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

*New or little-known Tipulidæ (Diptera).—LVIII.
Neotropical Species.* By CHARLES P. ALEXANDER,
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THE crane-flies here considered are all from Ecuador, where most of the species were taken by Mr. William Clarke-MacIntyre and assistants. Additional specimens were included in material sent to me for identification by Mr. F. Martin Brown, Colorado Springs, Colorado, who has made extensive collections in Ecuador. I am greatly indebted to Messrs. Brown and MacIntyre for the opportunity of studying this interesting series, the types of which are preserved in my collection through the friendliness of the collectors.

Macromastix browni, sp. n.

General coloration of mesonotum dark brown, the præscutum light brown with the cephalic fifth more blackened; frontal prolongation of head black; antennæ, wings, and body all subequal in length; antennæ 11-segmented, the terminal segment elongate; flagellar segments without differentiated elongate verticils; femora yellow, the tips narrowly blackened, remainder of legs

black; wings strongly infuscated, especially at tip, the basal portions, including cells *Sc* and *Cu*₁, yellow; a conspicuous cream-coloured spot in bases of cells *R*₃ and *R*₅; vein *Sc*₁ preserved; *Rs* shorter than *R*₂₊₃; abdomen yellow, the seventh and succeeding segments black.

Male.—Length about 10 mm.; wing 10 mm.; antenna about 10 mm.

Frontal prolongation of head black; nasus short and stout; palpi short, black. Antennæ as long as body or wing; basal three segments and proximal end of fourth yellow, the remainder black; flagellar segments long-cylindrical, without basal enlargements; segments with very abundant short erect verticils distributed throughout the entire length of segment; antennæ 11-segmented; first flagellar segment about three-fifths the second, succeeding segments progressively shortened, terminal segment about four-fifths the penultimate. Head yellowish brown, yellow pollinose; vertical tubercle low and simple.

Pronotum dark brown. Mesonotal præscutum light brown, the cephalic fifth, including the humeral region, more blackened; surface of præscutum sparsely pollinose, without distinct stripes; posterior sclerites of notum darker brown. Pleura brownish black, the pteropleurite with yellow pubescence, the ventral pleurotergite darker than the dorsal; dorsal sternopleurite a trifle brightened. Halteres relatively short, stem obscure yellow, knob brownish black. Legs with coxæ brownish black, the posterior pair a little brighter; trochanters obscure yellow, margined apically with dusky; femora yellow, the tips rather narrowly but abruptly blackened, including about the distal seventh or eighth of segment; tibiæ and tarsi black; claws simple. Wings strongly suffused with brown, especially the tip; about the basal half of wing more yellowish brown, the colour brightening to yellow in the prearcular field, cell *Sc*, base of cell *C*, and in cell *Cu*₁; extreme base of wing darkened; a conspicuous cream-coloured spot beyond cord in bases of cells *R*₃ and *R*₅; stigma oval, dark brown; cord very narrowly seamed with brown. Venation: *Sc*₁ preserved, ending opposite fork of *Rs*; *Rs* relatively long, spurred at origin, shorter than the straight *R*₂₊₃; *R*₂ short,

R_{1+2} preserved ; petiole of cell M_1 a little longer than m ; cell 2nd A relatively wide.

Abdomen yellow, the seventh and succeeding segments black.

Hab. Ecuador.

Holotype, ♂, Macas, Rio Upano, altitude 1000 metres, January 24, 1939 (*Brown*).

Macromastix browni is named in honour of the collector, Mr. F. Martin Brown. The species is very distinct from all others described from Tropical America.

Tipula smilodon, sp. n.

General coloration reddish yellow, subnitidous, the præscutum with four conspicuous black areas ; antennæ (male) elongate, basal flagellar segments bicoloured ; wings with a brown tinge, cell Sc and the stigma darker brown ; Rs short, less than $m-cu$; cell 2nd A relatively wide ; male hypopygium very large and conspicuous ; eighth sternite produced caudad and dorsad into two powerful fang-like lobes that taper gradually to acute points.

Male.—Length about 13–15 mm. ; wing 12·5–13·5 mm. ; antenna about 8–8·5 mm.

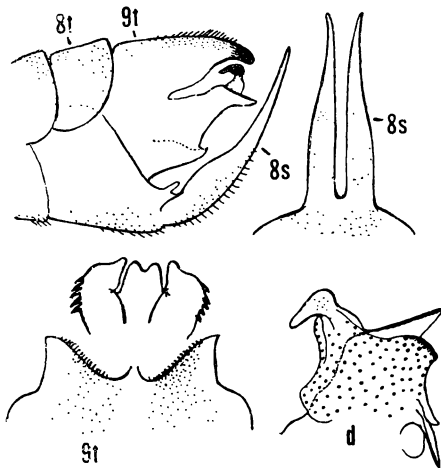
Female.—Length about 15–16 mm. ; wing 13–13·5 mm.

Frontal prolongation of head yellow, relatively short ; nasus short and blunt to virtually lacking ; basal segments of palpi yellow, the terminal segment a little more darkened. Antennæ (male) elongate ; scape and pedicel yellow, flagellum chiefly black, the more basal segments bicoloured, brownish yellow with darker basal enlargements ; pedicel with a conspicuous brush of black setæ ; flagellar segments weakly incised, verticils much shorter than the segments. Head brownish yellow vertical tubercle low.

Pronotum obscure yellow medially, blackened on sides. Mesonotal præscutum reddish yellow, subnitidous, with four blackened areas, two representing the cephalic third of the usual intermediate stripes, the other pair representing the lateral stripes, at outer ends outcurved to the lateral border ; posterior sclerites of notum yellow, subnitidous ; cephalic portion of each scutal lobe with a conspicuous black spot. Pleura yellow, the propleura and anepisternum more or less darkened. Halteres with

stem yellow, knob weakly darkened. Legs with the coxæ and trochanters yellow; fore femora chiefly black, the bases narrowly yellow; middle femora more brownish black; posterior femora obscure yellow to brownish yellow; tibiæ brownish yellow to brown; tarsi black; claws (male) toothed. Wings with a brownish tinge, cell *Sc* and the stigma darker brown; prearcular field a little more yellowish; veins pale brown. Venation: *Rs* short, less than *m-cu*; *R*₁₊₂ preserved; cell 1st *M*₂ narrow; cell 2nd *A* relatively wide.

Fig. 1.

*Tipula smilodon*, sp. n.

Details of male hypopygium. Symbols: *d*, dististyle; *s*, sternite; *t*, tergite.

Abdomen reddish yellow, the subterminal segments blackened, especially tergites seven to nine, and sternite seven and base of eight; remainder of hypopygium a little brightened. Male hypopygium (fig. 1) very large and conspicuous. Ninth tergite, *9t*, terminating in two blackened triangular lobes; from beneath ventral surface of tergite juts caudad a conspicuous depressed median structure, the margins at apex with about five strong recurved spines (apex figured). Dististyle, *d*, single, structure as figured. Eighth sternite, *8s*, very large

and sheathing, produced into two powerful fang-like lobes that are directed caudad and dorsad, lying parallel to one another, their tips acute. Ovipositor with sub-fleshy valves.

Hab. Ecuador (Los Rios).

Holotype. ♂, Playas de Montalvo, altitude 15 metres, April 20, 1938 (*MacIntyre*). *Allotopotype.* ♀, pinned with type. *Paratopotypes,* several of both sexes, March 4 to April 20, 1938 (*MacIntyre*).

Tipula smilodon is very different from all other described species. The somewhat remarkable male hypopygium provides the chief specific characters. The specific name, *smilodon*, is suggested by a fancied resemblance of the spines of the eighth sternite to the fangs of the sabre-toothed cats, *Smilodon*.

Tipula tenuilobata, sp. n.

General coloration medium brown, the scutellum and postnotum more yellowish; præscutum without distinct stripes; antennæ (male) elongate, flagellar segments bicolorous; legs obscure yellow, the tarsi more infuscated; wings subhyaline, conspicuously patterned with brown, including the costal border and outer radial field; abdomen brownish yellow, the subterminal segments dark brown; male hypopygium with the tergite trilobed, the lateral lobes slender, much longer than the median; eighth sternite on caudal border with a small ligulate median lobe.

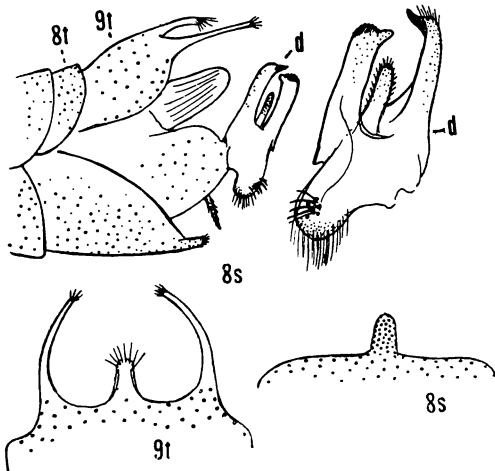
Male.—Length about 9 mm.; wing 10 mm.; antenna about 6 mm.

Frontal prolongation of head brown; palpi brownish black. Antennæ elongate, as shown by the measurements; basal four segments yellow; succeeding segments bicoloured, yellow, with the small basal enlargement narrowly dark brown; stem of outer segments more infuscated; flagellar segments moderately incised; terminal segment elongate-thimble-shaped. Head brown, the front and narrow orbits more greyish.

Mesonotal præscutum and scutum medium brown, without clearly defined stripes; scutellum and postnotum more yellowish; præscutal setæ small and sparse. Pleura pale yellow, especially ventrally. Halteres with stem yellow, knob brown. Legs with the coxæ and

trochanters yellow; femora and tibiæ obscure yellow, tarsi passing into brown. Wings subhyaline, conspicuously patterned with brown, including the broad costal border and broad wing-tip in outer radial field; prearcular field darkened; costal darkening involving cephalic half of cell *R*; small darker brown spots at origin of *Rs*, anterior cord, posterior end of *m-cu*, *m*, and fork of *M*₁₊₂; veins yellow, darker in the infuscated areas. Venation: *Rs* arcuated, a little longer than *m-cu*; *R*₁₊₂ entire;

Fig. 2.

*Tipula tenuilobata*, sp. n.

Details of male hypopygium. Symbols: *d*, dististyle; *s*, sternite; *t*, tergite.

r-m greatly reduced, the basal section of *R*₄₊₅ correspondingly lengthened; cell *M*₁ a little longer than its petiole; cell 2nd *A* moderately wide.

Abdomen obscure brownish yellow, the basal segments clearer yellow, the subterminal segments dark brown. Male hypopygium (fig. 2) with the tergite separated from the sternite and basistyle, the apex of latter obtuse. Ninth tergite, 9*t*, extensive, the caudal border trilobed, the median lobe shorter and broader, tipped with long coarse setæ; lateral lobes long and slender, the extreme tips with a few shorter setæ. Dististyle, *d*, as figured,

terminating in two blackened lobes, the more cephalic slender and bent at a right angle; base of style produced ventrad into an obtuse, conspicuously hairy lobe. From notch of ninth sternite projects ventrad and slightly caudad a pair of straight pale spines that are densely covered with pale setæ. Eighth sternite moderately sheathing, bearing a small liguliform median lobe.

Hab. Ecuador (Oriente).

Holotype, ♂, Jatun Yacu, altitude 700 metres, March 1937 (*MacIntyre*).

The closest described relative is *Tipula inæquilobata* Alexander, likewise from the Oriente of Ecuador, which differs in the nature of the wing-pattern, and, especially, in the structure of the male hypopygium.

Tipula luctifica, sp. n.

Belongs to the *smithi* group; general coloration reddish brown; antennæ (male) very long, only a little shorter than the body, flagellum black; wings greyish subhyaline, patterned with brown, including cells *C* and *Sc*; R_{1+2} entire; abdominal tergites one to five obscure yellow, narrowly blackened laterally, segments six to eight black; hypopygium reddish brown; male hypopygium with the dististyle consisting of two flattened black plates, the inner one produced caudad into a cylindrical yellow arm that is tipped with two unequal spines; a pale yellow setiferous lobe juts from the notch of the ninth sternite; ovipositor with fleshy cerci.

Male.—Length about 11–11.5 mm.; wing 12–12.5 mm.; antenna about 9–9.5 mm.

Female.—Length about 11–12.5 mm.; wing 11.5–13.5 mm.

Frontal prolongation of head plumbeous black; palpi dark brown. Antennæ (male) very long, as shown by the measurements; scape and pedicel yellow, first flagellar segment obscure yellow on basal half, the apex brownish black; remaining segments black, on the more proximal segments the extreme base brightened; segments elongate, very feebly incised, the longest verticils less than one-half the segments. Head light grey; anterior vertex a little more than twice the diameter of scape, without vertical tubercle.

Pronotum brown, sparsely pruinose. Mesonotal præscutum reddish brown, slightly more pruinose laterally,

without distinct stripes; præscutal setæ very small; posterior sclerites of notum brownish grey, without distinct pattern. Pleura yellow, the dorsopleural membrane more dusky. Halteres brownish black. Legs with coxæ and trochanters yellow; femora obscure yellow; tibiæ brownish yellow, tarsi more blackened; claws (male) with conspicuous basal tooth. Wings greyish subhyaline, patterned with dark brown, including all of cells *C* and *Sc*, in cases the latter more yellowish brown; stigma oval, dark brown; conspicuous brown seams on both anterior and posterior cords, slightly interrupted or much narrowed at bases of cells 1st M_2 and M_4 ; wing-tip in outer radial field darkened; outer medial veins seamed with brown; veins brown, darker in the patterned areas. Squama naked. Venation: *Rs* short, arcuated, subequal to *m-cu*; R_{1+2} entire; outer medial cells short; M_{3+4} short, only a little exceeding *r-m*; cell 2nd *A* relatively wide.

Abdominal tergites one to five obscure yellow, narrowly blackened laterally, the caudal borders of segments very narrowly paler yellow; basal five sternites yellow, segments six to eight inclusive black; hypopygium chiefly reddish brown. Male hypopygium with the caudal margin of tergite very broadly notched, the lateral lobes narrowly obtuse, the entire caudal border set with abundant blackened spines. Dististyle consisting of two obtuse flattened black plates lying side by side, the inner one produced caudad into a cylindrical yellow arm that is tipped with two conspicuous unequal spines. From notch of ninth sternite juts a pale yellow lobe provided with very abundant dense pale setæ. Eighth sternite with caudal border truncate or very feebly emarginate, provided medially with pale membrane. Ovipositor with short fleshy cerci.

Hab. Ecuador.

Holotype, ♂, San Francisco, Rio Pastaza, altitude 1300 metres, October 1, 1938 (*MacIntyre*). *Allotype*, ♀, Mapoto, altitude 1300 metres, March 1939 (*MacIntyre*). *Paratypes*, 1 ♂, 1 ♀, with the allotype; 1 ♀, Lamass, near Baños, altitude 2500 metres, July 11, 1937; 1 ♀, Mount Tunguragua, altitude 3000 metres, May 12, 1937 (*MacIntyre*).

Tipula luctifica is distinguished from other allied members of the group by the unusually long antennæ, pattern of

wings, and, especially, the structure of the male hypopygium.

Tipula consonata, sp. n.

Belongs to the *glaphyoptera* group; general coloration of mesonotum yellow, the præscutum with three entire brown stripes; antennæ (male) very short, bicoloured, the bases of the flagellar segments black, the remainder yellow; pronotum and scutellum yellow; knobs of halteres yellow; femora yellow, with a blackened ring immediately before tips; claws (male) simple; wings cream-yellow, heavily fasciate with brown; cell *C* uniformly dark; *Rs* long; male hypopygium with the caudal border of tergite with a very small, rounded notch.

Male.—Length about 12 mm.; wing 15 mm.; antenna about 2.6 mm.

Frontal prolongation of head obscure yellow; nasus distinct; palpi obscure yellow, the terminal segment brownish black. Antennæ short; basal three segments yellow, succeeding flagellar segments bicoloured, the basal enlargement black, the remainder yellow; flagellar segments very feebly incised; longest verticils subequal in length to the segments. Head buffy, the vertical tubercle narrowly darkened medially.

Pronotum yellow. Mesonotal præscutum yellow, with three entire brown stripes, the median one broad, especially in front; lateral stripes narrow, the mesal edge paling to brownish yellow; scutal lobes each with two brown areas; scutellum yellow, parascutella brown; medio-tergite pale yellow, more darkened posteriorly; pleuro-tergite infuscated. Pleura buffy yellow, restrictedly variegated with brown areas. Halteres yellow, the outer portion of stem a little darker, apex of knob clearer yellow. Legs with the coxæ and trochanters yellow; femora yellow, with a blackened ring immediately before the slightly paler apex; tibiæ obscure yellow; tarsi passing into brownish black; claws (male) simple. Wings with the ground-colour cream-yellow, heavily patterned with brown; cell *C* uniformly brown, cell *Sc* yellow with four major brown areas, the first at arculus, the third at origin of *Rs*; dark areas more or less fasciate, beyond cord much more extensive than the ground, restricting the latter to a short poststigmatal fascia and

central spots in cell R_5 and the outer medial cells ; a complete zigzag band at origin of R_s , crossing the wing, widened behind, ending in cell 1st A ; basal half of cell Cu darkened ; prearcular field variegated with yellow and brown ; veins yellow in the ground, darker in the clouded areas. Venation : R_s long, nearly three times $m-cu$; R_{1+2} atrophied ; petiole of cell M_1 shorter than m .

Abdominal tergites yellow, beyond the second conspicuously darkened medially and less evidently laterally ; outer segments more uniformly darkened ; basal sternites yellow, the outer segments weakly darkened ; hypopygium brownish yellow. Male hypopygium with the tergite produced into rounded lateral lobes, the central area of the margin truncate, with a very small rounded notch. Outer dististyle a small pale clavate structure. Inner dististyle relatively narrow, the beak setuliferous to apex. Gonapophyses terminating in slender acute spines. Eighth sternite unarmed, the caudal margin truncate.

Hab. Ecuador.

Holotype, ♂, Baños, altitude 2200 metres, October 15, 1938 (*MacIntyre*).

Tipula consonata is closest to *T. fraudulentata* Alexander, differing especially in the coloration of the body and wings and in the venation.

Tipula delectata, sp. n.

Belongs to the *glaphyoptera* group ; mesonotal præscutum yellow, with three dark brown stripes, the broad median vitta slightly constricted opposite the pseudosutural foveæ, the central portion behind this point restrictedly pale ; antennal flagellum bicoloured scutellum and mediotergite conspicuously darkened medially ; knobs of halteres yellow ; femora obscure yellow, passing into brown, the tips blackened, preceded by a clear yellow ring ; wings with the cephalic two-thirds light yellow, the posterior portion subhyaline, the surface heavily patterned with brown ; R_{1+2} entire ; cerci elongate, straight.

Female.—Length about 21 mm. ; wing 19.3 mm. ; antenna about 3 mm.

Frontal prolongation of head relatively long, exceeding the remainder of head ; obscure yellow, with a lateral

brown line; nasus distinct; palpi brownish black. Antennæ moderately long, in female subequal to the palpi; basal three segments yellow, succeeding segments bicoloured, the bases dark brown, the more extensive apices clear light yellow. Head brown, with a very delicate, median, brown line, more distinct behind; vertical tubercle low.

Pronotum obscure yellow, with three brownish-black areas. Mesonotal præscutum yellow, with three dark brown stripes, the broad median vitta slightly constricted opposite the pseudosutural foveæ, behind this point with a central pale line; scutum pale, each lobe conspicuously variegated with dark brown, the median area slightly darkened; scutellum pale yellow with a conspicuous median brown line, parascutella dark brown; mediotergite yellow laterally, with about the central third dark brown, this area broadly expanded at posterior border. Pleura obscure yellow, variegated with brown, especially on the cephalic anepisternum and cephalic pteropleurite; ventral pleurotergite darker than the dorsal section. Halteres with stem brown, its base narrowly pale, knob conspicuously pale yellow. Legs with the coxæ obscure yellow, the fore pair more infuscated at base; trochanters yellow; femora obscure yellow basally, at or before mid-length passing into brown, the tip blackened, preceded by a subequal yellow ring; on some of the legs (detached, apparently the hind pair), the extreme femoral tips are again narrowly pale brown; tibiæ obscure brownish yellow, the tips narrowly brownish black; basal two tarsal segments obscure brownish yellow, the outer three segments black. Wings with cephalic two-thirds clear light yellow, the posterior and outer cells, including the anals, cubital, and outer medial fields, more subhyaline; a heavy brown pattern, more marbled and tessellated in the posterior subhyaline fields, heavier and more concentrated in the yellow costal portion; a major dark area at arculus, extending from costa to cubitus; smaller areas at origin of *R*_s and beyond mid-length of vein *R*, not reaching vein *M* behind; extensive areas at *r-m* and outer end of cell 1st *M*₂; stigma and spots at outer ends of veins *R*₃ and *R*₄₊₅ paler brown; axillary border narrowly darkened; veins yellow, darker in the clouded areas. Venation: *R*₁₊₂

entire; *Rs* long, a little less than twice *m-cu*; cell 1st M_2 relatively long, parallel-sided; *m-cu* suberect, joining M_4 beyond origin.

Abdominal segments brownish yellow, vaguely patterned with darker, including a very ill-defined broken median tergal stripe; outer segments more extensively darkened; cerci relatively long and slender, straight, sclerotized.

Hab. Ecuador.

Holotype, ♀, El Tablon, near Baños, altitude 2000 metres, October 28, 1938 (*MacIntyre*).

Tipula delectata is generally similar to *T. absona* Alexander and *T. browniana* Alexander, differing conspicuously in the pattern of the thorax, legs, and wings.

Tipula flavidula, sp. n.

Belongs to the *glaphyroptera* group; general coloration yellow, the præscutum with three subnitidous reddish stripes; lateral border of præscutum with a conspicuous black spot; antennæ short, the basal segments yellow, the outer segments passing into brown; legs yellow, the tips of the femora narrowly but abruptly blackened; wings yellow, with a very ill-defined brown pattern, including a series of three small subcostal darkenings; R_{1+2} atrophied; abdominal tergites yellow, trivittate with brown; male hypopygium small; eighth sternite unarmed.

Male.—Length about 9–11 mm.; wing 12–14 mm.; antenna about 2.2–2.5 mm.

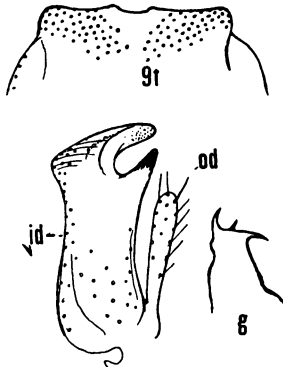
Female.—Length about 11–13 mm.; wing 12–14 mm.

Frontal prolongation of head yellow, nasus distinct; basal segment of palpus yellow, succeeding two segments brown, terminal one black. Antennæ short; basal four or five segments yellow, outer segments passing into brown; flagellar segments very feebly incised or with basal swelling scarcely evident; verticils shorter than the segments. Head dull yellow.

Pronotum brownish yellow. Mesonotal præscutum yellow, with three subnitidous reddish stripes; lateral border of præscutum behind the pseudosutural foveæ with a conspicuous black spot; scutum yellow, each lobe variegated with ferruginous; scutellum and postnotum yellow. Pleura yellow, in cases with a small brown spot on ventral anepisternum. Halteres pale

yellow. Legs yellow, the tips of femora narrowly but abruptly blackened; tibiae yellow, the tips even more narrowly dark brown; tarsi yellow, the outer segments infuscated. Wings yellow, the prearcular and costal fields more saturated yellow; stigma brown; a very restricted brown pattern, as follows:—Arculus; three small subcostal darkenings, the second at origin of *Rs*, the third at tip of *Sc*; very pale brown washes at cord, wing-apex, outer end of cell *M*, and even less distinctly in the anal cells; veins yellow, a little darker in the clouded portions. Venation: *R*₁₊₂ atrophied; *Rs* long, about two and one-half times *m-cu*, the latter joining *M*₄ some distance beyond base.

Fig. 3.

*Tipula flavidula*, sp. n.

Details of male hypopygium. Symbols: *g*, gonapophysis; *id*, inner dististyle; *od*, outer dististyle; *t*, tergite.

Abdominal tergites yellow, trivittate with brown, the lateral stripes darker, especially on basal segments; median stripe more or less interrupted at posterior border of segment; sternites yellow; subterminal segments more extensively darkened; hypopygium yellow. Male hypopygium small. Caudal margin of ninth tergite (fig. 3, *9t*) nearly transverse, with a very shallow median notch. Basistyle with a small pale setiferous lobe at base of dististyle. Dististyles, *d*, as figured. Gonapophyses, *g*, trispinous at tips. Eighth sternite unarmed. Ovipositor with elongate cerci.

Hab. Ecuador.

Holotype, ♂, Mt. Tunguragua, altitude 2600 metres, April 15, 1939 (*MacIntyre*). *Allotype*, ♀, Baños, altitude 1900 metres, May 11, 1937. *Paratypes*, several ♂♂♀♀, with allotype, altitude 1800–2000 metres, May 25 to June 6, 1936; Santa Rosa, near Baños, altitude 2500 metres, June 3, 1937; El Salado, near Baños, altitude 1900 metres, May 31, 1937; El Salto, near Baños, altitude 2000 metres, June 3, 1937; Pititi, near Baños, altitude 1900 metres, June 7, 1937 (*MacIntyre*).

Tipula flavidula is quite distinct from the other generally similar yellow regional species so far described. The chief distinctive characters lie in the body-coloration, short antennæ, pattern of legs and wings, loss of vein R_{1+2} , and the structure of the small simple male hypopygium.

Tipula coronaria, sp. n.

Belongs to the *glaphyoptera* group; general coloration yellow, with a dark brown longitudinal stripe on the dorsal thoracic pleurites; antennæ (male) relatively long; legs yellow, the femora with a very narrow and ill-defined pale brown ring; wings pale yellow, with a very sparse and vague brown pattern; *Rs* about one-third longer than *m-cu*; male hypopygium with the caudal margin of tergite convexly rounded, with a very small, rounded, median notch.

Male.—Length about 12 mm.; wing 15 mm.; antenna about 4.5 mm.

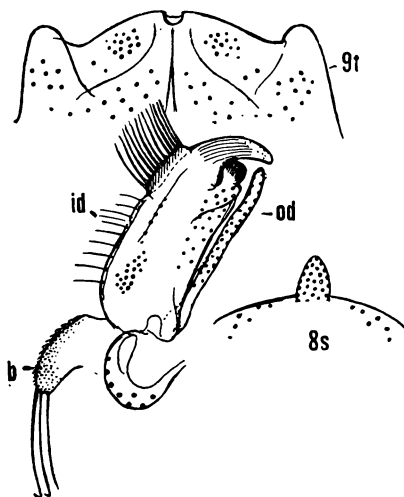
Female.—Length about 13–15 mm.; wing 14.5–15 mm.

Frontal prolongation of head long, pale yellow above, brown on sides; nasus elongate, pale yellow; palpi relatively short, basal three segments pale brown with paler incisures; terminal segment black. Antennæ (male) relatively long, as shown by the measurements; basal three segments yellow; outer segments almost uniformly dark brown; flagellar segments rather strongly incised; verticils shorter than the segments. Head yellow, sparsely white pruinose, postgenæ darker; vertical tubercle relatively low.

Pronotum yellow, with a narrow brown median vitta. Mesonotal præscutum yellow, opaque, with three scarcely differentiated darker yellow stripes, the median one further divided on posterior half by a capillary darker

vitta; scutum pale yellow, the centres of lobes a trifle darker; scutellum and postnotum whitish, each with a capillary median darker brown vitta. Pleura opaque yellow, with a narrow dark brown longitudinal stripe extending from the cervical sclerites across the dorsal pleurites to the wing-root. Halteres pale yellow, relatively elongate. Legs with the coxæ and trochanters yellow; femora yellow, with a very narrow and ill-defined pale brown subterminal ring; remainder of legs yellow, only the terminal tarsal segments a little darkened; claws

Fig. 4.

*Tipula coronaria*, sp. n.

Details of male hypopygium. Symbols: *b*, basistyle; *id*, inner dististyle; *od*, outer dististyle; *s*, sternite; *t*, tergite.

simple. Wings pale yellow, very sparsely and vaguely patterned with darker, including small but darker clouds at mid-length of vein *Sc*, origin of *Rs*, tip of *Sc*₂, and along cord and outer end of cell 1st *M*₂; scarcely indicated dusky clouds in cubital and anal fields; veins yellow, a trifle darker in the clouded areas. Venation: *Rs* about one-third longer than *m-cu*; *R*₁₊₂ entire; cell 2nd *A* of moderate width.

Abdomen yellow, the tergites with a narrow median brown stripe that is slightly interrupted at the incisures;

eighth segment darkened. Male hypopygium relatively small. Ninth tergite (fig. 4, 9t) with the caudal margin evenly convex, with a very small, rounded, median notch; lateral shoulders of tergite conspicuous. Basistyle with the mesal lobe subglobular; ventral lobe, *b*, more elongate, terminating in two or three very long, strong setæ that exceed the lobe in length, their tips curved. Outer dististyle, *od*, slender, pale. Inner dististyle, *id*, bearing a flattened crest on outer margin before apex, this fringed with more than a dozen strong setæ. Eighth sternite, *8s*, with the median lobe small, its length about twice the width; remainder of sternite with very few major setæ.

Hab. Ecuador.

Holotype, ♂, Rio Blanco, near Baños, altitude 1700 metres, October 12, 1938 (*MacIntyre*). *Allotopotype*, ♀, altitude 1600 metres, June 25, 1937. *Paratopotype*, ♀, altitude 1800 metres, October 31, 1938 (*MacIntyre*).

Tipula coronaria somewhat resembles *T. flavidula*, sp. n., but is entirely distinct, especially in the body coloration, pattern of the legs and wings, and in the structure of the male hypopygium.

Tipula runtunensis, sp. n.

Belongs to the *glaphyoptera* group; general coloration yellow, the præscutum with three slightly darker, pale brown stripes; antennæ moderately long, flagellum brownish black, the basal enlargements of the segments a very little darker; wings with a strong yellow tinge, cells *C* and *Sc*, together with the stigma, pale brown; restricted pale brown clouds at origin of *Rs* and along cord; abdomen yellow, the subterminal segments more infuscated; male hypopygium large, tergite produced medially into a flattened lobe that terminates in four points; outer dististyle irregular in conformation; eighth sternite with a simple median liguliform lobe.

Male.—Length about 15 mm.; wing 17 mm.; antenna about 5 mm.

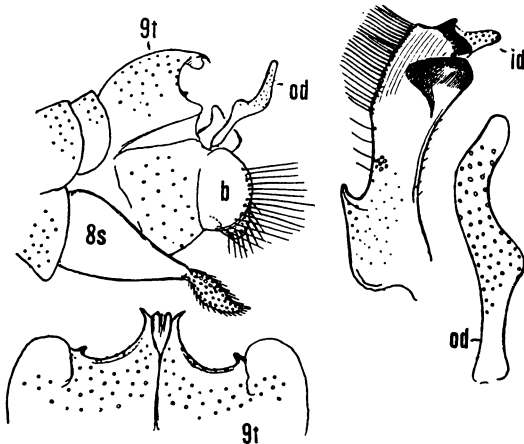
Female.—Length about 17–21 mm.; wing 17–21 mm.

Frontal prolongation of head obscure buffy yellow above, more brownish on sides; nasus very long and slender; palpi brownish black. Antennæ (male) relatively long, as shown by the measurements; scape

yellow, pedicel and first flagellar segment very pale yellow; remainder of flagellum in male brown, the basal enlargements of segments more brownish black, in female, the flagellum more strongly bicoloured; flagellar segments (male) moderately incised; verticils long, subequal in length to the segments; terminal segment very small. Head buffy, with faint indications of a darker median vitta; vertical tubercle low.

Mesonotum yellow, the præscutum with three slightly darker, pale brown stripes that are ill-delimited against the ground; median stripe with a capillary median darkening at cephalic end; posterior sclerites of notum

Fig. 5.



Tipula runtunensis, sp. n.

Details of male hypopygium. Symbols: *b*, basistyle; *id*, inner dististyle; *od*, outer dististyle; *s*, sternite; *t*, tergite.

with a vague, paler brown, median vitta extending from suture to abdomen. Pleura yellow. Halteres with stem yellow, knob pale brown. Legs with coxæ and trochanters yellow; remainder of legs broken. Wings with a strong yellow tinge; cells *C* and *Sc* more infumed; stigma pale brown; pale brown clouds at origin of *Rs* and along cord; small but conspicuous white obliterative areas before stigma and in base of cell 1st *M*₂; veins yellow. The allotype female has the wings clearer and brighter yellow. Venation: *Rs* about twice the length of *m-cu*; *R*₁₊₂ preserved; cell 2nd *A* relatively narrow.

Abdomen yellow, the basal tergites with a very indistinct brown median stripe; subterminal segments more infuscated. Male hypopygium (fig. 5) relatively large; tergite and basistyle separated from the sternite, the latter oval, protuberant, its outer portion provided with very long conspicuous yellow setæ, the ventral portion slightly produced. Ninth tergite, *9t*, with the median area produced caudad, terminating in four points, the lateral ones more acute and divergent; lateral shoulders of tergite relatively conspicuous, provided with abundant delicate setulæ; caudal margin of tergite, just mesad of the lateral lobes, with a small blackened tooth. Outer dististyle, *od*, pale, irregular in conformation, dilated at near mid-length, the distal portion a flattened blade with obtuse tip. Inner dististyle, *id*, with a conspicuous comb of long strong spinous setæ on outer margin of distal third or more. Eighth sternite, *8s*, with a simple median liguliform lobe; surface of sternite without setæ.

Hab. Ecuador.

Holotype, ♂, Runtun, near Baños, altitude 2200 metres, August 1938 (*MacIntyre*). *Allotopotype*, ♀, altitude 3000 metres, January 9, 1939. *Paratypes*, ♂, Mount Tunguragua, altitude 3000 metres, May 12, 1937; ♂, Rio Blanco, near Baños, altitude 1900 metres, June 1937; ♀, Abitagua, Oriente, altitude 1000 metres, November 12, 1936.

Tipula runtunensis is quite distinct from other regional species hitherto made known, although somewhat similar to *T. coronaria*, sp. n., and *T. flavidula*, sp. n., described herewith. The structure of the male hypopygium is distinctive.

Tipula (Microtipula) tunguraguana, sp. n.

General coloration brown, the humeral region and cephalic portion of the præscutum more yellowish; antennæ (male) very long, if bent backward extending about to mid-length of abdomen, the flagellum black; halteres elongate, pale brown; femora black, with a narrow subterminal yellow ring; wings cream-yellow, heavily patterned with brown; R_{1+2} entirely atrophied; *m-cu* at near mid-length of vein M_{3+4} ; abdominal tergites brownish black, the basal sternites a little more yellowish.

Male.—Length about 8 mm. ; wing 9·5 mm. ; antenna about 5·5 mm.

Frontal prolongation of head dark brown ; nasus distinct ; palpi brownish black. Antennæ (male) of unusual length, if bent backward extending about to mid-length of abdomen ; scape, pedicel, and base of first flagellar segment yellow, remainder of antennæ black ; flagellar segments with small basal enlargements ; verticils about one-half the length of the segments. Head brown, the front paler.

Pronotum brown. Mesonotal præscutum chiefly brown on sides and behind, the humeral region more yellowish, the cephalic portion of the intermediate stripes chiefly obscure yellow ; a narrow median dark brown vitta ; posterior sclerites of notum dark brown, the scutellum more yellowish brown. Pleura obscure yellow, variegated with dark brown, especially on propleura, anepisternum, dorsal sternopleurite, meron, and pleurotergite. Halteres elongate, pale brown. Legs with the coxæ and trochanters pale ; femora brownish black, more yellowish basally, with a narrow yellow subterminal ring ; tibiae brownish black, the terminal tarsal segments paler. Wings with the ground-colour cream-yellow, even brighter yellow in the outer radial field, the disk very heavily patterned with brown, involving all cells of wing ; cell *C* almost uniformly pale brown, cell *Sc* a little variegated with darker brown ; a dark postarcular area ; a Y-shaped dark area in cells *R* and *M*, before origin of *Rs* enclosing a small pale spot of the ground-colour at vein *R*, the band continued posteriorly across the more caudal cells, ending in cell 2nd *A* ; a narrow zigzag band of the ground-colour before cord ; basal half of cell *M*₁ pale ; veins brown, paler in the ground areas. Venation : *R*₁₊₂ entirely atrophied ; petiole of cell *M*₁ short, a little longer than *m* ; *m-cu* close to mid-length of *M*₃₊₄.

Basal abdominal tergites brown, succeeding tergites brownish black ; basal sternites a trifle more yellowish ; hypopygium chiefly darkened.

Hab. Ecuador.

Holotype, ♂, Chaupi, Mt. Tunguragua, altitude 3000 metres, August 28, 1936 (*MacIntyre*).

Tipula (*Microtipula*) *tunguraguana* is quite distinct from all other described species of the subgenus, differing

especially in the very long antennæ, coloration of the mesonotum, and the venation, as the position of *m-cu* far before the fork of M_{3+4} .

Tipula (Microtipula) æquitorialis, sp. n.

Size medium (wing, male, over 8 mm.); antennæ approximately one-half the length of body, flagellum black; flagellar segments moderately incised; thorax plumbeous grey, without markings; femora brownish yellow, the tips narrowly blackened; wings subhyaline, cells *C* and *Sc*, with the wing-tip in outer radial field, more strongly infumed; cell M_4 not conspicuously wider at base than at apex; male hypopygium with the outer dististyle short and stout.

Male.—Length about 7.5–8.5 mm.; wing 8–9 mm.; antenna about 3–4.5 mm.

Female.—Length about 9.5 mm.; wing 10 mm.

Frontal prolongation of head brownish black, paler on sides; palpi black. Antennæ with scape dark brown, pedicel obscure yellow, flagellum black; flagellar segments elongate, moderately incised, verticils short. Head light grey on front and orbits, the vertex pale brown; vertical tubercle very low.

Pronotum grey. Mesonotal præscutum with disk plumbeous grey, without distinct stripes, the lateral margins lighter grey; scutum and scutellum plumbeous grey; mediotergite lighter grey. Pleura pale, the anepisternum darker; surface of pleura sparsely pruinose. Halteres brownish black. Legs with the fore and middle coxæ pruinose, posterior pair more yellowish; trochanters yellow; femora brownish yellow, passing into black at tips; tibiæ dark brown, the tips blackened; tarsi black; claws (male) with a very small tooth before mid-length. Wings subhyaline, cells *C* and *Sc*, with the wing-tip in outer radial field, more strongly infumed; stigma oval, dark brown; cord narrowly seamed with brown, especially along the anterior cord; very pale brown washes along outer medial veins and in cephalic portion of cell *R* adjoining vein *R*; veins dark brown. Venation: R_{1+2} atrophied; petiole of cell M_1 about equal to cell; cell M_4 not markedly wider at base than at apex; *m-cu* a little less than one-half as long as distal section of Cu_1 ; cell 2nd *A* a trifle wider than in *amazonica*.

Abdomen with the tergites black, the basal rings of

the intermediate segments narrowly yellow; segment five more extensively yellow; tergites six and seven black, eight and nine reddish; basal sternites yellow, seven and the base of eight more blackened. Male hypopygium with the ninth tergite more shallowly notched than in *amazonica*, the lateral lobes broad, each weakly emarginate at apex. Outer dististyle somewhat shorter and stouter than in *amazonica*.

Hab. Ecuador (Oriente).

Holotype, ♂, Macas, Rio Upano, altitude 1050 metres, January 25, 1939 (*F. Martin Brown*). *Allotype*, ♀, Abitagua, altitude 1200 metres, September 21, 1937 (*MacIntyre*). *Paratypes*, ♂, Jatun Yacu, altitude 700 metres, March 21, 1937; 3 ♂♂, with the allotype, August 20, September 20–21, 1937 (*MacIntyre*).

Tipula (Microtipula) æquatorialis is very closely related to the subgenotype, *T. (M.) amazonica* Alexander, of eastern Brazil, and may prove to represent only a race of the latter. It differs especially in the slightly larger size, length and structure of the antennæ, less heavily patterned wings, and in slight details of venation and structure of the male hypopygium. The Jatun Yacu paratype has the antennæ much shorter than in the holotype, the shortest measurements given above.

Limonia (Peripheroptera) trinigrina, sp. n.

General coloration of mesonotal præscutum golden-yellow, with three black stripes, the anterior ends of which are extensively polished black; femora yellow, the tips rather narrowly dark brown; wings pale yellow, restrictedly patterned with brown, including a seam along cord; stigma chiefly brown; *Sc*₁ a little longer than *Rs*; abdomen dark brown, the posterior borders of segments broadly brownish yellow.

Male.—Length about 6·5 mm.; wing 8·3–9 mm.

Rostrum reddish brown; palpi black. Antennæ black throughout; flagellar segments oval. Head brown; anterior vertex relatively wide, exceeding twice the diameter of scape.

Pronotum reddish brown. Mesonotal præscutum reddish brown, concealed by golden-yellow pollen, the disk with three brown stripes whose anterior ends are extensively polished black, involving almost all of the

lateral pair and about the cephalic half of the broader median vitta; interspaces and posterior half of median stripe more brownish pollinose; scutum with lobes opaque dark brown, the median area more yellow pollinose; scutellum pale, sparsely pollinose; mediotergite with central portion darkened, the sides more reddish. Pleura reddish brown, pollinose, the anepisternum a little darker. Halteres with stem obscure yellow, knob dark brown. Legs with coxæ reddish yellow, the fore pair a trifle more darkened; trochanters obscure yellow; femora yellow, the tips rather narrowly dark brown; tibiæ yellow, the tips narrowly and indistinctly darkened; tarsi pale brown, the outer segments a little darker. Wings with a pale yellow tinge; a restricted brown pattern, including a band along cord; stigma chiefly dark brown, of moderate size only; narrower brown seams at arculus, Sc_2 , and outer end of cell 1st M_2 ; wing-tip rather narrowly and weakly infumed; veins yellowish brown to pale brown, darker in the patterned areas. Venation: Sc_1 ending opposite origin of R_s , Sc_2 some distance from tip, Sc_1 alone a little exceeding R_s ; free tip of Sc_2 about its own length before R_2 ; inner ends of cells R_3 and R_5 in transverse alignment; cell 2nd A narrow, scarcely wider outwardly than at the internal cross-vein.

Abdomen dark brown, the posterior borders of segments broadly obscure brownish yellow; hypopygium, especially the ventral dististyle, dark brown.

Hab. Ecuador.

Holotype, ♂, Baños, altitude 1900 metres, August 7, 1936 (*MacIntyre*). *Paratopotype*, ♂, altitude 2000 metres, August 5, 1936.

Limonia (*Peripheroptera*) *trinigrina* is closest to *L. (P.) angustifasciata* Alexander, of Venezuela, and *L. (P.) subandina* (Alexander), of Argentina, differing in the conspicuous pattern of the præscutum and in the coloration of the legs.

Limonia (*Peripheroptera*) *nearcuata*, sp. n.

General coloration yellow; antennal scape a trifle brightened; head grey, variegated with brown on anterior vertex; præscutum with a polished median

stripe that encloses a restricted black linear mark ; knob of halteres brownish black ; femora obscure yellow, the tips abruptly brownish black ; wings yellow, the wing-tip weakly infumed ; very narrow brown seams at cord and outer end of cell 1st M_2 ; cerci brownish black, very small and slender.

Female.—Length about 7 mm. ; wing 8.3 mm.

Rostrum obscure yellow ; palpi brownish black. Antennæ black, the scape a little more piceous or reddish brown ; flagellar segments oval, the outer ones long-oval. Head grey, the anterior vertex with a dark brown spot, the posterior vertex with a somewhat more extensive paler brown area.

Thorax almost uniformly yellow, the surface pruinose, excepting a broad polished stripe on anterior half, this reddish yellow, enclosing a narrow polished black linear mark ; median area of scutum, scutellum, and cephalic portion of mediotergite more heavily yellow pollinose. Pleura yellow pollinose. Halteres with stem yellow, brighter at base, the knob brownish black. Legs with the coxæ and trochanters yellow ; femora obscure yellow, the tips abruptly brownish black, involving about the distal eighth or ninth of the segment ; tibiæ dark brown, the tips a little darker ; tarsi black. Wings with the ground-colour yellow, the wing-tip from level of distal end of cell 1st M_2 outward weakly infumed ; basal fourth of costal region more saturated yellow ; stigma brown, oval, darker brown at the free tip of Sc_2 and R_2 ; cord and outer end of cell 1st M_2 very narrowly seamed with brown ; veins pale brown. Venation : Sc_1 ending a short distance before origin of R_s , Sc_1 about one-half as long as vein Sc between arculus and Sc_2 ; free tip of Sc_2 before level of R_2 ; inner end of cell R_3 moderately arcuated, of cell 1st M_2 less evidently so ; $m-cu$ at fork of M ; cell 2nd A slightly widened on distal half, a trifle wider than the cell opposite the interanal cross-vein.

Abdomen obscure yellow, the genital segment infuscated. Cerci very small and slender, brownish black.

Hab. Ecuador (Oriente).

Holotype, ♀, Mapoto, altitude 1300 metres, March 1939 (*MacIntyre*).

Limonia (*Peripheroptera*) *nearcuata* is very close to *L. (P.) arcuata* (Alexander), of Peru. It differs in the larger size, pattern of the femora and wings, in the

venational details, and in the very small, slender, brownish-black cerci.

Limonia (Peripheroptera) perdelecta, sp. n.

General coloration polished yellow; thorax unmarked; antennæ black throughout; femora yellow, the tips abruptly blackened, tarsi black; wings subhyaline, the very broad costal border yellow, more narrowly margined behind by brown; wings with long basal petiole; anal field greatly reduced, especially cell *2nd A*, which appears as a microscopic linear strip; abdominal segments yellow, with blackened bases, the outer segments more uniformly blackened.

Female.—Length about 5 mm.; wing 5.8 mm.

Rostrum reddish brown; palpi black. Antennæ black throughout; flagellar segments oval. Head polished brownish yellow, somewhat darker in front.

Thorax uniformly polished yellow, unmarked. Halteres with stem obscure yellow, knob brownish black. Legs with the coxæ and trochanters yellow; femora yellow, the tips abruptly blackened, involving about the outer seventh or eighth; tibiæ obscure yellow, a little darkened at base, the tips blackened; tarsi black. Wings subhyaline, the very broad costal border yellow, more narrowly margined behind by brown, including the interanal cross-vein in the prearcular field, postarcular in base of cell *M*, beyond mid-length of cell *R*, along cord and at wing-tip in outer ends of cells *R*₃ and *R*₅; darker brown spots in cell *Sc* above arculus, at *Sc*₂, free tip of *Sc*₂ and *R*₂; veins brownish yellow, somewhat darker in the infuscated portions. Wings with long basal petiole, greatly restricting the anal field. Venation: *h* very oblique; *Rs* unusually short, less than the arcuated basal section of *R*₄₊₅; *Sc*₁ ending opposite origin of *Rs*, *Sc*₂ at near mid-distance between arculus and origin of *Rs*; free tip of *Sc*₂ erect, far before *R*₂, which is gradually curved into *R*₁; cell *1st M*₂ about as long as vein *M*₁₊₂ beyond it; *m-cu* just beyond fork of *M*; cell *2nd A* virtually lacking, reduced to a microscopic linear strip; cell *1st A* long and relatively narrow.

Abdomen annulated with yellow and black, the segments black basally, the apices broadly yellow; outer segments more uniformly blackened.

Hab. Ecuador.

Holotype, ♂, Balzapamba, altitude 700 metres, June 4, 1938 (*MacIntyre*).

Limonia (*Peripheroptera*) *perdelecta* is an unusually distinct species, readily told from all other described members of the subgenus by the pattern of the wings and by the unusually reduced cell 2nd A.

Austrolimnophila tunguraguensis, sp. n.

Size large (wing, female, 14 mm.); general coloration of præscutum yellow, with three conspicuous dark brown stripes; scutellum yellow; pleura obscure yellow, striped longitudinally with dark brown; halteres elongate, knobs brown; femora and tibiæ brownish yellow, the former with a narrow dark ring before tip; wings yellow, heavily spotted and dotted with brown; *Sc* long, both *Sc*₁ and *Sc*₂ ending beyond fork of *R*₂₊₃₊₄; cell 1st *M*₂ relatively short, with *m-cu* beyond mid-length; cell *M*₁ long, exceeding three times its petiole; abdominal tergites brown, sternites paler brown, the caudal borders of the segments narrowly yellow.

Female.—Length about 12 mm.; wing 14 mm.

Rostrum brown; palpi brownish black. Antennæ with scape and pedicel dark brown, especially the former; flagellum weakly bicoloured, pale brown, the apices of the segments restrictedly paler; flagellar segments elongate. Head light brown.

Pronotum obscure yellow, variegated with brown. Mesonotal præscutum yellow, with three conspicuous dark brown stripes, the humeral region and lateral border similarly infuscated, restricting the ground-colour to the well-delimited posterior interspaces; scutum obscure yellow, each lobe with a conspicuous dark brown area; scutellum yellow, the parascutella more darkened; mediotergite yellow on cephalic portion, the posterior half and sides more infuscated; pleurotergite darkened. Pleura obscure yellow, variegated with two dark brown longitudinal stripes, the more dorsal extending from the cervical region across the anepisternum and dorsal pteropleurite; lower stripe occupying the ventral sternopleurite and meron. Halteres elongate, stem yellow, knob dark brown. Legs with the coxæ brownish yellow, the fore pair darker; trochanters yellow; femora brownish yellow, narrowly darkened immediately before

tips; tibiæ and tarsi obscure yellow, the terminal tarsal segments darker. Wings with the ground-colour pale yellow, with a heavy brown spotted and dotted pattern; major dark areas at arculus, origin of *Rs*, cord, outer end of cell 1st M_2 , R_2 , and fork of M_{1+2} ; numerous smaller brown dots in other cells of wing, sparsest in cell *Sc* and in the costal interspaces beyond cord, tending to be arranged in a single row down centre of cell; veins brown, yellow in the costal interspaces. Venation: *Sc* long, both Sc_1 and Sc_2 ending beyond fork of R_{2+3+4} ; *Rs* long, angulated at origin; cell 1st M_2 relatively short, with *m-cu* beyond mid-length; cell M_1 deep, exceeding three times its petiole.

Abdominal tergites brown; sternites paler brown, the caudal borders of the segments narrowly yellow.

Hab. Ecuador.

Holotype, ♀, Mt. Tunguragua, altitude 2600 metres, April 5, 1939 (*MacIntyre*).

Most similar to *Austrolimnophila merklei* Alexander, of southern Chile and Argentina, differing especially in the venation and pattern of the wings, notably the short cell 1st M_2 and much deeper cell M_1 , with the petiole of the latter correspondingly shortened.

Epiphragma (Epiphragma) filiformis, sp. n.

General coloration dark brown, variegated with paler; antennæ (male) unusually long, without a basal fusion of flagellar segments; scape and pedicel black, first flagellar segment yellow, remainder black, cylindrical, with a conspicuous pale pubescence; halteres elongate, obscure yellow, the base of knob a little darker; femora yellow, with two blackened rings; tips of tibiæ and all tarsi yellow; wings brownish yellow, patterned with brown, including spots in cells *Cu* and 2nd *A*; male hypopygium with tergal lobes unusually broad and sclerotized, separated by a U-shaped notch; interbase with apex narrowed and strongly decurved into a crook; ædeagus narrowed at apex.

Male.—Length about 10 mm.; wing 11.5 mm.; antenna 4.2 mm.

Rostrum and palpi black. Antennæ unusually long for a member of this genus; scape and pedicel black; first flagellar segment light yellow, only a little thicker

than the second, and not a fusion product; succeeding segments black, cylindrical, with a delicate white pubescence and verticils that are shorter than the segments. Head dark.

Mesonotal præscutum chiefly dark brown, the pattern difficult to determine in the unique type, due to the twisted body; posterior sclerites of notum paler, sparsely pruinose. Pleura extensively brownish black to black. Halteres elongate, obscure yellow, the base of knob a little darker. Legs with coxæ yellow, narrowly blackened basally; trochanters yellow; femora yellow, with two blackened rings, one postmedial the second subterminal, subequal in extent to the yellow ring enclosed; yellow apex narrower; tibiæ brownish black, paling to obscure yellow at tips, on one pair of legs (detached, probably the posterior pair) uniformly yellow; tarsi yellow. Wings with the ground-colour brownish yellow, heavily patterned with brown, including complete or partial ocelli at arculus, origin of *Rs*, and anterior cord; dark costal areas small and solid; a series of more or less confluent spots in cell *Cu*; about nine transverse dashes in cell *2nd A*; veins obscure yellow, darker in the clouded portions. Venation: *Sc*₂ longer than *Sc*₁; *m-cu* shortly beyond mid-length of cell *1st M*₂.

Basal abdominal tergites brownish black, the outer segments more blackened basally, slightly paler on outer portions to produce a weak dimidiate effect; hypopygium dark. Male hypopygium with ninth tergite having unusually broad and sclerotized lobes, separated by a deep U-shaped notch. Inner dististyle short. Interbase with apex narrowed and strongly decurved, crook-like. Ædeagus narrowed at apex.

Hab. Ecuador (Oriente).

Holotype, ♂, San Francisco, Rio Pastaza, altitude 1300 metres, October 1, 1938 (*MacIntyre*).

From the other neotropical species having the male antennæ more elongate than usual, including *Epiphragma* (*Epiphragma*) *annulicornis* Alexander (Argentina), *E. (E.) circumdata* Osten-Sacken (Panama-Costa Rica), *E. (E.) gracilicornis* Alexander (Colombia), and *E. (E.) xanthomela* Alexander (Ecuador), the present fly differs especially in the pattern of the wings and structure of the male

hypopygium. Of the above only *annulicornis* and *xanthomela* have a series of brown spots in cell 2nd *A*; in the former the pattern is unusually ocelliform, even the outer costal spots being so formed; the antennæ are annulated yellow and black, while the femora has a single darkened ring; in *xanthomela* the wings and legs are differently patterned.

Shannonomyia sparsipunctata, sp. n.

General coloration grey, the præscutum with three distinct brown stripes; halteres pale throughout; legs obscure yellow, the terminal tarsal segments black; wings yellowish grey, sparsely patterned with brown; cell M_2 open by the atrophy of *m*; abdominal tergites brownish black, sternites brownish yellow to pale brown.

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

Rostrum and palpi black. Antennæ small, black throughout; flagellar verticils elongate. Head light grey; anterior vertex broad.

Pronotum grey. Mesonotal præscutum grey, with three dark brown stripes, the median one entire; posterior sclerites of notum dark brownish grey. Pleura dark grey, the meral region yellowish. Halteres pale throughout. Legs with the fore coxæ brownish grey, remaining coxæ yellow; trochanters yellow; remainder of legs obscure yellow, the terminal tarsal segments black. Wings with the ground-colour of centre of disk yellowish grey, the distal fifth and basal half a little darker; prearcular field and costal region clearer yellow; a restricted dark pattern, including the oval, darker brown stigma and paler brown clouds at origin of *Rs*, cord and fork of M_{3+4} ; veins pale, darker in the clouded areas. Venation: *Sc* relatively long, Sc_1 ending shortly before fork of *Rs*, Sc_2 near its tip; *Rs* relatively long, exceeding twice R_3 , angulated at origin; R_2 before fork of R_{3+4} , subequal to R_{1+2} ; R_{2+3+4} and R_3 subequal; cell M_2 open by atrophy of *m*; *m-cu* nearly half its own length beyond fork of *M*.

Abdominal tergites brownish black; sternites brownish yellow to pale brown; genital shield reddish brown; valves of ovipositor long and slender.

Hab. Ecuador (Oriente).

Holotype, ♀, San Francisco, Rio Pastaza, altitude 1300 metres, October 1, 1938 (*MacIntyre*).

Shannonomyia sparsipunctata differs from the other species of the genus having cell M_2 open (*S. ænigmatica* Alexander, *S. myersiana* Alexander, *S. orophila* Alexander, and *S. triangularis* Alexander) in the conspicuously patterned wings.