular line; subterminal whitish points on veins.

Expanse 102 mm.

Hab. Guapiles, Sixola.

Gamelia musta, sp. n.

♂. Palpi brown; a lateral black streak. Frons reddish brown; vertex, collar, and thorax brown, the patagia tinged with reddish. Abdomen above fuscous, shaded with dark brown dorsally. Body below bright reddish brown. Fore wings: basal third dark reddish brown, limited by a fuscous-brown shade, divided by buff irrorations, inset below cell, and then outcurved; wing otherwise brownish, strongly tinged with lilacine; a buff line, edged on either side with black from apex to inner margin near tornus; a bright small ochreous spot at end of cell, crossed by a fine dark line; a reddish-brown subterminal shade towards costa before line. Hind wings greyish buff, dark-shaded along inner margin; ocellus large, crimson, containing a white spot, and broadly edged with black, which is sharply produced towards outer

margin across a fuscous-grey outer curved line; a subterminal fuscous shade from apex, expanding towards inner margin, but well above anal angle; outer margin brown, tinged with lilacine. Fore wings below pale roseate brown; a large black spot at end of cell; the outer line indistinct, fuscous, faintly geminate. Hind wings below bright reddish brown, darkest on outer margin; a lilacine straight line, outwardly shaded with dark reddish brown from termen at vein 6 to inner margin at two-thirds from base; a black point at end of cell.

Expanse 68 mm.

Hab. Juan Vinas.

Oxytenis albilunulata, sp. n.

♂. Head, thorax, and fore wings dark violaceous brown. Abdomen above fuscous brown. Body brownish buff below. Fore wings: the costa arched, slightly produced at apex; a fine darker antemedial line, irregularly outcurved to middle of inner margin; black points shaded with white at end of cell; a fuscous postmedial shade angled between 6 and 7; a fine reddish-brown line from costa near apex to inner margin well beyond middle, followed by a subterminal fine lunular white line and marginal whitish irrorations from vein 5 to tornus, partly interrupted by dark spots; a white line along base of cilia. Hind wings brighter, irrorated with whitish except on costal and anal area; the costa buff-brown; the reddish-brown line of fore wing continued to middle of inner margin; a dentate black postmedial line; subterminal black spots. Wings below buff-brown, palest at base; the veins clear buff; a subterminal black shade, reaching apex on fore wings; some marginal black spots on hind wings.

Expanse 52 mm.

Hab. Carillo, Sitio.

The specimen from Sitio is light brown, the marginal lunules and irrorations less distinct, but evidently represents the same species.

Dysdæmonia nobilis, sp. n.

♂. Palpi, head, tibiæ, tarsi, and part of fore coxæ dark brown. Collar and thorax greenish grey. Abdomen above greyish. Fore wings even more produced than usual and deeply crenulate below vein 5, greenish grey; an outwardly oblique broad green antemedial shade from below cell, followed by a similar medial shade from costa faintly edged with darker green; an almost round hyaline spot on outer

side of discocellular, with a dark brown spot above it and one below it, the same size as the hyaline spot; a minute hyaline spot follows the upper brown spot; a broad postmedial green shade, slightly inbent and not quite touching the lower brown spot; an outer fine fuscous line outcurved below costa and almost perpendicular from vein 4, followed above vein 2 by a large olive-green spot and below vein 2 to inner margin by smaller spots, all edged with whitish irrorations; a cluster of whitish irrorations between 3 and 4; a larger olive-green elongated spot on costa before apex, partly edged with whitish scaling; a subterminal triangular olive-green shade below vein 7; termen below vein 5 shaded with dark green. Hind wings: the costal margin above cell and vein 6 dark brown, below cell greenish grey; a downcurved greenish shade below cell from base; a postmedial dark green shade, becoming dark brown above 6; the outer line fuscous brown, angled at vein 4, and followed from below vein 2 to inner margin by fuscous spots edged with whitish irrorations; the termen narrowly green-shaded. Underneath greenish buff; a sinuous outer line on fore wings, continued on hind wings postmedially, greenish in colour, and a faint curved outer line beyond it on hind wings.

Expanse 145-158 mm.

Hab. Juan Vinas, Sitio, Tuis.

Eupterotidæ.

Olceclostera bifenestrata, sp. n.

♂. Palpi buff, streaked behind with black-brown. Head, collar, and thorax grey, with a medial brown line. Abdomen grey, thickly irrorated above with dark brown except on two terminal segments. Fore wings grey, with a few black irrorations; the costa finely buff-brown; a fine antemedial black line, punctiform on veins, outangled on median and submedian, inangled in cell and on fold, followed by a fine brownish-grey sinuous line; a minute black point on discocellular; a fuscous postmedial narrow shade, outcurved beyond cell, followed by a row of black points on veins, connected by a dark sinuous line from vein 2 to inner margin; a subterminal hyaline spot between 5 and 6 and a smaller spot below 5, both edged with brown; cilia dark brown, with buff-grey spots at veins. Hind wings fuscous brown, darkest on outer margin; a terminal greyish shade at anal angle. Wings below buff-grey. Fore wings: a black line on discocellular; a brownish postmedial line; a fine blackish

subterminal line. Hind wings: some black irrorations; a black discal point; the brown postmedial shade angled below vein 6; the subterminal finely wavy dentate.

Expanse, ♂ 43 mm.; ♀ 57 mm.

Hab. Avangarez, Tuis, Juan Vinas.

Allied to *O. angelica*, Grote.

Carthara cachiana, sp. n.

♀. Head, collar, and thorax greenish buff. Abdomen ochreous; a dark grey dorsal line and transverse black band on basal segment. Fore wings: basal third greenish buff, limited by the inner line, which is whitish, finely edged with fuscous grey, oblique to median between veins 2 and 3, angled and inwardly oblique; space to outer line greyish, tinged with green on costa, crossed by a medial and a postmedial fuscous shade; the outer line whitish, tinged with lilacine, straight to vein 4, then slightly inbent and faintly lunular between veins; the outer margin greenish from vein 5 to costa, below 5 silvery grey, leaving a greenish shade along outer line from 3 to inner margin; a subterminal brownish shade from 5 to 7; veins 5-7 terminally brownish. Hind wings dull greenish buff; the inner margin dark olive-green, crossed by a white antemedial line, and a downbent semioval white line postmedially; a fuscous postmedial shade, followed by lilacine shading from vein 2 to inner margin; the outer line lilacine white, edged with fuscous, terminating at anal angle, which is considerably produced. Wings below greenish ochre, the apical area of fore wings and outer margin of hind wings brighter; a fuscous postmedial line; the outer line whitish; a white discal spot on hind wings.

Expanse 57 mm.

Hab. Cachi.

Carthara subrufa, sp. n.

♂. Throat and palpi red, the latter tipped with buff. Frons dark brown; vertex mottled grey, brown, and red; buff hairs in front of antennæ. Collar dark brown shaded with maroon in front. Thorax ochreous buff, some purplish hairs on patagia. Abdomen purplish brown. Fore wings: base mottled green-buff and lilacine; a broad dark shade from below cell to inner margin, followed by the antemedial dark greenish line, which is oblique from costa, angled on median, and outcurved from just below cell; the medial space greenish buff in cell to beyond discocellular, on which

are two black points, roseate lilacine between 2 and 4, greenish below cell and vein 2, and buff mottled with reddish brown on inner margin; a postmedial line from a dark brown spot on costa, oblique to 4, then lunular to inner margin; a fine medial dark line, also starting from a small dark brown costal spot; from postmedial to outer line the costa is ochreous and brown, the space between 6 and 8 purplish with lilacine irrorations, between 4 and 6 dark olive-green, between 2 and 4 lilacine red, and below 2 as on medial space; outer line whitish buff, obliquely lunular to vein 4 followed by dark olive-green, cut by buff veins, below vein 4, fuscous, perpendicular, lunular, followed by lilacine violaceous shadings to termen, extending narrowly to apex. Hind wings yellowish; some red hairs in cell, and a curved dark red line from base to middle of inner margin; a fine postmedial dark line, beyond which the outer space is reddish from vein 6 to inner margin, suffused with violaceous between 4 and 6, and dark shaded below 2; the inner margin narrowly maroon and black; a fuscous outer line shaded with white below vein 2. Fore wings below suffused with black on outer margin; the costa ochreous buff; the apex red; some terminal whitish irrorations between 3 and 6; the inner margin broadly yellow. Hind wings below dark red; a black streak on discocellular; a postmedial and an outer fuscous line; a broad fuscous shade irrorated with yellow medially and postmedially, from base to termen below vein 2, crossed by a whitish line subterminally; a roseate brown shade near inner margin, which is finely dark as above.

Expanse 35 mm.

Female: Fore wings lilacine brown; the antemedial and postmedial lines fuscous and rather faint; the outer line followed by a dark olive-green space from vein 4 to costa, intersected by the buff-brown veins. Apex acute and falcate. Hind wings fuscous brown. Hind wings below brown; a dark discal point; a fuscous postmedial line; the outer line fuscous, finely dentate, lunular, followed by ochreous irrorations to termen.

Expanse 53 mm.

Hab. Juan Vinas, Sixola.

Carthara denticulata, sp. n.

♂. Frons light brown. Vertex fuscous brown. Collar brown. Thorax grey-brown; fuscous shadings on patagia. Abdomen dark ochreous brown. White irrorations on vertex

and patagia. Fore wings dull greyish brown, with a few scattered white scales; the costa, inner margin narrowly, and veins ochreous brown; the lines dark brown except on costa where they are reddish; the medial sinuous; the postmedial almost coalescing with medial at vein 2 and on inner margin; the outer line dentate lunular; the outer margin produced at veins 3 and 4; cilia ochreous brown, tipped with white between 3 and 4 and 5 and 7. Hind wings broadly fuscous brown on costal and outer margins; from base and vein 4 to inner margin a large yellowish space shaded with brown and crossed by reddish; finely dentate postmedial and outer lines, the latter outwardly shaded with yellowish white; the termen crenulate from vein 4 to anal angle. Fore wings below brownish; the inner margin luteous; the costa ochreous yellow irrorated with red, and with origin of lines red; terminal interspaces fuscous. Hind wings below fuscous brown with a few white irrorations; the lines reddish, outwardly whitish shaded on inner half; some reddish and yellow suffusions below cell and vein 4 to inner margin.

Expanse 28 mm.

Hab. Tuis.

Zaphanta fraterna, sp. n.

Body buff-brown, the scaling somewhat opalescent; a black spot on hind tibia close to tarsi. Wings buff-brown, thinly irrorated with black; the base broadly tinged with opalescent lilacine grey; the outer margins with a similar tinge, but less marked. Fore wings: the costal margin from before middle broadly tinged with pale yellow; a black spot above vein 8, and a smaller spot below it nearer termen. Hind wings: costal margin pale yellow; a yellowish antemedial and postmedial shade; a lilacine-grey shade along outer half of inner margin. Underneath ochreous yellow more heavily irrorated with black, forming antemedial spots, discal streaks, and outer spots, those on fore wings subterminal below vein 2 and between veins 4-8.

Expanse 21 mm.

Hab. Sixola, Esperanza.

Closely allied to *Z. infantilis*, Dyar.

Notodontidæ.

Schizura manca, sp. n.

♂. Palpi fuscous fringed with brown. Head and thorax light brown. Abdomen brownish grey. Fore wings brown

shaded with fuscous grey on costal half to beyond cell ; traces of a basal and geminate antemedial line ; a velvety dark brown fine streak on discocellular ; a fine dark line, finely lunular, curved around end of cell, inwardly oblique to submedian, then slightly outbent ; a brownish postmedial shade, somewhat lunular and chiefly visible below vein 4 ; fine dark brown streaks between 4 and 5, and 5 and 6 from cell to termen ; marginal dark lines between the veins, the one between 2 and 3 outwardly edged by a white spot. Hind wings whitish ; pale brown hairs along inner margin ; the outer margin broadly fuscous.

Expanse 33 mm.

Hab. Sixola.

Salluca ruptilinea, sp. n.

♂. Palpi dark brown fringed with buff. Frons whitish buff, vertex dark brown. Collar and thorax mottled brown and buff, probably more greenish when fresh. Abdomen fuscous grey ; a green dorsal tuft at base ; the last segment dorsally green. Fore wings green ; geminate basal, an antemedial, geminate medial, and postmedial brown spots on costa, and smaller similar spots in cell, the medial spots in cell larger and partly reaching median ; below cell the spots are smaller, inbent and form indistinct lines ; an irregular brown shade beyond cell, cut by veins and green irrorations ; postmedial fine, brown, geminate, consisting of small spots between the veins, somewhat lunular ; an irregular subterminal fine whitish line preceded by a broad dark brownish shade ; dark marginal spots between the veins. Hind wings dull greyish brown.

Expanse 32 mm.

Hab. Tuis.

Heterocampa antistes, sp. n.

♂. Palpi black fringed with mottled brown and buff. Head and thorax mottled dark brown, buff, and green. Abdomen dark greyish brown above ; a dorsal tuft at base, mottled brown, black, and green. Fore wings dull green shaded with lilacine brown at base of inner margin, and a fuscous streak along inner margin ; antemedial line dark brown, fine, lunular and geminate, rather indistinct ; an oblique fuscous shade across end of cell and below it to postmedial, which is very fine, lunular, geminate, black, very indistinct, marked by a white spot on inner margin, and followed by white points on veins ; discocellular green with

a dark line; the space from end of cell to near termen, and from vein 8 to vein 3 lilacine brown, the veins tinged with green; faint darker brown subterminal spots, almost obsolescent; the termen narrowly green, with some black irrorations close to cilia and whitish points at ends of veins. Hind wings dull fuscous brown; white points at ends of veins.

Expanse 44 mm.

Hab. El Sitio.

Resembling *H. viridescens*, Wlk., and *H. mullinsi*, Schs.

Heterocampa mystica, sp. n.

♀. Palpi and head mottled brown and grey. Collar and thorax grey tinged with green. Abdomen grey heavily irrorated with brown except on last two segments, which have only a few irrorations; fine fuscous segmental lines. Fore wings greyish irrorated with brown; the base tinged with green and crossed by a subbasal whitish line, oblique from costa; antemedial line fine, fuscous, dentate; some black points at base below cell; cell shaded with lilacine brown; a pale buff spot at end of cell containing a reddish-brown line, below it a fuscous shade to tornus; a brownish-green shade beyond cell, oblique towards costa; postmedial fine, black, partly geminate, and lunular below vein 4; a subterminal brown shade from veins 4-7, preceded by reddish-brown spots, and followed above 6 by a fuscous shade to apex; a terminal black line interrupted by veins; black spots on cilia at veins. Hind wings fuscous grey; a terminal black line with pale spots at veins; cilia whitish buff, with black points.

Expanse 39 mm.

Hab. Juan Vinas.

Talmeca gnoma, sp. n.

♂. Palpi fuscous grey fringed with white. Head and collar buff tinged with green. Thorax dull grey shaded with green. Abdomen fuscous brown above with pale segmental lines; a reddish dorsal tuft at base. Fore wings lilacine grey, with some darker irrorations; a green streak below cell to vein 2; a darker green streak along lower portion of cell, expanding at discocellular and filling space between 4 and 5 to termen; a similar broad green space terminally from just above vein 3 to inner margin; antemedial dark, geminate, outcurved and interrupted; postmedial geminate, black and much outbent along costa, then incurved and pale brown,

intersected by veins and partly lunular; subterminal geminate black points on veins separated by whitish points; terminal black points between veins. Hind wings fuscous tinged with brown; cilia white.

Expanse 32 mm.

Hab. Sixola.

Near *T. pulchra*, Schs.

Meragisa albescens, sp. n.

♀. Head and thorax whitish grey, mottled with pale brown hairs. Abdomen above ochreous buff shaded with grey, a reddish-brown shade at base, the two terminal segments white, thinly irrorated with dark scales; underneath ochreous buff. Fore and hind legs with long white hairs; hind legs ochreous buff; tarsi with black rings. Fore wings white, thinly dusted with light brown; basal line dentate, interrupted, brown and geminate on costa, otherwise black; antemedial fine, geminate, black, outwardly oblique and wavy from costa, inset below cell, outcurved above submedian, outwardly oblique below it; a dark brown line on discocellular, a medial dark streak on costa; postmedial fine, light brown, deeply lunular, followed by a lunular geminate black line, somewhat inset between 4 and 6 and below 3; terminal black points close to veins, connected between veins by deeply curved black lines; cilia white. Hind wings whitish grey, shaded with ochreous on basal half; the veins, a medial line, and broad outer shade fuscous grey. Underneath ochreous buff, the outer half suffused with fuscous grey.

Expanse 53 mm.

Hab. Tuis, Juan Vinas.

Meragisa proxima, sp. n.

♀. Palpi black fringed with grey. Head and thorax grey mottled with brown. Abdomen above brown, shaded with ochreous at base, the terminal segments white irrorated with brown; underneath ochreous buff. Fore and hind legs with grey hairs. Fore wings whitish grey, irrorated with darker grey; basal line geminate, black, deeply outcurved on costa, incurved and outbent below cell; antemedial outwardly oblique, slightly inset below cell, fine, black, geminate filled in with pale ochreous; a white point in cell; a dark streak on discocellular edged with white; very faint traces of a postmedial line, but distinct and geminate on costa, followed by the usual geminate black lunular line, which is

filled in with pale ochreous and followed by a brownish shade, widest and most heavily marked towards costa; the terminal points and black line as in *M. albescens*, Schs. Hind wings fuscous brown; cilia whitish. Underneath fuscous brown; costal margins finely pale ochreous; a terminal dark line on fore wings above vein 3; base of hind wings pale shaded.

Expanse 50 mm.

Hab. Juan Vinas.

Closely allied to *M. marcata*, Dogn., but readily distinguished by the absence of yellow on hind wings above at base.

DUNAMA, gen. nov.

Palpi slightly upturned, with second joint long, smoothly scaled, third minute. Antennæ pectinated, the tips with cilia. Legs smooth. Fore wings narrow, vein 5 from below upper angle of cell; 6 from near middle of areole; 7, 8, 10, from end of areole. Hind wings proportionately broader, the costal margin straight; 8 diverging from 7 before middle; 3 and 4 from lower angle of cell; 6 and 7 from upper angle; vein 5 weak.

Type of genus, *Dunama angulinea*, Schs.

Dunama angulinea, sp. n.

♂. Palpi, head, and thorax dark brown; vertex outwardly shaded with buff. Abdomen above fuscous; underneath and legs buff, the latter partly streaked with dark brown. Fore wings greyish brown; a subbasal buff shade on costa, and an interrupted dark brown subbasal line; a triangular dark antemedial shade on costa, and a round dark brown spot below cell, followed from cell to vein 2 by a medial geminate dark brown line, faintly visible on costa and inner margin; this line followed by a whitish-buff shade, most distinct from cell to vein 2; a postmedial brown shade angled at vein 4, and followed on veins from 5 to submedian by geminate dark streaks separated by buff spots; a subterminal fuscous-grey shade, widest from vein 4 to inner margin; marginal black spots preceded by a pale buff shade, cut by the fuscous-grey veins; termen fuscous grey. Hind wings fuscous brown. Underneath dull fuscous grey.

Expanse 22 mm.

Hab. Guapiles.

Rifargia culpata, sp. n.

♂. Palpi reddish brown, with two buff streaks and similar fringe in front. Head mottled brown and buff. Collar light brown, with a transverse fuscous-brown streak. Thorax buff-brown, shaded with dark grey posteriorly; patagia pale buff, dorsally edged with dark brown. Abdomen reddish brown above and below, shaded with buff laterally; the last two segments dorsally grey. Fore wings dark grey, shaded with light grey towards apex; basal third buff-brown, streaked with dark reddish brown on costa, narrower below cell; a dark line limits this space from costa to median, below which it forms two curves, and is preceded by a parallel dark grey shade; a fine brown line forms a large reniform spot at end of cell; postmedial line outcurved beyond cell, finely lunular, geminate, dark grey, followed by another geminate dark wavy line, deeply outbent on costa, incurved below vein 3, and partly defined by fuscous-brown spots; a subterminal whitish dentate shade; a reddish-brown apical spot, partly edged by fuscous-brown lines; a fine fuscous-brown marginal line from below vein 4, inset below each vein. Hind wings reddish brown; a darker medial line followed by a buff shade; a broad subterminal darker brown shade; the termen and cilia buff.

Expanse, ♂ 69 mm.; ♀ 83 mm.

Hab. Sixola.

Closely allied to *R. lemoulti*, Schs., but larger and differing in details.

Hemiceras avangareza, sp. n.

♂. Palpi, head, and collar roseate buff. Thorax dark lilacine grey. Abdomen light brown; a lateral whitish streak. Fore wings dull brown tinged with fuscous, lines pale buff; antemedial forming three outward curves from subcostal, and a smaller curve on costa; the outer line from costa near apex to middle of inner margin; a dark line on discocellular preceded by a black point close to subcostal; costa finely buff. Hind wings white, the outer margin tinged with light brown.

Expanse 36 mm.

Hab. Avangarez.

Similar to *H. albulana*, Dr., from the same locality, except in colour.

Sphingidæ.

Hyloicus biolleyi, sp. n.

♀. Palpi brown, fringed with white at base; frons slightly darker brown, vertex brown, shaded with black behind; collar dorsally black, outwardly edged by a brown-black line, which continues to tips of patagia, and is followed by a lateral brown and white shade; patagia otherwise and thorax reddish brown, mottled with a few whitish scales; abdomen at base dorsally tufted with light brown and with subdorsal black spots followed by a broad whitish band, and subsequently by alternate broad black and narrow white bands; two dorsal brown and grey lines diverging and expanding towards anal segments; abdomen white underneath, with black ventral points. Fore wings brown, irrorated with whitish buff; a basal, geminate antemedial, medial and post-medial angled black spots on costa; black and white tufts at base of inner margin; an antemedial patch of roseate buff scales below cell, cut by a fine black line; a black streak in cell and beyond it, cutting a medial round fuscous spot and interrupted by a white point on discocellular; black streaks above veins 2, 3, and 5; an outcurved post-medial fuscous shade, followed by an indistinct fine, fuscous, dentate line; an outcurved series of subterminal angled black lines between the veins, nearest to termen between 2 and 4; an oblique black line to apex from vein 6, interrupted by vein 7; some small terminal black spots. Hind wings black; a whitish antemedial line inbent towards base on costal and inner margins; a sinuous white postmedial band; cilia white, spotted with black.

Expanse 90 mm.

Hab. Tablazo.

Allied to *H. lugens*, Wlk., but very different in the details of its markings. Named after the late Prof. Biolley, to whom I am indebted for this specimen.

Ambulyx goeldi marcata, subsp. n.

♂. Differs from *A. goeldi*, Roths., in having all the shadings and lines more distinctly marked; the postmedial and outer lines on fore wings fine, geminate, and well marked. Hind wings with a third line between medial and outer lines. Fore wings below: a fuscous-brown irregular and heavily marked postmedial line; the outer line fine and geminate. Hind wings with the third line as on upper side.

Expanse 98 mm.

Hab. Tuis.

Megalopygidæ.

Megalopyge costaricensis, sp. n.

Body dorsally whitish yellow, laterally on collar, thorax, and abdomen shaded with brownish buff; frons brownish; throat black. Fore wings brown, darkest at base, paler postmedially, fading into the broad whitish-yellow outer margin; black and whitish streaks on costa medially and in basal half of cell; postmedial small, triangular, whitish spots inwardly oblique from vein 5; a brown shade at veins 7 and 8. Hind wings whitish yellow, faintly darker shaded below cell.

Expanse 35 mm.

Hab. Tuis, Sixola, Juan Vinas.

Probably only a race of *M. ornata*, Druce, the wings being rather more pointed and brighter coloured.

Megalopyge torva, sp. n.

♂. Frons buff-brown, shaded with fuscous medially. Vertex white. Collar black-brown. Thorax brown, darkest medially, with two large transverse white spots in front. Abdomen banded black and whitish buff; two large dark brown dorsal tufts at base. Fore wings fuscous grey tinged with brown; a white patch at base between median and submedian containing a fuscous streak; a white streak in cell; postmedial space white, outwardly dentate between veins with whitish streaks on veins, and dark streaks between the veins, not reaching the angles; dark expanding shadings to the white streaks on veins, chiefly noticeable towards apex. Hind wings grey-brown, the veins darker.

Expanse 50 mm.

Hab. Juan Vinas, Tuis.

Mesoscia dyari, sp. n.

♂. Frons dark brown; vertex grey-brown. Collar yellowish white, shaded with black-brown in front. Thorax white, the patagia dorsally edged with fuscous brown. Abdomen fuscous brown above and ventrally, sublaterally whitish. Fore wings: the costal edge fuscous brown, below it for two-thirds a broad yellowish-white shade, extending at base to inner margin; medial space fuscous brown, extending to apex and outer margin below submedian, where it is met by a paler grey-brown terminal broad shade, which does not extend above vein 4; outer space otherwise yellowish white, its inner edge oblique from apex to vein 5, then incurved,

tapering to a point above submedian. Hind wings white; the costa broadly, also the inner margin, and the outer margin near anal angle more narrowly shaded with fuscous grey.

Expanse 29 mm.

Hab. Juan Vinas.

Near *M. eriophora*, Sepp.

Trosia lena, sp. n.

♂. Antennæ crimson. Body white; frons strongly shaded with crimson; eyes very black, narrowly surrounded by black hairs; fore femora and coxæ fuscous brown. Wings white.

Expanse 25 mm.

Hab. Juan Vinas, Cachi.

Aidos admiranda, sp. n.

♂. Palpi black, fringed with white. Frons black, with a central white spot. Vertex brownish. Collar white, black in front. Thorax whitish, shaded with ochreous and brown. Abdomen crimson; a large black dorsal tuft at base. Fore wings: the basal half whitish, tinged with ochreous brown on veins; a black costal streak; a fuscous-brown streak on submedian; traces of a curved brownish antemedial line; outer half fuscous brown; a black line inbent from costa to subcostal and outcurved around cell; postmedial black streaks on veins, followed by a faint greyish, wavy shade, and subterminal black streaks connected by a dentate line; the apex whitish grey. Hind wings crimson; the outer margin broadly black, narrowing at anal angle. Underneath: basal half of wings crimson, outer half fuscous grey, the veins darker.

Expanse 27 mm.

Hab. Sixola.

Allied to *A. perfusa*, Schs.

Cicinnidæ.

Cicinnus lygia, sp. n.

♂. Palpi and head pale brown. Collar, thorax, abdomen, and wings lilacine grey, the wings with scattered black irrorations. Fore wings excised from below apex to vein 3, inbent below it, slightly crenulate; a fine wavy darker antemedial shade; a faint reddish-brown shade at end of

cell, and oblique black line on discocellular; a fine dark postmedial line, slightly indented; a faint darker space above tornus. Hind wings crenulate, the anal angle produced; a faint antemedial and postmedial dark line. Fore wings below shaded with dull reddish brown to postmedial line; the outer margin of hind wing similarly shaded.

Expanse, ♂ 34 mm.

Female: the hind wings with the outer margin well out-curved.

Expanse, ♀ 42 mm.

Hab. Sixola.

Zygænidæ.

Pseudotalara euthoracica, sp. n.

♀. Black; the fore wings a little more lustrous purplish than the hind wings. Vertex of head and thorax orange-yellow, as are also the sides of the thorax in front and the fore coxæ.

Expanse 21 mm.

Hab. Sitio.

Pseudotalara schedoxantha, sp. n.

♀. Orange-yellow: eyes and antennæ black; legs black except the fore coxæ; abdomen with a broad dorsal black stripe, the venter slightly touched with black on the segments. Wings orange-yellow, the fore wings a little more opaquely coloured and shining than the hind wings; fore wing with the costa and fringe narrowly black above, the apex more broadly black below; hind wing with extreme outer margin and fringe black, the apex somewhat more broadly so; alike above and below.

Expanse 24 mm.

Hab. Mount Poas.

Allied to *Pseudotalara lateralis*, Dyar.

III.—Observations on Coleoptera of the Family Buprestidæ, with Descriptions of new Species. By CHAS. O. WATERHOUSE, I.S.O., F.E.S.

[Continued from vol. xv. 1905, p. 584.]

HAVING recently rearranged the Buprestidæ in the British Museum belonging to the genus *Conognatha*, I noticed several species which appear to require names, and which I now describe.



Schaus, William. 1912. "New species of Heterocera from Costa Rica. xii." *The Annals and magazine of natural history; zoology, botany, and geology* 9, 34-57.
<https://doi.org/10.1080/00222931208693169>.

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