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NEW OR LITTLE-KNOWN TIPULIDÆ
 (DIPTERA).—LXXVI. NEOTROPICAL SPECIES.

New or little-known Tipulidæ (Diptera).—LXXVI.
Neotropical Species. By CHARLES P. ALEXANDER,
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AT this time I am considering a series of crane-flies, chiefly in the genus *Holorusia* Loew, from Ecuador and Peru, where they were collected by my friends and correspondents, Messrs. F. Martin Brown, David Laddey, William Clarke-Macintyre, Pedro Paprzycki, and Felix Woytkowski, to whom virtually all of our recent records and collections in this family have been due. I am deeply indebted to all of the above mentioned gentlemen for their continued interest in these flies. The types of the novelties are preserved in my personal collection.

Holorusia (Holorusia) uniatra, sp. n.

Allied to *lassula*; antennæ yellow, the outer four or five segments infuscated; flagellar segments nearly cylindrical, the terminal one about three-fourths longer than the penultimate; dorsopleural region broadly yellow, the dorsal pleurites infuscated; femora brownish yellow with a nearly terminal blackened ring; wings broad, fulvous, restrictedly patterned with dusky and with a single blackened spot at origin of *Rs*; *Rs* a trifle longer than vein *R*₃; ovipositor with cerci compressed-flattened, the tips obtuse; hypovalvæ very short and obtuse.

Male.—Length about 19–20 mm.; wing 24.5–25.5 mm.; antenna about 4.3–5 mm.

Female.—Length about 23 mm.; wing 27.2 × 7.6 mm.

Frontal prolongation of head reddish brown, sparsely pruinose above, especially basally; nasus elongate, with abundant black setæ; palpi brownish black. Antennæ yellow, the terminal four or five segments infuscated; flagellar segments nearly cylindrical, only the outer two with verticils; terminal segment about three-fourths longer than the penultimate. Head greyish brown, more intense on the anterior vertex and on posterior orbits; a narrow darkened vitta on the vertex.

Pronotum and cervical region clear light yellow, the scutum conspicuously darkened medially. Mesonotal

præscutum chestnut brown, with four slightly darker brown stripes that are again bordered by slightly darker brown; scutum similarly coloured, the areas narrowly ringed with darker brown; scutellum brown, with a narrow median darker line; mediotergite reddish brown, sparsely pruinose, with a capillary median brown line and indications of darker areas on the sides of the sclerite; pleurotergite chiefly golden yellow, the posterior two-thirds of the anapleurotergite more darkened. Pleura with the dorsopleural region light yellow, more widened behind, bordered beneath by a brown stripe that extends from the cervical region backwards over the episternum on to the pteropleurite, on the more ventral pleurites somewhat paler. Halteres with stem weakly infuscated, the base obscure yellow; apex of knob paling to obscure orange. Legs with the coxæ yellowed, the fore pair more infuscated; trochanters greenish yellow, the fore pair elongated; femora obscure brownish yellow, with a nearly terminal blackened ring, subequal on all legs, preceded by a slightly clearer yellow annulus; tibiæ and tarsi brownish yellow, the terminal tarsal segments more blackened. Wings broad, with a strong fulvous or brownish fulvous tinge, vaguely patterned with dusky and clearer yellow areas, the latter best-evidenced in the bases of cells *Cu* and 1st *A*; prearcular field, outer end of cell 1st *M*₂, marginal tips of outer medial, cubital and anal veins, and the anal border narrowly margined with dusky, the posterior end of *m-cu* somewhat more distinctly darkened; axillary angle dusky; a single small blackened spot over origin of *Rs*; veins yellow, the origin of *Rs* more infuscated. Venation: *Rs* a trifle longer than *R*₃; cell 1st *M*₂ pointed at outer end; petiole of cell *M*₁ a little more than one-half *m*.

Abdominal tergites reddish brown, darker laterally; sternites yellow, the posterior portions of the intermediate segments a trifle darkened. Ovipositor with the cerci castaneous, compressed-flattened, the tips obtuse; hypovalvæ very short and obtuse.

Hab. Peru (Ayacucho, Huanta).

Holotype, ♀, Yanamonte, Ayacucho, in fog-forests, altitude 3000–4100 metres, October 6, 1941 (*Woytkowski*). *Paratopotypes*, 1 ♂, 1 ♀, September 8, 1941; *paratype*, 1 ♂, Huanta, Huanta, 3800 metres, April 18, 1941 (*Woytkowski*).

Holorusia (Holorusia) uniatra is most nearly allied to *H. (H.) flavicornis* Alexander and *H. (H.) lassula* Alexander, differing especially in the broad wings, with distinctive pattern and venational details, and in the structure of the ovipositor. The male specimens were received too late for inclusion in this description.

Holorusia (Holorusia) chimborazo, sp. n.

Antennæ with outer flagellar segments brownish black, nearly cylindrical without verticils; Mesonotal præscutum with four dark grey stripes, the intermediate pair narrowly bordered by darker brown; pleura striped longitudinally with yellow and brown; femora brownish yellow, with a narrow, nearly terminal black ring; claws (male) with outer tooth replaced by a low flange; wings light brown, restrictedly patterned with darker brown and yellowish subhyaline areas; macrotrichia on veins R_3 and R_{4+5} ; male hypopygium with posterior border of tergite shallowly emarginate, the actual border without setæ; outer dististyle narrowed to the apex; gonapophyses with numerous long setæ.

Male.—Length about 20 mm.; wing 22.5 mm.; antenna about 5 mm.

Frontal prolongation of head light grey above, including the elongate nasus, the sides more infuscated; palpi with basal three segments yellow, the terminal one abruptly blackened. Antennæ moderately long; scape, pedicel and basal two-thirds of first flagellar segment yellow, the remainder of organ brownish black; flagellar segments nearly cylindrical, the ends of each segment a little oblique, the apex not produced on ventral face, as in *flavicornis* and allies; verticils lacking, pubescence short and abundant. Head above rich brown, with a continuous central grey vitta over the entire length.

Pronotum infuscated above, more greyish yellow on sides. Mesonotal præscutum with the ground-colour medium brown, with four dark grey stripes, the intermediate pair narrowly bordered by darker brown; humeral and lateral regions of præscutum dark brown; scutum chiefly dark brown, the posterior portions of the lobes somewhat paler; scutellum chiefly dark brown; mediotergite light grey pruinose, extensively patterned with brown. Pleura striped longitudinally with yellow

and brown, the former occupying the dorsal portions, the latter including a narrower brownish black stripe immediately beneath the pale area, this extending from the propleura to the cephalic margin of the pteropleurite, thence much paler; still more ventrad a second paler obscure yellow stripe, the ventral sternopleurite and meral region grey. Halteres infuscated, the extreme base of stem pale, the apex of knob obscure yellow. Legs with the coxæ grey, the anterior faces more infuscated; trochanters yellow; femora obscure brownish yellow, with a narrow but conspicuous nearly terminal black ring; tibiæ obscure yellow, tips narrowly darkened; tarsi obscure yellow, the outer segments blackened; claws (male) with basal tooth present, the outer one replaced by a long low flange. Wings with a light brown ground, restrictedly patterned with darker brown and yellowish subhyaline; prearcular field infuscated; stigma and small spots at origin of *Rs* and posterior end of *m-cu* darker brown; basal portion of cell *Cu*₁ darkened; paler areas in outer ends of cells *R*₅ and *M*₁, near bases of cells 2nd *M*₂ to *M*₄, near the margin on either side of vein 1st *A*, and in cell 1st *A* near vein 2nd *A*; veins brown, more yellowed in the costal field. Macrotrichia on veins *R*₃ and outer portion of distal section of *R*₄₊₅; no stigmal trichia. Venation: *Rs* somewhat more than twice *m-cu*; *m* and petiole of cell *M*₁ subequal; cell *R*₃ constricted at mid-length, about one-half as wide as near base.

Abdominal tergites chiefly dark brown, the lateral borders light grey; sternites a little more reddish brown, the posterior lateral portions grey; hypopygium, especially the appendages, yellow. Male hypopygium with the ninth tergite transverse, its caudal border with a very shallow notch, the lobes low but broad; setæ unusually sparse, especially close to the border, there being a wide area free from these, particularly at and adjoining the mid-line. Outer dististyle broadest at near mid-length, thence tapering to the narrowly obtuse tip, provided with normal setæ, the margins not denticulate. Inner dististyle with the beak obliquely truncated at apex, lower beak even more obtuse, separated from the beak by a shallow notch; dorsal crest low and obtuse, the setæ pale, relatively short and sparse; areas of blackened pegs relatively restricted but numerous, the pegs very short.

Gonapophyses appearing as flattened plates, the surface with numerous long setæ, additional to the usual setulæ; apices glabrous, very obtuse.

Hab. Ecuador (Chimborazo).

Holotype, ♂, El Calera, near San Juan, altitude 3400 metres, April 22, 1939 (*Brown*).

From the structure of the antennæ, the present fly appears to be closest to species such as *Holorusia* (*Holorusia*) *lassula* Alexander, differing conspicuously in the coloration of the body, legs and wings, and in the details of structure of the antennæ, claws and male hypopygium, particularly the ninth tergite and both dististyles.

Holorusia (*Holorusia*) *juturna*, sp. n.

Size large (wing, female, over 21 mm.); general coloration of mesonotal praescutum light grey, with four darker grey stripes that are narrowly bordered by brown; antennæ with basal segments yellow, the outer ones bicoloured, narrowly infuscated at base, the tips yellow; femora obscure yellow, the tips blackened; wings brownish yellow, restrictedly patterned with dark brown, brownish grey and yellowish subhyaline; macrotrichia on outer radial and medial veins.

Female.—Length about 18–19 mm.; wing 21–23.5 mm.; antenna about 3.8–4 mm.

Frontal prolongation of head above obscure testaceous yellow, conspicuously dark brown on sides and again paler beneath; nasus elongate, simple, slightly darkened at tip; palpi black throughout, the terminal segment relatively short. Antennæ (female) with the proximal five or six segments yellow, the succeeding segments weakly bicoloured, narrowly infuscated at base, the outer portion yellow; terminal two segments uniformly darkened; flagellar segments nearly cylindrical. Head obscure orange, heavily grey pruinose, with a narrow but conspicuous brown median stripe extending the whole length of the vertex.

Pronotum infuscated medially, more testaceous on sides. Mesonotal præscutum with the ground light grey, with four darker grey stripes that are narrowly bordered by brown, the mesal edges of the intermediate stripes forming a single conspicuous median vitta; humeral and anterolateral

portions of præscutum infuscated, the posterior portions before the suture slightly more brightened; scutum with median area buffy grey, each lobe with two darker grey areas that are ringed with brown; scutellum yellowish grey, with a delicate brown median line, parascutella chiefly pale; mediotergite yellow, sparsely pruinose, broadly infuscated on sides and with a narrow capillary brown vitta. Pleura and pleurotergite chiefly yellow, the former with a narrow longitudinal brown stripe extending from the cervical region across the propleura and anepisternum, becoming obsolete on the pteropleurite; ventral sternopleurite more greyish. Halteres with stem yellow, knob infuscated, its apex slightly brightened. Legs with the coxæ and trochanters yellow; femora obscure yellow, the tips rather narrowly but conspicuously blackened, the amount subequal on all legs; tibiæ and basitarsi brownish black to black; claws (female) simple. Wings brownish yellow, restrictedly patterned with dark brown, brownish grey and yellowish subhyaline, the darkest areas including a small spot at origin of R_s and a broad seam over the entire length of the first section of Cu_1 , chiefly in cell M , more narrowed over the distal section of Cu_1 , and $m-cu$; paler brown washes in the prearcular field, cells C and Sc , conspicuously over the basal section of vein M_3 and as extensive areas in the outer portions of both Anal cells; stigma relatively inconspicuous, light brown; the palest areas include the bases of both Anal cells, two apical lines in cell 1st A , the smaller one adjoining vein 1st A , and with a similar line in outer end of cell Cu ; pale spots in bases of cells M_1 and 2nd M_2 ; oblitative areas small and restricted; veins brown. Macrotrichia on veins R_3 , distal section of R_{4+5} , M_1 and, in cases, M_2 . Venation: R_s elongate, slightly exceeding twice the length of $m-cu$; cell R_3 only slightly narrowed at near mid-length, the veins at this point nearly parallel; m and petiole of cell M_1 subequal or the latter shorter; $m-cu$ at fork of M_{3+4} or on M_4 immediately beyond origin.

Abdominal segments brown, vaguely more brightened at bases, the proximal tergite with indications of three stripes on a more pruinose ground; lateral borders of tergites broadly grey or yellowish grey. Ovipositor with valves long and slender. In the paratype, the abdominal tergites are more variegated, yellowish basally, brown apically,

with indications of a more or less distinct darker median vitta on the more proximal segments.

Hab. Peru (Ayacucho, Junin).

Holotype, ♀, Yanamonte, Ayacucho, in fog-forests, altitude 3000–4100 metres, August 28, 1941 (*Woytkowski*).

Paratype, ♀, Carpapata, Tarma, Junin, altitude 2600 metres, May 1, 1940 (*Woytkowski*).

Holorusia (*Holorusia*) *juturna* is most similar to species such as *H. (H.) lassula* Alexander, *H. (H.) uniatra*, sp. n., and other, differing conspicuously in the coloration of the antennæ and in the pattern of the mesonotum and wings.

Holorusia (*Holorusia*) *calypso*, sp. n.

Size large (wing, female, over 24 mm.); antennæ relatively long; mesonotal præscutum obscure yellow, with four poorly-defined brownish-grey stripes that are narrowly bordered by brown; femora brownish yellow, with a brown terminal or nearly terminal ring; wings broad, greyish yellow, restrictedly variegated with darker brown; a series of strong trichia along the posterior border of the stigma.

Female.—Length about 21 mm.; wing 24.5 mm.; antenna about 4.7 mm.

Frontal prolongation nearly as long as remainder of head, obscure yellow above, more infuscated on sides; nasus elongate; palpi brown, the third segment and apical third of terminal segment obscure brownish yellow. Antennæ much longer than in *juturna*, with about the proximal six segments pale; succeeding segments weakly bicoloured, dark basally, the narrow tips paler; outer segments uniformly brownish black; basal flagellar segment elongate, the segments thence gradually decreasing in length outwardly; proximal three or four flagellar segments with a few scattered small setæ near their basal portion. Head with front and anterior vertex orange-yellow; posterior portion of head more infuscated, sparsely pruinose; a vague capillary dark line on posterior vertex.

Pronotum obscure orange, narrowly darkened medially behind. Mesonotal præscutum obscure yellow, the humeral region more orange; disk with four rather poorly-defined brownish-grey stripes that are very narrowly and vaguely bordered by brown; scutal lobes weakly

infuscated but without distinct pattern; scutellum and postnotum brown, sparsely pruinose, the former with three more or less distinct brownish spots on base, the lateral pair depressed; mediotergite yellowish grey, with a narrow central line; pleurotergite more yellowed. Pleura and dorsopleural region yellow; a very restricted brown longitudinal stripe on the cervical sclerites and propleura, on the anepisternum much paler and more diffuse to scarcely evident. Halteres with stem brownish yellow, restrictedly clearer yellow at base, knob infuscated, paler at apex. Legs with coxæ yellow, sparsely pruinose; trochanters yellow; femora obscure brownish yellow with a brown ring at apex, somewhat deeper in colour on its proximal portion; tibiæ and tarsi obscure yellow, the tips of the individual segments very narrowly darkened. Wings broad, greyish yellow, restrictedly variegated with darker brown; prearcular field infuscated, cell *C* light yellow, cell *Sc* a trifle darker; stigma yellowish brown, its posterior border more darkened; the darker brown pattern includes a relatively small area at origin of *Rs*, seams along veins *Cu*, *m-cu* and 2nd *A*, and weaker brown clouds over the anterior cord, basal section of vein M_3 , and less evidently over the proximal ends of the outer radial veins; veins brown, more yellowish brown in the brighter portions. Sparse macrotrichia on vein R_3 ; a series of about 12 strong trichia in posterior portion of stigma. Venation: *Rs* nearly twice *m-cu*; veins R_3 and R_{4+5} only slightly approximated at near mid-length; vein R_{4+5} deflected caudad, ending close to wing tip; *m* a little longer than the petiole of cell M_1 ; *m-cu* before the fork of M_{3+4} .

Abdominal tergites brownish yellow, the intermediate ones somewhat clearer yellow, darkened on sides near apex; tergites six to nine more uniformly darkened; lateral tergal borders broadly grey pruinose; sternites more uniformly yellow.

Hab. Ecuador (Tungurahua).

Holotype, ♀, Rio Blanco, near Baños, altitude 1900 metres, March 1939 (*Macintyre*).

Although similar in the general pattern of the thorax to *Holorusia* (*Holorusia*) *juturna*, sp. n., the present fly is well distinguished by the elongate antennæ, distinct pattern of thorax, legs and wings, slight differences in

venational details, and in the presence of rather numerous macrotrichia in the stigma of wing.

Holorusia (Holorusia) flavogenualis, sp. n.

Size relatively large (wing, male, 22 mm.); antennæ (male) elongate; central portion of vertex pale; mesonotal præscutum with four reddish-brown stripes that are narrowly bordered by brown; thoracic pleura conspicuously striped longitudinally with light yellow and dark brown; femora with subterminal brownish-black ring, the tips and bases of the tibiæ abruptly yellow; wings medium brown, restrictedly patterned with dark brown, pale yellow and whitish subhyaline; macrotrichia on veins R_3 and R_{4+5} ; male hypopygium with the posterior border of the ninth tergite broadly notched, the vestiture of the lobes pale and normal; outer dististyle with outer half expanded into an asymmetrical head; dorsal crest of inner dististyle low and obtuse, with sparse reddish setæ.

Male.—Length about 19 mm.; wing 22 mm.; antenna about 7 mm.

Female.—Length about 22 mm.; wing 23 mm.; antenna about 4.2 mm.

Frontal prolongation of head relatively long, subequal in length to the remainder, obscure yellow, with a brown lateral line; nasus long and slender, tufted with dark setæ; palpi obscure brownish yellow, the terminal segment uniformly black. Antennæ of male much longer than that of female; about the proximal five segments yellow, the succeeding ones more darkened; flagellar segments in male somewhat obliquely truncated at ends, the extreme base a trifle produced on one side; in female, segments more nearly cylindrical, the intermediate ones vaguely bicoloured. Head in front obscure yellow, on vertex cinnamon brown, with a conspicuous pale yellow median line; a small darkened spot on anterior vertex adjoining eye.

Pronotum dark brown medially, vaguely divided by a capillary pale line; lateral portions obscure brownish yellow. Mesonotal præscutum reddish brown, with four stripes, the intermediate pair almost of the colour of the ground, narrowly bordered by darker brown; lateral stripes darker but bordered by slightly darker brown;

humeral and lateral portions of præscutum strongly infuscated; scutal lobes testaceous brown, vaguely patterned with darker, the anterior portion more yellowed; scutellum pale yellowish brown; mediotergite pale brown, sparsely pruinose, with three more or less distinct brown lines, the central one capillary; pleurotergite yellow. Pleura with a broad and conspicuous longitudinal yellow stripe on the dorsopleural region and adjoining sclerites, margined above, before the wing root, by a narrow black streak; ventrad of the yellow stripe an abrupt dark brown stripe, narrower or of nearly the same width, extending from the cervical region to the anterior border of the pteropleurite; ventral pleurites paler brown. Halteres weakly infuscated, the base of stem and apex of knob restrictedly obscure yellow. Legs with the coxæ obscure yellow, the fore and middle pairs a little more darkened; trochanters yellow; femora obscure yellow, with a narrow but conspicuous brownish-black subterminal ring, the narrower apex abruptly yellow; tibiæ brownish black, the base abruptly yellow, in amount slightly greater than the femoral tips; tarsi elongate, brown to brownish black; claws of male bidentate, of female simple. Wings relatively narrow in male, slightly broader in female; ground-colour medium brown, restrictedly patterned with darker brown and whitish subhyaline; cells *C* and *Sc* obscure yellow; stigma dark brown; small but conspicuous dark brown clouds at origin of *Rs* and posterior end of *m-cu*; a paler brown wash over basal section of *M*₃; prearcular field and base of cell 2nd *A* strongly darkened; small but conspicuous whitened oblitative areas before stigma and on basal section of *M*₁₊₂; a similar whitened streak above the stigma; small more yellowed areas near bases of cells *M*₁, 2nd *M*₂ and *M*₃, and near outer ends of cells *R*₅ and *M*₁; a conspicuous pale streak in cell *Cu* behind the vein; small pale marginal lines on either side of vein 1st *A* and in cell 1st *A* before the termination of vein 2nd *A*; veins dark brown, *Sc*, *R* and 2nd *A* more yellowed. Macrotrichia on vein *R*₃, distal half of *R*₄₊₅ and, in cases, very sparsely on *M*₁ and *M*₂. Venation: *Rs* nearly twice the short *m-cu*; *m* subequal to the petiole of cell *M*₁; *m-cu* at or close to fork of *M*₃₊₄.

Basal abdominal tergites obscure yellow, the posterior borders narrowly brown, becoming more extensive on the

outer segments; tergites five to eight with the margins, especially the lateral angles, more extensively darkened; hypopygium yellow. In female, the segments appear much darker but this apparently is due to internal discolouration. Male hypopygium with the tergite transverse, the caudal border with a broad V-shaped emargination, the lobes correspondingly widened, the vestiture of normal elongate setæ only. Outer dististyle pale, the distal half expanded into an asymmetrical head, the lower angle being more produced than the upper one. Inner dististyle with the beak rather narrowly obtuse; dorsal crest relatively low, provided with sparse reddish setæ; groups of blackened spiculæ of moderate size. Phallosome with the apophyses broadly flattened and obtuse, the surface with abundant delicate silken setulæ.

Hab. Peru (Ayacycho).

Holotype, ♂, Yanamonte, in fog-forests, altitude 3000–4100 metres, July 20, 1941 (*Woytkowski*). *Allotopotype*, ♀, September 1, 1941.

Holorusia (*Holorusia*) *flavogenualis* is most similar to *H. (H.) lassula* Alexander, differing conspicuously in the coloration of the legs and in all details of structure of the male hypopygium.

Holorusia (*Holorusia*) *nigrosetosa*, sp. n.

Close to *flavogenualis*; femora dark brown, the tips not or scarcely brightened; male hypopygium with the ninth tergite transverse, its posterior border with a very broad and shallow U-shaped notch that is provided with abundant black setæ that becomes more abundant and concentrated on the unusually small lateral lobes.

Male.—Length about 17 mm.; wing 19.5 mm.; antenna about 4.1 mm.

Frontal prolongation of head greyish yellow, weakly darker on sides; nasus long and slender; palpi dark brown, terminal segment black. Antennæ relatively short, greenish yellow, the outer segments a little darker; flagellar segments cylindrical, the first with several scattered setæ on proximal third. Head with front pale yellow, vertex rich reddish brown on sides, with a broad conspicuous pale median stripe.

Pronotum rich brown medially above, more testaceous yellow on sides. Mesonotal præscutum with four reddish-

brown stripes that are narrowly bordered by darker brown, the humeral and lateral portions more uniformly dark brown; posterior sclerites of notum brown, the scutellum somewhat darker; mediotergite sparsely pruinose, with a capillary central dark vitta; pleurotergite pale yellow. Pleura with a conspicuous pale yellow longitudinal stripe, chiefly occupying the dorsopleural region, restrictedly more darkened above before wing root and with a conspicuous brownish-black longitudinal stripe immediately beneath; ventral pleurites paler brown; posterior sclerites of pleura clear yellow. Halteres with stem brownish yellow, the base clearer, the knob infuscated at base, its tip paler. Legs with the fore and middle coxæ brown, the posterior pair paler; trochanters obscure yellow; femora dark brown, the tips not or scarcely brightened; tibiæ and tarsi dark brown, the bases of the former restrictedly whitened; claws (male) bidentate. Wings slightly teneral, evidently with both the venation and pattern much as in *flavogenualis*.

Abdomen somewhat teneral, dark brown, the tergal incisions paler; hypopygium more yellowed. Male hypopygium with the ninth tergite quite different from that of *flavogenualis*, transverse, the posterior border with a very broad and shallow U-shaped notch, the lateral lobes correspondingly small and rounded; posterior border of tergite with abundant black setæ that become more numerous and congested on the lobes to form small tufts or brushes. Apex of outer dististyle curved strongly to one side, obtusely rounded. Inner dististyle with the dorsal crest obtuse, with unusually sparse pale elongate setæ.

Hab. Peru (Ayacucho).

Holotype, ♂, Yanamonte, in fog-forests, altitude 3000–4100 meters, October 5, 1941 (*Woytkowski*).

Although the present fly is closely allied to *Holorusia* (*Holorusia*) *flavogenualis*, sp. n., I feel that it is distinct since certain important structures of the male hypopygium are quite different in the two flies.

Holorusia (*Holorusia*) *monostictula*, sp. n.

Size relatively large (wing, male, over 20 mm.); mesonotal præscutum with the restricted ground buffy, with four grey stripes that are narrowly bordered by brown, the most conspicuous line of the latter being a capillary

median vitta ; basal flagellar segments weakly bicoloured ; femora yellow, the tips rather broadly and conspicuously brownish black ; wings brownish yellow, the prearcular field and costal border darker brown, cell *Cu* and stigma paler brown ; cell *M* conspicuously whitened ; a small but very conspicuous brown spot at the point of union of *m-cu* and *Cu* ; vein *R*₃ unusually straight ; male hypopygium with the tergal lobes conspicuous, without a median denticle ; inner dististyle with three separate areas of blackened spines.

Male.—Length about 19–20 mm. ; wing 22–23.5 mm. ; antenna about 3.4–3.5 mm.

Female.—Length about 22 mm. ; wing 25 mm.

Frontal prolongation of head buffy yellow, with a sparse pruinosity ; nasus stout, entire, with abundant elongate setæ ; palpi brown. Antennæ relatively short and simple ; basal three segments yellow, succeeding four or five weakly bicoloured, pale brown, the apex narrowly yellow, outer segments more uniformly darkened ; intermediate flagellar segments with their bases slightly swollen, tapering gradually into the more narrowed tip ; terminal segment elongate, about two-thirds the penultimate. Head brown, the front and anterior vertex a trifle more brightened ; posterior orbits very narrowly grey pruinose ; anterior vertex about three times the diameter of scape ; no vertical tubercle.

Pronotum above infuscated medially, the remainder more brownish yellow. Mesonotal præscutum with the restricted ground buffy, with four grey stripes that are narrowly bordered by brown, the most conspicuous line of the latter colour being a capillary median vitta ; lateral borders of intermediate stripes much more vaguely darkened, the mesal darkened edge of the lateral stripe again more evident ; lateral præscutal borders more strongly infuscated ; scutum obscure brownish yellow, each lobe with two confluent grey areas ; scutellum obscure yellow ; postnotum pale grey, the mediotergite with a pale brown linear central stripe. Pleura light grey, vaguely patterned with darker grey ; dorsopleural membrane more buffy. Halteres brownish yellow to pale brown, base of stem narrowly more brightened. Legs with coxæ buffy, sparsely pruinose ; trochanters obscure yellow ; femora yellow, tips rather broadly and conspicuously brownish

black, the amount subequal on all legs, on the fore femora including about the distal eighth; tibiæ and proximal two segments of tarsi obscure yellow, the tips more narrowly darkened; outer tarsal segments dark brown; claws (male) conspicuous toothed. Wings brownish yellow subhyaline, restrictedly patterned with darker brown and subhyaline, the darkest pattern including the prearcular field, cells *C* and *Sc*, behind encroaching slightly on cell *R*; stigma and a broad wash in cell *Cu* paler brown; a small but conspicuous dark brown spot at junction of *m-cu* and *Cu*₁; outer radial cells a trifle darker than the ground; the clearest area appears as a broad whitish streak that occupies virtually all of cell *M* and most of cell *Cu*₂; veins brownish yellow, somewhat darker in the infuscated areas. Venation: *Rs* moderately long, less than twice *m-cu*; vein *R*₃ almost straight, subequal to *m-cu*; cell 1st *M*₂ short-pentagonal, *m* longer than the petiole of cell *M*₁.

Abdominal tergites reddish brown, with a median darker brown stripe; lateral tergal borders light grey; sternites brownish yellow; subterminal segments more uniformly darkened to form a more or less distinct ring; hypopygium chiefly light yellow. Male hypopygium with the caudal border of tergite with a deep V-shaped notch, the conspicuous lateral lobes divergent, their apices and mesal borders with conspicuous strong black setæ; no median denticles. Outer dististyle obtuse at tip, about three times as long as broad. Inner dististyle with three separate areas of blackened spines; posterior crest rather strongly produced, provided with strong pale setæ.

Hab. Peru, Ecuador.

Holotype, ♂, Huanuco, Huanuco, Peru, altitude 2000 metres, September 17, 1937 (*Woytkowski*). *Paratypes*, 1 ♀, Huanta, Huanta, Peru, altitude 3900 metres, April 5, 1941 (*Woytkowski*); 1 ♂, El Calere, near San Juan, Chimborazo, Ecuador, altitude 3400 metres, April 22, 1939 (*Brown*).

The present fly is most similar to species such as *Holorusia* (*Holorusia*) *calvicornis* (Edwards), differing in all details of coloration and in the structure of the male hypopygium.

Holorusia (*Holorusia*) *zamoræ*, sp. n.

Size relatively small (wing, female, 16 mm.); general coloration of mesonotum brown, the præscutum without

clearly-defined stripes; pleura and pleurotergite abruptly clear light yellow; legs pale brown; wings obscure whitish subhyaline, variegated with pale brown washes and darker brown areas, including a large spot in cell *M*; cell *C* infuscated, *Sc* clear light yellow; *Rs* nearly twice as long as *m-cu*, the latter at near mid-length of vein M_{3+4} ; abdominal tergites conspicuously patterned, segments one four, five and eight chiefly yellow, two, three, six and seven dark brown; ovipositor with cerci conspicuously compressed-flattened, the hypovalvæ very small, their tips acutely pointed.

Female.—Length about 14 mm.; wing 16 mm.; antenna about 2.9 mm.

Frontal prolongation of head testaceous yellow; nasus distinct, dark brown; palpi brown, the elongate terminal segment paling to light yellow at tip. Antennæ with scape and pedicel obscure yellow, flagellum greenish brown; flagellar segments cylindrical, the first about twice the second; succeeding segments gradually decreasing in length; segments with sparse scattered black verticils. Head above brownish grey, the front yellow; posterior orbits clear light grey; anterior vertex relatively broad, nearly four times the diameter of scape; no vertical tubercle.

Pronotum light brown medially, paler on sides. Mesonotal præscutum almost uniformly light brown, without clearly-defined stripes; pseudo-sutural foveæ small and very inconspicuous; præscutal setæ short and sparse; posterior sclerites of notum brown, the scutal lobes near suture somewhat more blackened; posterior third of mediotergite paler yellow; parascutella and pleurotergite yellow. Pleura, including dorsopleural membrane, clear pale yellow, unpatterned. Halteres with stem brownish black, the base narrowly but abruptly light yellow; knob somewhat darker with the extreme tip vaguely pale. Legs with all coxæ and trochanters pale yellow; remainder of legs pale brown. Wings with the ground-colour obscure whitish subhyaline, variegated with pale brown washes and darker brown areas; cell *C* infuscated, especially on basal portion, cell *Sc* uniformly pale yellow; stigma and a rectangular area at near mid-length of cell *M* darker brown than the remaining pattern; a restricted paler brown cloud beyond arculus; narrow brown seams at origin of *Rs*,

along cord, and as very narrow seams over the veins beyond the cord; obliterative areas at cord relatively conspicuous; veins brown. Venation: R_s about two-and-one-half times R_{2+3} or nearly twice $m-cu$; R_{1+2} unusually short and oblique, a trifle more than one-third R_3 ; distal section of R_{4+5} only moderately sinuous, cell R_3 being only slightly constricted beyond mid-length; cell 1st M_2 with outer end pointed, m oblique, about two-thirds the petiole of cell M_1 ; $m-cu$ just before mid-length of M_{3+4} .

Abdomen with first tergite abruptly light yellow, contrasting with the brown second and third tergites; tergites four and five again extensively paler, brownish yellow, with broad yellow borders; tergites six and seven dark brown, the lateral borders broadly, the posterior margins more narrowly yellow; tergite eight chiefly yellow; sternites yellow; genital shield testaceous yellow. Ovipositor with cerci conspicuously compressed-flattened, the tips narrowly obtuse; hypovalvæ very small, the tips acutely pointed.

Hab. Ecuador (Santiago-Zamora).

Holotype, ♀, Zumbi, Rio Zamora, altitude 700 metres, November 2, 1941 (*Laddey*).

Holorusia (*Holorusia*) *zamoræ* is most similar to small species that are allied to *H. (H.) lævis* Alexander, differing from all in the peculiar pattern of the abdominal tergites and in the details of wing pattern and venation. The structure of the ovipositor provides further distinctive characters from these species in which the female sex is known.

Holorusia (*Holorusia*) *acutistyla*, sp. n.

Allied to *strangalia*; mesonotal præscutum with four reddish-brown stripes on a brown ground; antennæ (male) of moderate length, basal flagellar segments weakly bicoloured; femora obscure brownish yellow, narrowly dark brown at tips; wings with an unusually heavy and contrasted pattern of whitish subhyaline, dark brown and paler greyish brown; cell R only slightly variegated with paler, the cells beyond cord almost uniformly darkened; male hypopygium with the outer dististyle long and slender, gradually narrowed to a short acute spinous tip.

Male.—Length about 17 mm. ; wing 18 mm. ; antenna about 5 mm.

Frontal prolongation of head brown, the long conspicuous nasus darker ; palpus with basal two segments black, the third and base of fourth brown, the apex of the latter paling to obscure yellow. Antennæ moderately long, as shown by the measurements ; scape brown, pedicel brownish yellow ; basal flagellar segments weakly bi-coloured, dark brown basally, the apex obscure brownish yellow, on the basal segments including about the outer half or less, the outer segments more uniformly dark brown ; flagellar segments subcylindrical, a trifle constricted at near mid-length, the surface with an abundant short dense pubescence ; one or two short setæ on outer face at apex ; terminal segments a little more than one-third the length of the penultimate and much more slender. Head light yellow on front, behind the antennæ brown, stiller darker brown on the posterior vertex.

Pronotum infuscated medially, paler on sides. Mesonotal præscutum with the ground brown, with four more reddish-brown stripes, the median dark line only a little narrower than the darkenings of the interspaces ; scutum dark brown, each lobe slightly variegated with more reddish brown ; scutellum obscure reddish yellow, restrictedly more darkened at base, parascutella dark brown ; mediotergite brown, the precipitous posterior portion obscure yellow. Pleura and pleurotergite yellow, the dorsopleural membrane weakly darkened ; pleurotergite slightly pruinose. Halteres brownish black, the base of stem narrowly yellow, the apex of knob vaguely more brightened. Legs with coxæ and trochanters yellow ; femora obscure brownish yellow, the apex narrowly dark brown ; tibiæ paler brown ; tarsi brown ; claws (male) bidentate. Wings with an unusually heavy pattern of whitish subhyaline, dark brown and paler greyish brown ; whitish areas restricted to the bases of cells *Cu*, 1st *A* and 2nd *A*, an area at near one-third the length of cell *M* and an even more extensive one at two-thirds the length ; a large, more whitened prestigmal area ; in cell *R* with a linear streak near the cephalic portion, extending almost to the origin of *Rs* ; cells beyond cord almost uniformly darkened, including 1st *M*₂ ; the basal portion of cell *R*₃ with a small paler spot ; a major darker area in bases of cells *R* and *M* ;

at near mid-length of cell *M* adjoining vein *Cu*; and as conspicuous seams over *m-cu* and adjoining veins; cell *Sc* uniformly dark brown, much darker than cell *C*; stigma concolorous with the darkened cells beyond cord but narrowly ringed and delimited by incomplete darker lines; veins dark brown, paler in the obliterative portions. Venation: *Rs* long, about twice *m-cu*; cell *R*₃ strongly constricted at near mid-length; cell 1st *M*₂ relatively small, pentagonal; *m-cu* at near two-thirds *M*₃₊₄; petiole of cell *M*₁ just over one-half the length of the cell.

Abdominal tergites dark reddish brown, the posterior borders a trifle darker; lateral margins paling to obscure yellow; sternites more uniformly yellow; subterminal segments more darkened, forming a more or less distinct ring; hypopygium obscure brownish yellow. Male hypopygium with the caudal border of tergite trilobed, the lateral lobes triangular in outline, subacute at tip, their mesal margin with numerous flat blackened spines that are more or less cultrate in shape; median tergal lobe shorter, obtuse, pale, without armature. Outer dististyle long and slender, gradually narrowed outwardly, the apex a short acute spine. Inner dististyle with the beak short but relatively slender; dorsal crest conspicuous, its posterior portion almost a right angle; surface of style with unusually numerous blackened peg-like spines, arranged in three more or less distinct groups.

Hab. Ecuador (Santiago-Zamora).

Holotype, ♂, Zumbi, Rio Zamora, altitude 700 metres, November 9, 1941 (*Laddey*).

Readily distinguished from all other species of the genus with heavily patterned wings, with the exception of *Holorusia* (*Holorusia*) *strangalia* Alexander, by the structure of the male hypopygium. From the latter it differs in the coloration of the body and wings and in the details of hypopygial structure, especially the two dististyles.

Holorusia (*Holorusia*) *cristifera*, sp. n.

Allied to *sinuosa*; antennæ very short; mesonotal præscutum brownish grey, with four inconspicuous brown stripes that are bordered by slightly darker brown; wings whitish subhyaline, very heavily and conspicuously patterned with dark brown; male hypopygium with the tergite notched, with a small median lobule at base of

emargination, the lateral lobes large ; inner dististyle on outer third with an elevated crest that is set with blackened points.

Male.—Length about 19 mm. ; wing 20.5 mm. ; antenna about 2.3 mm.

Frontal prolongation of head relatively short, less than the remainder, dark brown ; nasus very long and conspicuous ; basal three segments of palpi brownish black, the incisures restrictedly pale ; terminal segment elongate, brownish black subbasally, the outer three-fourths paling to yellow. Antennæ unusually short ; scape dark brown, restrictedly paler at tip ; pedicel and flagellum obscure brownish yellow ; flagellar segments subcylindrical ; verticils relatively conspicuous, particularly on the outer segments and on the outer faces of the others. Front and anterior vertex yellow, posterior vertex more infuscated ; a somewhat depressed area on anterior vertex, extended into a point between the antennal fossæ.

Pronotum light brown. Mesonotal præscutum brownish grey, with four inconspicuous brown stripes that are bordered by slightly darker brown ; scutal lobes similarly infuscated, the central area dark grey ; cephalic lateral borders of scutal lobes and adjacent margins of the suture velvety black, more extensive on sides, the scutal lobes immediately behind this slightly more brightened ; scutellum light brown, with a capillary black median line ; parascutella more brownish grey ; mediotergite brown, strongly protuberant behind mid-length ; pleurotergite dark brownish grey, the lower or cephalic half of the katepaleurotergite yellow. Pleura chiefly greyish yellow, the dorsal portions of the mesepisternum and adjacent parts of the dorsopleural membrane weakly infuscated. Halteres brownish yellow, brighter at base, knob darkened, paler at apex. Legs with coxæ testaceous, sparsely pruinose ; trochanters yellow ; femora obscure brownish yellow, the tips narrowly brownish black, tibiæ and basitarsi light brown ; remainder of legs broken. Wings whitish subhyaline, very heavily and conspicuously patterned with dark brown, about as in *sinuosa* ; dark areas at base and at one-third the length of cells *R* and *M* complete, isolating the ground areas, these further broken by a brown seam along vein *M*, interconnecting the various brown areas in this field ; outer radial field, excepting cell *R*₅, chiefly dark

brown with more brownish-yellow centres; outer two-thirds of cell R_5 whitened; antestigmal pale band conspicuous, extending from costa to the base of cell 1st M_2 ; centre of cell M_1 and bases of cells M_3 and M_4 restrictedly pale; outer ends of cells Cu , 1st A and 2nd A broadly paler brown, the proximal portions whitened, very extensively in cell Cu , broken by an arcular darkening in the anal field; cell C yellow, narrowly darkened at both ends, cell Sc more brownish yellow; veins dark brown. Veins beyond cord and behind vein R_2 glabrous. Venation: vein R_3 strongly arcuated; vein R_{4+5} very sinuous, narrowing cell R_3 at near mid-length.

Basal abdominal tergites reddish brown, restrictedly patterned with darker brown, including a capillary median line and broader sublateral darkenings; distal half of tergite two and succeeding segments more uniformly dark brown, with indications of a still darker central area, posterior borders of outer segments becoming somewhat paler; lateral tergal borders broadly pale; sternites dark brown, on outer segments the posterior borders broadly yellow. Male hypopygium with the tergite extensive, the caudal margin with a broad notch, the lateral lobes triangular, conspicuous; at base of notch a small, weakly emarginate median lobe, the margins of all lobes with a border of blackened spinous setæ. Outer dististyle relatively narrow, simple, the outer third narrowed to the obtuse apex. Inner dististyle complex, the outer third more or less separated from the base by a constriction, the surface of the outer portion with a raised ridge or low crest, both the outer and central portions of style with numerous small blackened points.

Hab. Ecuador (Santiago-Zamora).

Holotype, ♂, Mayaico, Rio Nangarico, altitude 1000 metres, November 16, 1941 (*Laddey*).

The most similar species is *Holorusia* (*Holorusia*) *sinuosa* Alexander, which differs especially in the coloration and in the structure of the male hypopygium, particularly of the ninth tergite and inner dististyle.

Nephrotoma cacuminis, sp. n.

General coloration black and yellow, the former colour including three præscutal stripes, the lateral pair entirely

polished, curved laterad to the border of sclerite ; flagellar segments beyond the first uniformly blackened, moderately incised ; occipital brand broad and conspicuous ; knobs of halteres yellow ; wings with a faint yellowish tinge, cell *Sc* and the stigma brown, the latter with trichia ; abdomen reddish, in male variegated with black to form a subterminal ring ; male hypopygium with the outer dististyle strongly narrowed outwardly ; inner dististyle with the beak pale, slender ; eight sternite with its apex scarcely emarginate, the median region provided with long setæ and produced into a broad membranous lobe.

Male.—Length about 10.5–11 mm. ; wing 9.8–10.2 mm. ; antenna about 3.4–3.5 mm.

Female.—Length about 12 mm. ; wing 11 mm.

Frontal prolongation of head light yellow, narrowly darkened medially above, including the long nasus ; palpi with basal three segments testaceous yellow, terminal one blackened. Antennæ with scape yellow, pedicel weakly infuscated ; first flagellar segment yellowish brown, remainder of flagellum black ; segments rather strongly incised. Head orange, more yellowed on front and posterior orbits ; vertical tubercle conspicuous, with a very small brown spot near summit and with still another spot on either side adjoining border of eye ; occipital brand dark brown, conspicuous, more or less shield-shaped, with both ends pointed.

Pronotum medially broadly sulphur yellow, brownish black on sides and on propleura. Mesonotum light yellow, conspicuously patterned with black, the præscutum with three stripes ; lateral pair bent laterad to the border of sclerite, entirely polished ; median stripe entire, not crossing the suture behind ; lateral stripes crossing the suture onto the scutal lobes where each unites with two confluent scutal areas ; remainder of scutum yellow ; scutellum black, parascutella yellow ; medio-tergite with a conspicuous L-shaped black marking, restricting the yellow areas to the antero-lateral portions ; pleurotergite chiefly black, the callosity of the katepaleurotergite yellow. Pleura conspicuously variegated light yellow and black, the latter on the ventral sternopleurite, ventral anepisternum, on suture between the latter and the pteropleurite, and on meron ; dorsopleural membrane yellow. Halteres with stem reddish brown,

the base of knob more blackened, its apex light yellow. Legs with the fore and posterior coxæ reddish, more blackened at base or beyond, the mid-coxæ more uniformly yellow; trochanters reddened; femora yellow, the tips blackened, somewhat more gradually and extensively so on the fore legs; tibiæ obscure yellow or brownish yellow, the tips more blackened; tarsi black, only the proximal portions of basitarsi restrictedly paler; claws (male) toothed. Wings with a faint yellowish tinge, cell *Sc* and stigma brown; stigma with several trichia. Venation: *Rs* nearly oblique, only a little longer than the basal section of R_{4+5} ; cell M_1 narrowly to more broadly sessile; *m-cu* a short distance before origin of M_4 .

Abdomen reddish, variegated with black, including triangular median and lateral areas on posterior portions of the individual segments, more extensive on outer segments to form a blackened subterminal ring (in male), the restricted remainder of hypopygium reddish yellow; sternites reddened, the subterminal ring less extensive, involving segment seven and base of eight; in female, the darkenings not forming a ring. Male hypopygium with the lateral tergal lobes broadly oblique, with numerous blackened spinous points. Outer dististyle with nearly the outer half strongly narrowed to a subacute point. Inner dististyle with beak pale, relatively narrow; lower beak blackened; dorsal crest low, glabrous; extreme posterior end of style with a small stout blackened spinous point. Gonapophyses pale, appearing as gently curved clubs, the lower face with a few pale spinous points. Eight sternite transverse, narrowed posteriorly, the apex subtruncate, not evidently emarginate, provided with abundant long yellow setæ, the median region somewhat further produced into a membranous lobe that is directed more ventrad.

Hab. Ecuador (El Oro).

Holotype, ♂, Pinas, Morro Morro, altitude 1200 metres, July 21, 1941 (*Laddey*). *Allotopotype*, ♀, pinned with type. *Paratopotypes*, 1 ♂, 1 ♀.

The present fly is quite distinct from other regional species such as *Nephrotoma alleni* (Alexander) and *N. medioligula* Alexander, differing not only in the details of body coloration but especially in the structure of the male hypopygium, particularly the outer dististyle, inner dististyle, gonapophyses and eight sternite.

Limonia (Dicranomyia) contristans, sp. n.

Allied to *jorgenseni*; general coloration grey, the præscutum with three black discal stripes, in addition to the blackened lateral borders; antennæ black throughout; femora yellow with a blackened, nearly terminal ring; male hypopygium with the outer dististyle narrowed at apex into a long straight slender spine; gonapophyses with mesal-apical lobe a simple slender black spine.

Male.—Length about 6–6.5 mm.; wing 6.5–7 mm.

Female.—Length about 6.5–7 mm.; wing 7–8 mm.

Rostrum and palpi black. Antennæ black throughout; basal flagellar segments subglobular, the succeeding ones passing through obal to elongate oval, the segments with very short glabrous apical necks; terminal segment a little longer than the penultimate; longest verticils unilaterally distributed, exceeding the segments in length. Anterior vertex and a similar continuation on to the posterior vertex clear grey, the sides of the posterior vertex more blackened, sparsely pruinose; anterior vertex slightly wider than the diameter of the scape.

Pronotum blackened, sparsely pruinose; pretergites narrowly obscure yellow. Mesonotal præscutum grey, with three brown stripes, in addition to wider and more conspicuous black lateral borders, the humeral region more reddened; median stripe narrowed behind, in cases not reaching the suture; posterior sclerites of notum chiefly grey, more or less variegated with darker; posterior border of scutellum more reddened. Pleura blackened, more or less pruinose, especially a longitudinal stripe across the dorsal sternopleurite. Halteres black, the base of stem restrictedly more brightened. Legs with the fore coxæ darkened, the remaining coxæ paler, more or less pruinose; trochanters obscure yellow; femora yellow with a blackened, nearly terminal ring; tibiæ and tarsi brown, the outer segments of the latter more blackened. Wings with the ground-colour of the base and cephalic half whitened, of the apical and posterior regions more infuscated; a conspicuous darker brown pattern, especially on the cephalic half, contrasting with the whitened ground, including six major areas, the third at origin of *Rs*, continued distad along *Rs* in cell *R*; fifth area stigmal, the fourth a smaller isolated prestigmal spot;

sixth darkening in outer radial field, paler on its apical portion; other darkenings include seams over cord and outer end of cell 1st M_2 , spots in centres of cells R_5 to M_4 , inclusive, and a darkening at end of vein 2nd A ; veins brown, paler in the costal field. Venation: Sc_2 ending opposite the origin of Rs , Sc_2 at its tip; R_s angulated and short-spurred at origin; $m-cu$ some distance before the fork of M , in extreme cases equal to its own length.

Abdomen, including hypopygium, black; posterior borders of sternites very narrowly pale. Male hypopygium with the caudal margin of tergite rather weakly notched. Basistyle with the ventromesal lobe stout, simple. Dorsal dististyle stout, abruptly narrowed into a long straight slender spine. Ventral dististyle a small fleshy lobe, the pale portion smaller in area than the more darkened rostral prolongation; spines separated, the outer one a little shorter than the more basal one. Gonapophysis with mesal-apical lobe a simple slender black spine, the outer margin of the apophysis before the spine microscopically serrulate.

Hab. Peru (Huanuco, Ayacucho).

Holotype, ♂, Huanta, Huanta, Ayacucho, altitude 3800 metres, April 14, 1941 (*Woytkowski*). *Allotopotype*, ♀, altitude 3900 metres, April 1, 1941. *Paratopotypes*, several ♂♀, April 1-17, 1941; *paratypes*, 1 ♂, Ayna, La Mar, Ayacucho, altitude 2400 metres, April 30, 1941 (*Woytkowski*); 1 ♂, Huanuco, Huanuco, altitude 3000 metres, April 1, 1941 (*Woytkowski*).

The only nearly related species so far made known is *Limonia* (*Dicranomyia*) *jorgenseni* (Alexander) of Catamarca, Argentina, which differs in the structure of the male hypopygium, particularly of the dorsal dististyle and gonapophysis, and in slight details of coloration and venation.

Limonia (*Rhipidia*) *banosensis*, sp. n.

General coloration light grey pruinose, the præscutum variegated with more reddish-brown stripes; antennæ (male) unusually simple, the flagellar segments only a little produced; wings whitish subhyaline, restrictedly patterned with brown; no dark spot at near mid-length of cell Sc ; abdomen dark brown, the centres of the outer tergites paler; male hypopygium with the tergal lobes closely approximated, separated only by a small median notch, provided with a concentration of conspicuous black

setæ ; basistyle with a small lobule at base of ventromesal lobe ; rostral spines three, arising close together at near mid-length of the prolongation, the latter subacute at tip.

Male.—Length about 6.5 mm. ; wing 7.5 mm.

Rostrum brownish grey ; palpi black. Antennæ with scape and pedicel black ; only five flagellar segments remain, these unusually simple and but slightly produced, the distal end abruptly narrowed into a glabrous stem, the lower face very slightly bulging ; flagellar segments dark brown, paler at base and, especially, the whitened apical stems. Head dark brown, presumably pruinose in fresh specimens.

Pronotum chiefly dark brown. Mesonotal præscutum light grey pruinose, with three more reddish-brown stripes, the lateral pair very poorly indicated ; humeral region and lateral ends of suture more yellowed ; scutal lobes dark brown, the median area more pruinose ; scutellum infuscated basally, the apex obscure yellow ; mediotergite grey, pleurotergite paler, except on ventral portion. Pleura grey, striped longitudinally with dark brown. Halteres obscure yellow, the base of stem narrowly yellow, knob infuscated. Legs with coxæ infuscated, especially the fore and middle pairs ; trochanters yellow ; remainder of legs broken. Wings whitish subhyaline, with a restricted pale brown pattern that is suggestive of *domestica*, including small spots at arculus, origin of *Rs* and fork of *Sc* ; stigma pale, encircled by slightly darker brown ; very narrow and vague seams over cord, outer end of cell 1st M_2 and as a seam in cell M adjoining vein *Cu* ; prearcular and costal fields somewhat more yellowed, including the veins, the remaining veins brown ; no darkened washes in centres of cells and no darkening at mid-length of cell *Sc*, basad of origin of *Rs*, as in *domestica*. Venation : *Sc* relatively long, Sc_1 ending just beyond mid-length of *Rs*, Sc_2 near its tip ; *Rs* straight, approximately twice as long as R_{2+3} ; free tip of Sc_2 and R_2 in transverse alignment ; cell 1st M_2 subequal in length to vein M_4 ; *m-cu* at or immediately beyond the fork of M .

Basal abdominal tergites dark brown, the sternites somewhat paler ; outer segments with the centres of the disks much paler ; hypopygium chiefly yellow. Male hypopygium with the tergite semicircular in outline, the

entire posterior border strongly rounded, with a very small median notch, the lobes thus closely approximated, provided with long conspicuous blackened setæ. Basistyle with the ventromesal lobe blackened, relatively short, the apex subtruncate; on posterior margin at base with a much smaller lobule that is tipped with several long setæ. Dorsal dististyle relatively long and slender, the outer third curved, the tip acute, the outer end of style extending to beyond the margin of the ventral dististyle. Ventral dististyle relatively small, its total area about one-fourth greater than that of the basistyle; rostral prolongation strong; spines three, shorter than the prolongation, arising close together at or just beyond mid-length of the prolongation, the latter subacute at tip. Gonapophysis with mesal-apical lobe blackened, erect.

Hab. Ecuador (Tungurahua).

Holotype, ♂, Baños, altitude 1900 metres, July, 1936 (*Macintyre*).

Although it superficially resembles *Limonia* (*Rhipidia*) *domestica* (Osten Sacken) and other allied forms, the present fly is quite distinct, differing particularly in the structure of the antennæ, details of wing pattern and venation, and in the structure of the male hypopygium, especially the tergite, dorsal dististyle and ventral dististyle.

Atarba (*Ischnothrix*) *capitella*, sp. n.

General coloration of thoracic notum pale brown, the central area of præscutum obscure yellow; antennæ (male) elongate, slightly exceeding the wing in length, the flagellar segments with long outspreading verticils; legs dark brown to brownish black; wings with a strong brownish tinge, the prearcular and costal fields more yellowed; stigma small, darker brown; *Sc* short, vein *R*₃ short and erect, *m-cu* at near mid-length of the small cell 1st *M*₂; male hypopygium with the spines of the ninth sternite long and slender, decurved; eighth sternite with its caudal border produced into an entire transverse lobe, the caudal border of which is subtruncate to weakly convex, provided with microscopic setulæ.

Male.—Length about 5.5 mm.; wing 5 mm.; antenna about 5.5 mm.

Rostrum yellow; palpi brownish black. Antennæ (male) slightly longer than the wing; scape and pedicel obscure yellow, flagellum black; flagellar segments very elongate-cylindrical, with long outspreading verticils scattered over the entire length of the segments, with interpolated shorter setæ of less than half this length; the longest verticils are shorter than in *seticornis* but much longer than in *geminata*; punctures of the major setæ sparser and less crowded than in *geminata*. Head obscure brownish yellow.

Pronotum brownish yellow. Mesonotal præscutum with the central portion obscure yellow, the sides a trifle more darkened; posterior sclerites of notum apparently darker, but this region of body not clearly visible in the type. Pleura obscure yellow. Halteres infuscated, base of stem yellow. Legs with the coxæ brownish yellow; trochanters yellow; remainder of legs dark brown to brownish black, the femoral bases restrictedly more brightened; tibial spurs very short, less than the surrounding setæ, apparently a trifle longer than in *geminata*. Wings with a strong brownish tinge, the prearcular and costal fields more yellowed; stigma small, darker brown than the ground; veins dark brown somewhat paler brown in the brightened costal field. Venation: *Sc* short, *Sc*₁ ending just beyond the origin of *Rs*, *Sc*₂ exactly opposite this origin; *Rs* relatively long, strongly angulated beyond origin; vein *R*₃ short and erect, a little exceeding the distance on margin between the tips of veins *R*₁₊₂ and *R*₃; vein *R*₄ subequal to *R*₂₊₃₊₄; cell 1st *M*₂ rectangular, relatively small, shorter than any of the veins beyond it, with *m-cu* at near mid-length.

Abdomen weakly bicoloured, brown, the incisures, particularly the bases, somewhat paler; hypopygium brownish yellow, the outer dististyle blackened. Male hypopygium with the outer dististyle a gently arcuated rod, the apical point scarcely larger than the subapical spines; outer margin of style with abundant appressed teeth, those near the base much smaller. Inner dististyle strongly narrowed outwardly, the tip narrowly obtuse. Spines of ninth sternite long and slender, strongly divergent and decurved, closely approximated at bases, thence narrowed to the acute tips. Appendage of eighth sternite a transverse suboval lobe, appearing more or less

capitate, its outer margin subtruncate to weakly convex, provided with microscopic setulæ.

Hab. Peru (Junin).

Holotype, ♂, Satipo, Jauja, altitude 800–900 metres, May 29, 1940 (*Paprzycki*).

Although the shape of the lobe of the eighth sternite is quite different, the present fly is evidently more closely related to *Atarba* (*Ischnothrix*) *geminata* Alexander than it is to certain other species that have this lobe entire, these including *A. (I.) integriloba* Alexander. Comparisons with *geminata* have been given in the above description.

Atarba (Ischnothrix) digitifera, sp. n.

Allied to *geminata*; antennæ of male long, exceeding the wing; longest setæ conspicuous; mesonotum more or less pruinose, the præscutum with three brown stripes, the median one especially distinct; wings very pale brown, stigma oval, medium brown; *Rs* angulated beyond origin; male hypopygium with the outer dististyle having large and relatively few spinous points along the outer face; appendage of eighth sternite pale, produced into two slender finger-like lobes.

Male.—Length about 6 mm.; wing 6.5 mm.; antenna about 7 mm.

Rostrum light brown, sparsely pruinose; palpi brownish black. Antennæ (male) elongate, exceeding the wing; scape and pedicel brownish yellow, flagellum black; segments very elongate-cylindrical; verticils abundant, distributed over the entire segment, the longest more or less unilaterally arranged; longest setæ nearly four times the diameter of segment opposite the point of insertion, in *geminata* approximately three times this length. Head above grey, the occipital region a little more brightened.

Pronotum reduced, brown, sparsely pruinose. Mesonotal præscutum obscure yellow, on sides, darker medially, the surface more or less pruinose, with three brown stripes, the central one especially distinct; scutellum testaceous yellow; mediotergite light grey pruinose. Pleura and pleurotergite testaceous yellow, sparsely pruinose. Halteres broken. Legs with the coxæ and trochanters yellow; remainder of legs pale brownish yellow, the terminal tarsal segments a little darker; tibial spurs a little more than one-half as long as the surrounding setæ.

Wings very pale brown, the prearcular and costal portions a little more yellowed ; stigma small, oval, medium brown ; veins brown, more brownish yellow in the brightened portions. Venation : Sc_1 ending shortly beyond the origin of R_s , Sc_2 a short distance beyond this origin ; R_s longer than in *geminata*, angulated beyond origin ; $m-cu$ about one-half to two-thirds its length beyond the fork of M .

Abdomen pale brown, with a darker subterminal ring ; hypopygium yellow, the outer dististyles blackened. Male hypopygium with the spines of the outer dististyle larger and fewer than in *geminata*. Appendage of ninth sternite almost as in *geminata*. Appendage of the eighth sternite entirely pale, the colour including the base of the plate and adjoining apical portions of the sternite ; lobes of the appendage longer and more slender than in *geminata*, separated by a conspicuous U-shaped notch.

Hab. Peru (Junin).

Holotype, ♂, Huacapistana, Tarma, altitude 3600–5400 feet, February 20, 1940 (*Woytkowski*).

The most similar species is *Atarba* (*Ischnothrix*) *geminata* Alexander, which differs in the coloration, the shorter antennæ of the male, and in the details of structure of the male hypopygium, especially the outer dististyle and appendage of the eighth sternite.

Atarba (*Atarba*) *tungurahuenensis*, sp. n.

Allied to *bulbifera* ; antennæ (male) elongate, black, the incisures of the more proximal flagellar segments narrowly brightened ; pubescence of flagellar segments subtended by small points to produce a scabrous appearance ; femora yellow, the tips narrowly infuscated ; wings weakly patterned with brown ; male hypopygium with the appendage of the ninth sternite gently concave at apex, the horns slender ; outer dististyle with the spines relatively few but large, restricted to the expanded outer third of style ; inner dististyle blackened ; gonapophyses without spines ; ædeagus relatively long, without lobes or protuberances.

Male.—Length about 6 mm. ; wing 6.8 mm. ; antenna about 5 mm.

Female.—Length about 6 mm. ; wing 6.5 mm.

Rostrum obscure brownish yellow; palpi brownish black. Antennæ (male) elongate; scape and pedicel obscure yellow; flagellar segments long-cylindrical, black, the more proximal ones with the incisures very restrictedly yellow, including both the bases and apices of the segments; verticils unilaterally distributed, slightly exceeding one-half the length of the segments; entire surface with a short erect pubescence, the hairs subtended by small points to produce a scabrous appearance. Head testaceous yellow; anterior vertex relatively narrow, only a little wider than the diameter of scape.

Thorax reddish yellow, the surface sparsely pruinose, somewhat more heavily so on the postnotum and pleura. Halteres with stem yellow, knob weakly darkened. Legs with the coxæ and trochanters testaceous yellow; remainder of legs yellow, the tips of femora very narrowly infuscated; terminal tarsal segments blackened; tibial spurs distinct. Wings greyish yellow, the prearcular and costal fields, together with a line along vein *Cu* clear light yellow; stigma oval, medium brown and relatively distinct; a narrow brown seam along cord and less evidently over the outer end of cell 1st M_2 ; veins brown, yellow in the brightened areas. Venation: *Sc* short, Sc_1 ending opposite or immediately before origin of *Rs*, Sc_2 a short distance from its tip, Sc_1 alone subequal to or a little exceeding $r-m$; *Rs* short, about twice the basal section of R_5 ; branches of *Rs* generally parallel to one another, the anterior one very gently sinuous; cell 1st M_2 shorter than vein M_4 ; $m-cu$ about one-third to one-half its own length beyond the fork of *M*.

Abdominal tergites obscure brownish yellow, the lateral margins more blackened; subterminal segments black, to form a broad ring; hypopygium yellow. Male hypopygium with the appendage of the ninth sternite produced laterad into a slender spine, the apex gently concave. Outer dististyle clavate, more expanded on outer half, at apex, further produced into a slender portion that divides at apex into two subapical teeth; the expanded portion of style with several appressed teeth, the basal two-thirds of style unarmed. Inner dististyle longer, slender, dark-coloured throughout. Gonapophyses appearing as pale flattened blades, each more or less trough-shaped but without spines. Aedeagus relatively long, only slightly

expanded at apex and without other lobes or protuberances.

Hab. Ecuador (Tungurahua).

Holotype, ♂, Above Baños, altitude 2500 metres, May 6, 1939 (*Macintyre*). *Allotopotype*, ♀, pinned with type *Paratopotype*, 1 ♀, pinned with type.

Atarba (*Atarba*) *tungurahensis* is closest to *A. (A.) bulbifera* Alexander, which has the vestiture of the antennæ somewhat the same and with the wings likewise weakly patterned. The two species differ conspicuously in several details of structure of the male hypopygium, particularly the appendage of the ninth sternite, the inner dististyle, and the ædeagus.

Teucholabis (Teucholabis) azuayensis, sp. n.

Allied to *brevisetosa*; general coloration polished black, the thorax restrictedly variegated with paler; basal flagellar segments more or less enlarged, subglobular, with short pale apical stems; posterior basitarsi conspicuously dilated on about the proximal half; wings whitish subhyaline, virtually unpatterned except for the stigma; abdomen polished black, the posterior borders of the segments, especially the outer sternites, yellow; male hypopygium with the outer dististyle bearing a large lateral branch, the entire style conspicuously setiferous; apex of ædeagus produced into a large flap that bears several long coarse setæ.

Male.—Length about 4.7–5 mm.; wing 5.5–5.8 mm.

Rostrum and palpi black. Antennæ black; basal flagellar segments enlarged, subglobular, separated from one another by very short abrupt pale pedicels, these placed on one side of the central axis so the segments are asymmetrical; on the seventh or eighth flagellar segments the stems are lost and the segments pass into oval. Head polished black.

Thoracic notum polished black, the sides of the scutellum, pretergites and restricted humeral region of the præscutum obscure yellow; very vague brightenings along the suture; posterior border of scutellum testaceous yellow. Pleura and pleurotergite black, on the dorsal sternopleurite and again on the metapleura with paler areas that are covered with a silvery pubescence, producing a short, sometimes broken stripe. Halteres brownish

black, the apex of knob light yellow. Legs with the coxæ brownish black, the tips paling to obscure yellow; trochanters dark brown; femora obscure brownish yellow basally, the outer portion blackened and somewhat dilated, the amount of black somewhat greater on the fore legs; tibiæ dark brown, the tips more blackened; tarsi black; posterior basitarsi conspicuously dilated on about the proximal half. Wings whitish subhyaline, the small stigma conspicuous, dark brown; basal portion of cell *Sc* infuscated; veins dark brown, those in the prearcular field more yellowed. Venation: *Sc*₁ ending nearly opposite one-third the length of the arcuated *Rs*; branches of the latter parallel to one another except near their tips, *R*₅ thence deflected to the wing tip; cell 1st *M*₂ almost twice *M*₄.

Abdomen polished black, the posterior borders of the segments very narrowly pale yellow, on the outer sternites becoming much broader and more conspicuous; hypopygium black. Sternal pocket restricted to the fifth segment, transverse. Male hypopygium with the lobe of basistyle a strong flattened rod, at its apex deflected into a long straight spine. Outer dististyle conspicuous, the principal blade acute at tip, on mesal edge bearing a large lateral branch that is produced directly into a strong spine, the surface of style with abundant conspicuous setæ, shorter but more abundant on the lateral branch and axil. Inner dististyle with the main stem an erect flattened blade, the apex obtuse, on margin before tip produced into a short blunt point; lobe at base of style extensive, more or less scoop-shaped, the margin with about five strong setæ. Apex of ædeagus produced into a large flap that is provided with several long coarse setæ.

Hab. Ecuador (Azuay).

Holotype, ♂, Cuenca, altitude 2500 metres, February 19, 1939 (F. M. Brown). *Paratopotypes*, 3 ♂♂.

The nearest described ally of this fly is *Teucholabis* (*Teucholabis*) *brevisetosa* Alexander, of Peru, which differs in slight details of coloration and in the structure of the male hypopygium, especially the outer dististyle and ædeagus.