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NEW OR LITTLE-KNOWN TIPULIDÆ.

New or little-known Tipulidæ (Diptera).—LXX. Neotropical Species. By CHARLES P. ALEXANDER, Ph.D., F.R.E.S., Massachusetts State College, Amherst, Massachusetts, U.S.A.

THE crane-flies discussed herewith are all from Peru, where they were collected by Messrs. Pedro Paprzycki, J. Adger Smyth, and Felix Woytkowski, to whom my sincere thanks are due for the privilege of retaining the types in my personal collection.

Pectinotipula titicacæ, sp. n.

General coloration grey, the præscutum with four darker grey stripes, the interspaces with conspicuous dark setigerous punctures; flagellum beyond the basal segment uniformly black to brownish black; tips of femora blackened; wings variegated light brown and whitish subhyaline, the latter colour including a broad central stripe that reaches the wing-tip in cell R_5 ; abdominal tergites yellow, trivittate with brown; male hypopygium with the inner dististyles and gonapophyses larger and more complicated than in *argentina*.

Male.—Length about 17 mm.; wing 19 mm.; antenna about 6.5 mm.

Frontal prolongation of head light brown, grey pruinose above; nasus conspicuous; palpi black. Antennæ with proximal three segments yellowish brown; succeeding segments with basal enlargements and branches black, the apical pedicels brown to brownish black; outer segments uniformly black; scape only about one-fourth as long as the first flagellar segment; flagellar branches approximately as long as the segments. Head grey; vertical tubercle scarcely indicated; anterior vertex broad, nearly five times the diameter of scape.

Pronotum grey, with a restricted, dark brown median dash. Mesonotal præscutum with the ground-colour light grey, with

four darker grey stripes, the intermediate pair separated by a capillary bright brown line; lateral stripes with their outer portions still darker; a more or less distinct darkened area in humeral field, best shown from above; setigerous punctures of interspaces conspicuous; posterior sclerites of notum light grey, the scutal lobes variegated by darker grey. Pleura grey, the dorsopleural membrane yellow. Halteres relatively elongate, stem obscure yellow, knob dark brown. Legs with coxæ grey pruinose; trochanters yellow; femora yellow, the tips conspicuously blackened; tibiæ yellowish brown, darkened outwardly; tarsi passing through dark brown to black; claws simple. Wings with the ground-colour light brown, variegated by slightly brown and whitish subhyaline, the latter colour chiefly evident as a central brightening that reaches the wing apex in cell R_5 , further involving the adjoining portions of cells M_1 , 2nd M_2 and M_3 , as well as all of cell 1st M_2 ; basad of the cord the white occurs especially in cells R and M adjoining vein M , and in the bases of both anal cells; prearcular field, cells C and Sc , and stigma uniform brown; the remaining brown colours especially evident in outer radial and medial cells, cell M_1 and outer portions of anal cells; veins brown. Venation: R_{1+2} entire; R_s a little less than twice $m-cu$; cell 1st M_2 relatively long; m shorter than the petiole of cell M_1 .

Abdominal tergites yellow, with three brown stripes that are not well indicated at base of organ, becoming more extensive and evident outwardly, on the subterminal segments being about as extensive as the yellow ground; sternites yellow, with a median brown stripe that is broadly broken at bases of segments; hypopygium yellow. Male hypopygium of the general type of *argentina*, differing in the details. Lateral lobes of ninth tergite shorter. Inner dististyle with the head much larger, including not only a more produced beak but a conspicuous blackened knob on the posterior portion. Gonapophyses larger and more complicated.

Hab. Peru (Puno).

Holotype, ♂, Chucuito, vicinity of Lake Titicaca, altitude about 12,500 feet, February 21, 1939 (*Smyth*).

Pectinotipula titicacæ is well distinguished from the genotype and only other described species, *P. argentina* (van der Wulp), by the diagnostic characters listed, especially the blackened flagellum, wing-pattern and venation, and structure of the male hypopygium. It appears that there are still other

species of the genus to be described, since I have further atermial from the Andes of Argentina and Bolivia.

Tipula (Nephrotomodes) volens, sp. n.

Allied to *spinicauda*; general colouration of mesonotum almost uniform greyish brown; pleura yellow; legs black; wings with a brownish tinge, the costal border darker brown; *m-cu* long; abdomen with a blackened subterminal ring; male hypopygium with the lateral angles of tergite produced into long flattened arms that are slightly expanded at tips, the entire caudal margin of tergite provided with a continuous series of blackened spinous setæ; appendage of eighth sternite an oval setuliferous cushion.

Male.—Length about 15 mm.; wing 16 mm.; antenna about 7.6 mm.

Rostrum brownish yellow; nasus short and stout; palpi brownish yellow. Antennæ (male) relatively long, as shown by the measurements; scape and pedicel yellow, flagellum black, the extreme base of first segment obscure yellow; flagellar segments elongate with poorly indicated basal enlargements; longest verticils unilaterally distributed, shorter than the segments. Head medium brown, the front and narrow orbits yellow; no vertical tubercle; anterior vertex about three times the diameter of scape.

Pronotum obscure brownish yellow. Mesonotum almost uniform greyish brown, the præscutum with the stripes very poorly differentiated, best shown by the posterior portion of the median vitta; humeral region a little more pruinose; pleurotergite yellow, the anapleurotergite with its posterior half more pruinose. Pleura yellow. Halteres with stem reddish brown, knob brownish black. Legs long and slender; coxæ and trochanters yellow; remainder of legs black, the extreme bases of femora yellow; claws with a conspicuous tooth. Wings with a brownish tinge, the stigma, costal field and wing-base all uniformly and continuously darker brown; very vague washes on anterior cord and along vein *Cu*; very restricted oblitative areas before stigma and across cell 1st M_2 , the latter barely encroaching on the adjoining cells; veins brown. No squamal setæ; trichia of veins reduced in number, there being none on *M* or its branches. Venation *Rs* moderately long, about one-fifth longer than the unusually long *m-cu*; R_{1+2} preserved; petiole of cell M_1 a trifle longer than *m*; *m-cu* fully four-fifths the length of distal section of

Cu_1 , cell M_4 thus conspicuously widened at base; cell 2nd A moderately wide.

Abdomen with basal tergites dark brown, the succeeding ones somewhat more reddish brown; sternites yellow; a subterminal black ring; hypopygium yellow. Male hypopygium generally as in *spinicauda* but differing in all details. Ninth tergite transverse, each lateral angle produced caudad into a long flattened arm, this gently widened or expanded at apex; the caudal border of tergite thus appears as a very broad U-shaped emargination, narrowed to a linear incision at the mid-point, the entire margin provided with blackened spinous setæ, the total number exceeding fifty to either side; ventral armature of tergite a relatively short median club, its apex densely set with blackened spinous points. Inner dististyle with the rostrum unusually long and slender, a direct prolongation of the dorsal margin of style. Gonapophyses appearing as slender, pale rods, shorter than the ædeagus. Appendage of eighth sternite an oval setuliferous cushion or lobe, its edge at near mid-length produced into two slender setuliferous fingerlike lobules.

Hab. Peru (Huanuco).

Holotype, ♂, Afilador, altitude 670 metres, in jungle, May 4, 1937 (Woytkowski).

The closest described relative of the present fly is *Tipula* (*Nephrotomodes*) *spinicauda* Alexander, of Panama, which differs especially in the details of structure of the male hypopygium. In this fly, the tergal arms are narrowed gradually to subacute points, while the appendage of the eighth sternite is a deeply bilobed structure, each long-oval flattened lobe produced into a long, slender, glabrous rod, the apex of which bears several microscopic points.

(*Tipula* (*Nephrotomodes*) *insolabilis*, sp. n.

Size small (wing, male, about 8 mm.); general coloration of head and thorax light grey; wings with a weak brownish tinge, conspicuously patterned with dark brown, especially along the costal border to the wing-tip in the outer radial field; vein R_{1+2} entirely atrophied; cell 2nd A very narrow; abdominal tergites chiefly blackened, sternites yellow; male hypopygium with the caudal margin of tergite with a U-shaped notch; dististyles simple, the inner style beyond mid-length bent at a right angle into a long slender beak; appendage of ninth sternite entirely pale, bilobed; eighth sternite unarmed;

ovipositor with cerci unusually small, appearing as oval lobes.

Male.—Length about 8 mm. ; wing 8 mm. ; antenna about 4.5 mm.

Female.—Length about 12 mm. ; wing 11.5 mm.

Frontal prolongation of head brownish yellow, darker above and at apex ; nasus lacking ; palpi dark brown. Antennæ (male) elongate ; scape and pedicel yellowish brown, flagellum black ; flagellar segments elongate, moderately incised, the longest verticils much shorter than the segments. In female, antennæ shorter, weakly bicoloured, the flagellar segments black with pale apices. Head light grey ; anterior vertex wide in both sexes, without tubercle.

Pronotum and mesonotum light grey, the præscutum with four darker, more leaden grey stripes that are poorly defined against the ground, more or less confluent behind ; scutal lobes somewhat similarly darkened. Pleura light grey, slightly darker on anepisternum and ventral sternopleurite ; dorsopleural region slightly more buffy. Halteres with knob blackened, the stem paler. Legs with the coxæ grey ; trochanters obscure yellow basally, passing into brown, the tips very narrowly still darker ; tibiæ yellowish brown, the tips narrowly darkened ; basal segments of tarsi pale brown, the outer segments blackened ; claws simple. Wings with a weak brownish tinge, conspicuously patterned with dark brown, including the prearcular field, cells *C* and *Sc*, and the stigma ; outer radial cells extensively clouded with somewhat paler brown ; cord very narrowly and insensibly seamed with brown ; veins dark brown. Squama without setæ. Venation R_{1+2} entirely atrophied ; *Rs* slightly longer than *m-cu*, arcuated at origin ; petiole of cell M_1 a trifle longer than *m* ; cell 2nd *A* very narrow.

Abdominal tergites (male) chiefly black, the second segment restrictedly more reddened at mid-length, the third similarly coloured at base ; subterminal segments uniformly blackened to form a ring ; sternites and hypopygium yellow ; in female, tergites reddish brown medially, conspicuously blackened laterally, the sixth and seventh tergites uniformly black ; basal sternites and ovipositor orange-yellow, the intermediate sternites darker. Ovipositor with valves exceedingly short and fleshy, the cerci reduced to small oval lobes. Male hypopygium (fig. 1) with the ninth tergite, 9*t*, relatively large, the caudal margin with a broad U-shaped notch ; lateral lobes moderately obtuse, the outer margins with very long setæ, the mesal

edges of the lobes with much shorter but abundant bristles. Basistyle, *b*, on mesal face with a blackened oval lobe set with abundant tubercles. Dististyles, *d*, of very simple structure,

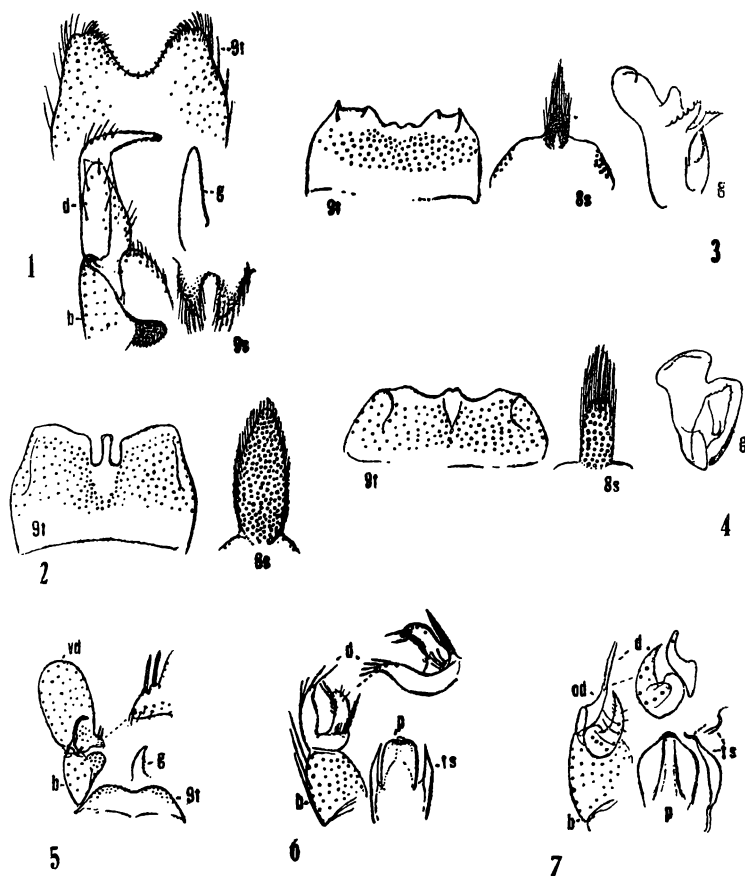


Fig. 1.—*Tipula (Nephrotomodes) insolabilis*, sp. n.; male hypopygium.

Fig. 2.—*Tipula mediodentata*, sp. n.; male hypopygium.

Fig. 3.—*Tipula callothrix*, sp. n.; male hypopygium.

Fig. 4.—*Tipula callisto*, sp. n.; male hypopygium.

Fig. 5.—*Limonia (Geranomyia) tulumayensis*, sp. n.; male hypopygium.

Fig. 6.—*Neognophomyia paprzyckiana*, sp. n.; male hypopygium.

Fig. 7.—*Neognophomyia bisetosa*, sp. n.; male hypopygium.

(Symbols: *b*, basistyle; *d*, dististyle; *g*, gonapophysis; *od*, outer dististyle; *p*, phallosome; *s*, sternite; *t*, tergite; *ts*, tergal spine; *vd*, ventral dististyle.)

the outer a somewhat flattened lobe. Inner style with basal portion greatly flattened, covered with abundant setulæ and

fewer strong bristles and setæ; beyond mid-length narrowed and bent at a right angle into a long slender beak. Gonapophyses, *g*, appearing as simple flattened pale blades, their tips narrowly obtuse. Ninth sternite with its appendage, *9s*, consisting of two pendant entirely pale lobes provided with abundant, very long pale setæ. Eighth sternite transverse, its caudal margin truncate or virtually so, without armature.

Hab. Peru (Huanuco).

Holotype, ♂, Afilador, altitude 670 metres, in jungle, June 15, 1937 (*Woytkowski*). *Allotopotype*, ♀, with the type.

A very distinct species that seems closest to *Tipula* (*Nephrotomodes*) *perangustula* Alexander, despite the loss of vein R_{1+2} in the present fly. The details of coloration and structure of the male hypopygium are entirely distinct in the two flies.

Tipula perjovialis, sp. n.

Belongs to the *glaphyroptera* group; allied to *unistriata*; antennal flagellum strongly bicoloured; mesonotum grey, the præscutum with four brown stripes; legs yellow, the femora with a brown subterminal ring; tibiæ narrowly but conspicuously tipped with black; wings unusually variegated with brownish yellow, pale brown, dark brown and whitish subhyaline, the latter forming two conspicuous longitudinal stripes, the more cephalic of which extends the entire length of the wing; outer radial field brownish yellow, separated from the white central stripe by a dark brown border along vein R_{4+5} .

Female.—Length about 24 mm.; wing 19 mm.

Frontal prolongation of head obscure buffy yellow above, darker on sides; nasus long and slender; palpi black. Antennæ strongly bicoloured; basal three segments yellow to greenish yellow; succeeding segments bicoloured, the basal enlargements black, the apices more extensively yellow; terminal segments entirely black. Head buffy grey, more infuscated on sides behind; vertical tubercle low, entire.

Pronotum buffy grey, with a narrow median brown line. Mesonotal præscutum grey, with four brown stripes, the intermediate pair contiguous or virtually so, separated by a more or less distinct capillary black median vitta; cephalic portions of intermediate stripes paling to grey; lateral stripes crossing the suture on to the cephalic portions of the scutal lobes, the centres of the latter more extensively but less heavily infuscated; posterior sclerites of notum buffy, with a broad

continuous median stripe extending from the suture to the abdomen; mediotergite with a greyish area on either side of the caudal border. Pleura buffy, variegated with grey, especially distinct on the ventral sternopleurite, ventral meron, and anepisternum. Halteres with stem greenish yellow, knob weakly darkened. Legs with coxæ buffy yellow; trochanters yellow; femora yellow with a brown subterminal ring that is much more extensive than the yellow tip, the darkened ring of posterior femur somewhat paler; tibiæ pale yellow, the tips rather narrowly but conspicuously blackened; tarsi yellow, the tips of the proximal four segments very narrowly darkened; terminal segment blackened. Wings chiefly traversed by two longitudinal whitish subhyaline stripes, the more cephalic one beginning at arculus, reaching the wing-tip, including most of cells *R*, *M* and *R*₁, all of 1st *M*₂, most of *R*₅, and the broad bases of cells *M*₁, 2nd *M*₂, and *M*₃, the stripe bordered in front by a very conspicuous brownish-black line along vein *R*₄₊₅, beginning at cord and extending to margin at end of vein *R*₃, somewhat paler at its distal end; the major pale stripe above described is further bordered by a narrow line along the cephalic border of cell *R*, extending to the origin of *R*₅, and posteriorly by a broad seam in the posterior half of cell *M* adjoining vein *Cu*, this becoming more intense and widened toward the cord, at near two-thirds the length of cell *M* sending a wash across the cell, more or less interrupting the white band; beyond the cord the dark band occupies most of the outer medial cells, which are variegated by paler centres and especially by a major white spot in each cell; a second longitudinal white stripe extends from the axillary region across mid-length of cell 2nd *A*, basal half of 1st *A*, and thence to margin in cell *Cu*, occupying more than the distal half of the latter; posterior borders of anal cells infuscated but variegated by pale streaks; prearcular field yellow; cells *C*, *Sc*, and outer radial field, with the stigma, pale brownish yellow, contrasting conspicuously with the darkened streaks behind; veins yellow, slightly darker in the clouded portions. Venation *R*₁₊₂ entire; cell *M*₁ about twice its petiole; *m-cu* on *M*₄ shortly beyond origin of latter.

Abdomen obscure yellow, the basal tergites with three distinct dark stripes that become obsolete beyond the second segment; caudal borders of segments narrowly pale; abdomen with long conspicuous pale setæ. Ovipositor with cerci long and slender, dark brown, only gently upcurved.

Hab. Peru (Ayacucho).

Holotype, ♀, Yanamonte, La Mar, in fog forests, altitude 3000–4100 metres, October 1, 1941 (*Woytkowski*).

Tipula perjovialis is apparently most closely related to *T. unistriata* Alexander and a few nearly allied species, differing very conspicuously in the wing-pattern, which is more highly contrasted than in any other Tropical American species of the genus so far described.

Tipula semivulpina, sp. n.

Belongs to the *glaphyroptera* group; allied to *runtunensis*; general coloration yellow, scarcely patterned with darker; antennæ very strongly bicoloured; fore femora conspicuously infuscated, the tip yellow, enclosing a brown subterminal ring; wings strongly tinted with yellow, unpatterned; abdominal tergites yellow, with a more or less distinct brown median tergal stripe.

Female.—Length about 21 mm.; wing 17.5 mm.

Frontal prolongation of head obscure yellow above, abruptly blackened on sides, only slightly paler on ventral surface; nasus long and slender; palpi brownish black. Antennæ conspicuously bicoloured; basal three segments uniformly yellow, the succeeding segments with the basal enlargement darkened, the remainder yellow; longest verticils unilaterally arranged, much exceeding the segments in length; first flagellar segment subequal in length to the succeeding two combined. Head buffy yellow, feebly darkened on sides of posterior vertex; vertical tubercle low and entire.

Pronotum obscure yellow, faintly patterned with brown. Mesonotum yellow, the præscutum and scutum scarcely patterned with darker. Pleura uniform pale yellow to brownish yellow. Halteres yellow, the knobs more intensively darkened. Legs with the coxæ and trochanters yellow; fore femora strongly infuscated, the distal fourth yellow, enclosing a narrow brown subterminal ring that is a little more extensive than the pale tip; posterior femora more brownish yellow but patterned, as are the other legs; tibiæ and tarsi obscure yellow, the terminal tarsal segments blackened. Wings strongly tinted with yellow, unpatterned except for the more saturated yellow prearcular and costal fields, the stigma concolourous; vague dusky cloudings in outer ends of anal cells and base of *Cu*; a hyaline droplet in centre of cell 1st M_2 ; veins pale yellow. Venation: R_{1+2} entire; R_s nearly twice $m-cu$; petiole of cell M_1 , a little longer than m .

Abdominal tergites yellow, the central portion more darkened to form a median stripe that is darker coloured and more concentrated on the outer segments; outer sternites somewhat similarly darkened; ovipositor with the elongate cerci reddish-horn colour.

Hab. Peru (Ayacucho).

Holotype, ♀, Yanamonte, La Mar, in fog forests, altitude 3000–4100 metres, September 2, 1941 (*Woytkowski*).

Tipula semivulpina is closest to *T. runtunensis* Alexander, of Ecuador, differing especially in the details of coloration. I am now uncertain that the female assigned to *runtunensis* in the original description actually belongs there. The strongly bicoloured antennæ of the present fly are very different from those of the male sex of *runtunensis*.

Tipula mediodentata, sp. n.

Belongs to the *monilifera* group; size large (wing 20 mm. or more); general coloration of mesonotum light grey to brownish grey, contrasting with the yellow pleura and pleurotergite; antennæ (male) relatively short, less than one-half the length of wing, the flagellar segments abruptly nodulose; wings fulvous brown, only slightly patterned with darker brown and more yellow areas; abdominal tergites yellow, narrowly trivittate with dark brown; male hypopygium with the ninth tergite large, notched medially and with a conspicuous median lobe from the base of this notch; lobe of eighth sternite long but broad, provided with numerous strong setæ.

Male.—Length 19–20 mm.; wing 20–22 mm.; antenna about 9–9.5 mm.

Female.—Length about 22–25 mm.; wing 21–24 mm.

Frontal prolongation of head above reddish brown, narrowly darkened on sides; nasus elongate; palpi black. Antennæ (male) unusually short for a member of the group, less than one-half the length of wing; scape, pedicel and first flagellar segment yellow, succeeding four or five segments yellow, with the very abrupt basal swelling black; outer segments with the pedicel passing through dark brown to black on the outer segments; verticils long and conspicuous. In female, antennæ short, the flagellar segments simple; basal four segments yellow, succeeding segments bicoloured, the outer ones uniformly blackened. Head above reddish brown, grey pruinose; a brown median streak on vertex.

Pronotum brownish grey behind, with a dark brown median line. Mesonotal præscutum light grey to brownish grey, with four darker brownish-grey stripes, together with an entire median brown vitta; interspaces more fulvous, with conspicuous black setigerous punctures; in cases, the interspaces are clear grey immediately before the suture; scutum clear grey, each lobe with darker brownish-grey areas; scutellum and postnotum grey, with a median brown vitta that is virtually continuous for the entire length of mesonotum; pleurotergite more reddish yellow, sparsely grey pruinose, more heavily so on the katapleurotergite. Pleura yellow, more or less pruinose, more heavily so in front; dorsopleural membrane more buffy yellow. Halteres with stem yellow, knob infuscated. Legs with coxæ and trochanters brownish yellow, sparsely pruinose; femora reddish brown, with a relatively narrow black subterminal ring; tibiæ and basitarsi somewhat darker brown, the outer tarsal segments passing into black; claws simple. Wings with a strong fulvous brown tinge, only slightly patterned with darker brown and more yellowish areas; the darker brown includes the stigma and a small spot at origin of *Rs*; paler brown washes in outer portions of cells *R*₂ and *R*₃, on outer half of *M* and on basal portion of *Cu*, the two latter areas subtended by clearer yellow markings; cell 1st *A* vaguely streaked with pale brown and yellow; veins beyond cord and 2nd *A* very narrowly but evidently seamed with brown; veins brown. Venation *Rs* about twice *m-cu*; petiole of cell *M*₁ usually subequal to *m*.

Abdominal tergites yellow, narrowly trivittate with dark brown, the stripes interrupted by pale caudal borders of the segments; lateral tergal borders narrowly pale; sternites chiefly yellow, on outer segments the dark colour more extensive, forming a subterminal ring; hypopygium yellow. Ovipositor with cerci long and straight. Male hypopygium with the ninth tergite (fig. 2, 9*t*) extensive, the lateral lobes broad, obliquely truncated; a deep double median notch from the base of which arises a slender median tooth or lobe, its apex broadly obtuse; tergal setæ abundant but pale and inconspicuous. Inner dististyle with setæ of outer margin abundant but relatively small and weak, especially those of basal half. Lobe of eighth sternite (fig. 2, 8*s*) long but broadly flattened, widest on about the basal two-thirds, thence narrowed to the obtuse tip, covered with numerous strong reddish setæ; greatest width of lobe more than one-third the length.

Hab. Peru (Ayacucho).

Holotype, ♂, Yanamonte, La Mar, in fog forests, altitude 3000–4100 metres, August 26, 1941 (*Woytkowski*). *Allotopotype*, ♀, pinned with type. *Paratopotypes*, 7 ♂♀, July 20–September 10, 1941.

Readily told by the large size, relatively short antennæ of male, coloration of thorax and wings, and especially the structure of the male hypopygium, notably the ninth tergite. The character of a median lobe or tooth on the ninth tergite is very uncommon in the *monilifera* group, being found in the otherwise very different *Tipula stenoglossa* Alexander and *T. woytkowskiana* Alexander, both from Peru.

Tipula stenoglossa propitia, subsp. n.

Similar to typical *stenoglossa* Alexander (Peru : Huanuco), differing especially in the larger size, different wing-pattern, and slight differences in the male hypopygium.

Male.—Length about 17–18 mm.; wing 19–20 mm.; antenna about 10.5–11 mm.

Pale wing-pattern much more distinct than in the typical form, especially the post-stigmal area which extends from costa across the subbasal portions of the outer radial cells, crossing cell 1st M_2 into extreme bases of cells M_3 and M_4 ; the zigzag white area at near two-thirds the length of cell M conspicuous; a more or less distinct whitening in distal end of cell R_5 . General structure of hypopygium as in the typical form, including the ninth tergite and lobe of the eighth sternite. Ninth tergite with lateral lobes narrower and more prominent; median lobe more slender, more or less notched at apex. Outer dististyle longer and more slender, more distinctly clavate, with shorter apical setæ.

Hab. Peru (Ayacucho).

Holotype, ♂, Yanamonte, La Mar, in fog forests, altitude 3000–4100 metres, September 2, 1941 (*Woytkowski*). *Paratopotype*, ♂, September 3, 1941.

Tipula callithrix, sp. n.

Belongs to the *monilifera* group; general coloration of notum brown, the præscutum with four brown stripes and an additional capillary median vitta; interspaces more yellow pollinose, with conspicuous dark setigerous punctures; antennæ (male) elongate, the outer portion of each flagellar segment weakly dilated; halteres yellow; femora pale brown, the tips black, preceded by a narrow, obscure yellow ring; wings whitish subhyaline, heavily patterned with brown; a

complete white crossband beyond cord ; outer cells of wing with numerous macrotrichia ; basal abdominal segments yellow, narrowly darkened on sides, the outer segments more darkened ; median lobe of eighth sternite small, about twice as long as wide at base, with conspicuous setæ.

Male.—Length about 13 mm. ; wing 15.5 mm. ; antenna about 11 mm.

Female.—Length about 16–17 mm. ; wing 16–18 mm.

Frontal prolongation of head yellowish brown to brown above, darker on sides ; no nasus ; palpi black. Antennæ (male) elongate, approximately two-thirds the length of wing ; scape and pedicel yellow ; basal flagellar segment yellow at base, infuscated on distal half, remainder of flagellum black ; flagellar segments with abrupt basal enlargements, as normal for the group, the distal portion of stem further dilated into a longer but lower swelling ; verticils elongate, all basal in position except one on outer face at near mid-length. In female, antennæ short, the proximal six or seven segments clear light yellow, the outer ones infuscated ; segments simple, gradually decreasing in size outwardly, with conspicuous verticils. Head buffy, with a more or less defined median brown dash that becomes obsolete before the occiput ; sides of vertex behind eyes similarly infuscated.

Pronotum obscure brownish yellow, darker laterally. Mesonotal præscutum with the ground golden yellow, with four brown stripes and an additional capillary median vitta, the cephalic third or less of sclerite paling to brownish grey ; intermediate stripes confluent into a solid mass on posterior half of sclerite ; interspaces with sparse but conspicuous setigerous punctures ; scutum chiefly dark brown, the median area paler ; scutellum greyish yellow, parascutella brownish black ; postnotum dark brown, with conspicuous erect setæ. Pleura with the ventral sclerites obscure yellow, the dorsal region with a broad, conspicuous, brownish-black longitudinal stripe extending from the cervical region to beneath the wing-root, the dorsopleural membrane abruptly yellow ; ventral sternopleurite weakly infuscated. Halteres pale yellow. Legs with the coxæ obscure yellow ; trochanters yellow ; femora pale brown, the tips black, preceded by a narrower obscure yellow ring ; tibiæ and tarsi black ; claws (male) with weak basal points but scarcely toothed. Wings with the ground-colour whitish subhyaline, heavily and handsomely patterned with brown clouds, involving all the cells and forming a contrasting picture ; largest dark areas

at near mid-length of wing in cells *R* and *M* ; extensive but less conspicuous areas in cells beyond cord and on basal third of wing ; cell *C* yellow, except for narrow brown areas at base and apex ; cell *Sc* with four conspicuous brown areas, the interspaces yellow ; stigma oval, dark brown, confluent with the darkened mass at and before cord ; the white ground includes a narrow but complete crossband beyond cord, very extensive areas on basal third of wing, and smaller, slightly more yellowish ones, in outer cells of wing ; prearcular field variegated white and brown ; veins brown, more yellowish brown in the brightened costal portions. Conspicuous and abundant macrotrichia in all apical cells from *R*₃ to *M*₄, inclusive. Venation : tip of *R*₁₊₂ very pale to atrophied ; petiole of cell *M*₁ subequal to or longer than *m* ; cell 1st *M*₂ short to moderate in length.

Abdominal tergites yellow, with distinct brown pattern on sides of segments two to four, this colour becoming obsolete behind ; terminal segments darker ; sternites yellow ; hypopygium brownish yellow. Male hypopygium (fig. 3) with the tergite, 9*t*, transverse, its caudal margin variously lobed, including two very low obtuse submedian lobes and more conspicuous subcarinate sublateral and lateral ones. Outer dististyle elongate, a little enlarged on distal portion. Inner dististyle with a high dorsal crest on outer third only, opposite the subapical beak ; setæ of style long and abundant but not forming an even row as in some species. Gonapophyses, *g*, with the inner lobes having their margins conspicuously spinulose. Eighth sternite, 8*s*, with a small lobe, about twice as long as wide at base, provided with conspicuous setæ.

Hab. Peru (Ayacucho).

Holotype, ♂, Yanomonte, La Mar, in fog forests, altitude 3000–4100 metres, September 2, 1941. *Allotopotype*, ♀, September 8, 1941. *Paratopotypes*, 3 ♀♀, September 7–October 2, 1941.

This species and the next to be described are readily told from all other members of the *monilifera* group by the lack of a nasus and presence of macrotrichia in outer cells of wing. They are readily told between themselves by characters given under the second species.

Tipula callisto, sp. n.

Belongs to the *monilifera* group ; allied to *callithrix* ; mesonotum with cephalic half of præscutum, scutellum and postnotum, together with the pronotum, golden yellow pollinose,

the posterior half of præscutum and the scutum abruptly dark brown; nasus lacking; antennæ (male) about one-half the length of wing; flagellar segments with the abrupt basal enlargement as in the group, with an additional outer swelling, somewhat as in *callithrix* halteres yellow; femora chiefly blackened, with a narrow yellow subterminal ring; wings whitish subhyaline, conspicuously patterned with dark and paler brown; a complete white crossband beyond cord; sparse macrotrichia in outer ends of cells R_3 to M_1 , inclusive; abdomen yellow, the sublateral portions of tergites infuscated; outer four segments of male abdomen blackened; male hypopygium with the tergite transverse, with two low submedian teeth; gonapophyses with a single undivided lateral plate, the margins toothed.

Male.—Length about 13–14 mm.; wing 14–16 mm.; antenna about 7.5–8 mm.

Female.—Length about 15–18 mm.; wing 15–18 mm.

Frontal prolongation of head relatively long, subequal to the remainder of head, yellow above, infuscated on sides beneath; nasus lacking; palpi black. Antennæ (male) relatively long, about one-half the length of wing; scape and pedicel yellow; first flagellar segment brownish yellow, narrowly infuscated at apex; remainder of antennæ black; flagellar segments shorter than in *callithrix*, more deeply incised, the distal enlargement of the segments being much better developed, causing the segments to appear more notched than in *callithrix*; a powerful isolated seta on outer face of segment at near mid-length. In female, the proximal four or five segments yellow, the succeeding one or two weakly bicoloured, with darker bases, the outer segments uniform brownish black; antennæ short, the segments simple; first flagellar segment more than twice the length of the second and much stouter. Head reddish brown, yellow pollinose, heaviest on orbits and mid-line.

Pronotum reddish yellow, yellow pollinose. Mesonotal præscutum with cephalic half reddish yellow, conspicuously yellow pollinose except at sides, the posterior half and the scutum abruptly dark brown to produce a dimidiate appearance; on the præscutum, indications of a pale brownish-grey median stripe on the yellow anterior portion; scutellum and postnotum reddish yellow, conspicuously golden yellow pollinose. Pleura similarly heavy yellow pollinose over a reddish ground; indications of a weak reddish-brown longitudinal

stripe from the cervical region to beneath the wing-root. Halteres uniformly yellow. Legs with coxæ yellow, yellowish grey pollinose; trochanters yellow; femora restrictedly obscure yellow basally, passing into black, with a narrow but conspicuous yellow subterminal ring, this narrower than the blackened tips on all legs; tibiæ and tarsi black; claws (male) with a very weak denticle at near proximal third. Wings with the ground-colour whitish subhyaline, with a dark and pale brown pattern arranged much as in *callithrix*, including a complete white band beyond cord; dark colour of basal third of wing usually more extensive. Macrotrichia of outer cells of wing much more restricted, especially in female, occasionally lacking; in most cases occurring in extreme outer ends of cells R_3 to M_1 , inclusive, with occasional scattered trichia in cell 2nd M_2 in some specimens. Venation: Tip of R_{1+2} pale to atrophied, in cases including most of the vein; petiole of cell M_1 shorter than m .

Abdominal tergites yellow, patterned sublaterally with brown, this becoming more extensive on outer segments, reaching the lateral border at proximal end of segment; segments six to nine, inclusive, of male black; basal tergite more pruinose. Male hypopygium (fig. 4) with the tergite, 9t, transverse, the caudal border shallowly emarginate on either side of two submedian blunt teeth. Basistyle with lobe short, blackened. Ninth sternite with lobe elongate, densely setuliferous. Gonapophyses, g , broadly flattened, with a single undivided triangular plate that is toothed on margin. Eighth sternite, 8s, with the median lobe short, about twice as long as wide, provided with long coarse setæ.

Hab. Peru (Ayacucho).

Holotype, ♂, Yanamonte, La Mar, in fog forests, altitude 3000–4100 metres, September 25, 1941 (*Wotykowski*). *Allotopotype*, ♀, September 21, 1941. *Paratopotypes*, 2 ♂♂, several ♀♀, September 3–October 5, 1941.

The only close ally of the present fly is *Tipula callithrix*, sp. n., which differs conspicuously in the coloration of the thorax, the structure of the male antennæ and in the hypopygium. The macrotrichia in the outer cells of wing are invariably much fewer and more restricted in area in the present fly. The two species are quite isolated from other members of the group in the distal dilation of the flagellar segments of the male, lack of a nasus, and presence of macrotrichia in outer cells of wing.

Limonia (Neolimnobia) excelsior, sp. n.

General coloration of mesonotum brownish black, the præscutum with more brownish-yellow stripes on cephalic two-thirds; rostrum black; basal flagellar segments bicoloured, yellow at base, the apex of each broadly dark brown; femora yellow, with three clearly delimited brownish-black rings; wings very pale yellow, with an unusually abundant reticulated brown pattern that leaves no clear crossbands on any portion; *Rs* relatively long, subequal in length to cell 1st M_2 ; abdominal tergites dark brown, the basal segment more greenish yellow.

Female.—Length about 8 mm.; wing 9.5 mm.

Rostrum and palpi black. Antennæ with scape light yellow, pedicel and basal four or five segments of flagellum bicoloured, narrowly yellow at base, dark brown at apex, the amount of yellow decreasing on outer segments; distal segments uniformly blackened; basal flagellar segments with very short pale apical necks; segments long-oval, the terminal one equal in size to the penultimate. Head greyish brown, the centre of the vertex somewhat more infuscated; anterior vertex (female) relatively narrow, about one-half wider than the diameter of scape.

Pronotum obscure yellow medially, somewhat darker on sides. Mesonotal præscutum with brownish-yellow stripes on the cephalic two-thirds of sclerite, the interspaces and posterior third brownish black; humeral region obscure yellow, behind which is a brownish-black area, following which, again, is a yellowish pollinose mark; central region of scutum and base of scutellum yellowish grey pruinose, the remainder blackened; mediotergite blackened, the pleurotergite more brownish black, the suture between the two paler. Pleura chiefly brownish black, the propleura and dorsopleural membrane more greenish yellow. Halteres with stem greenish white, the knob deeper green. Legs with the fore coxæ dark brown, the other coxæ yellow; trochanters yellow; femora yellow, with three clearly delimited brownish-black rings, the most basal one narrowest, placed before mid-length of segment; outer dark rings subequal to the intervening yellow annulus and slightly more extensive than the yellow tip; tibiæ obscure yellow with a very narrow but conspicuous dark brown ring just beyond base; proximal segments of tarsi obscure yellow, the outer ones black. Wings with the ground-colour very pale yellow, the prearcular and costal fields somewhat more

saturated yellow; an unusually heavy and abundant reticulated brown pattern involving all the cells, with larger areas at near one-third the length of cell *R*, mid-length of cell *M* and over the anterior cord; no pale crossbands anywhere on disk, the spaces being occupied by these abundant transverse markings; as an example of abundance of these, cell *M* has about ten such narrow areas in addition to the central mass; margin of cell 1st *A* with four or five such areas; veins brown, paler in the interspaces. Venation: *Sc*₁ ending just before origin of *Rs*, *Sc*₁ alone about four-fifths as long as *Rs*, the latter relatively long, about equal to cell 1st *M*₂; supernumerary cross-vein in cell *R*₃ at near two-thirds the length of cell; cell 1st *M*₂ subequal in length to distal section of *M*₁₊₂; *m-cu* at fork of *M*; cell 2nd *A* not conspicuously widened opposite the anal angle.

Abdominal tergites dark brown, the basal segment more greenish yellow, the outer lateral angles of the outer tergites slightly paler; sternites chiefly yellow, especially the outer segments, the bases and lateral portions more infuscated; genital shield brown. Ovipositor with cerci long and slender, gently upcurved, horn-coloured.

Hab. Peru (Huanuco).

Holotype, ♂, Piedras Grandes, altitude 3000 metres, November 29, 1937 (*Woytkowski*).

Limonia (*Neolimnobia*) *excelsior* is very different from the other known members of the subgenus. In the nature of the leg-pattern it is closest to species such as *L. (N.) tricineta* (Alexander), likewise from Peru, but in the very abundantly reticulated wing-pattern it more suggests species such as *L. (N.) anthracopoda* Alexander, of south-eastern Brazil.

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

General coloration black, the surface sparsely yellow pollinose or grey pruinose, the latter heaviest on the pleura; knobs of halteres blackened; legs black, only the femoral bases restrictedly yellow; wings pale yellow, the broad prearcular field clear light yellow; a broad, conspicuous brown seam over the cord; outer end of cell 1st *M*₂ very slightly darkened; wing-apex slightly darker than the central portion of disk; free tip of *Sc*₂ more than its own length before the level of *R*₂; inner ends of cells *R*₃, *R*₅ and 1st *M*₂ in transverse alignment; abdominal tergites dark, with a brown median stripe.

Male.—Length about 7 mm. ; wing 10 mm.

Rostrum and palpi black. Antennæ black throughout ; first flagellar segment short-oval, with short basal pedicel ; succeeding segments passing through oval to elongate-oval ; terminal segment exceeding the penultimate. Head black, the surface subopaque by a very sparse yellow pollen.

Pronotum black, sparsely pruinose. Mesonotal præscutum almost covered by three subnitidous black stripes, the restricted interspaces and sublateral portions sparsely yellow pollinose ; lateral præscutal borders again blackened ; posterior sclerites of notum black, the central region of scutum and base of scutellum heavily yellow pollinose, the remainder of scutellum and postnotum less heavily so. Pleura black, conspicuously grey pruinose, especially on the posterior half ; dorsopleural membrane darkened. Halteres with stem yellow, knob abruptly blackened. Legs with all coxæ and trochanters black, very sparsely pruinose ; remainder of legs black, the femoral bases restrictedly yellow, involving about the proximal sixth ; claws (male) with a single small basal tooth. Wings with the ground-colour pale yellow, the broad prearcular field abruptly clear light yellow ; stigmal area very diffuse and ill-defined, the cephalic portion more yellowed than that lying behind the radial vein ; free tip of Sc_2 and R_2 very narrowly seamed with still darker brown ; a broad conspicuous brown seam along cord, from the proximal end of stigma to vein Cu ; seam over outer end of cell 1st M_2 very narrow and inconspicuous ; wing-apex from level of outer end of cell 1st M_2 faintly darkened, the colour extending back to vein Cu ; a restricted postarcular darkening in bases of cells R and M ; basal half of cell 2nd A darkened ; veins brown, more brightened in the ground-interspaces, those in the prearcular field clear bright yellow. Venation Free tip of Sc_2 more than its own length before level of R_2 , both transverse ; R_{1+2} jutting beyond level of R_2 as a short spur ; Rs gently arcuated, about one-third longer than the basal section of R_{4+5} ; inner ends of cells R_3 , R_5 and 1st M_2 in transverse alignment ; cell 1st M_2 elongate, subequal to vein M_{1+2} beyond it ; $m-cu$ about one-third its own length beyond fork of M , straight ; cell M_4 relatively deep, the distal section of Cu_1 fully twice $m-cu$; cell 2nd A relatively narrow, constricted on proximal third.

Abdominal tergites dark greyish brown, darker brown medially to form a nearly continuous stripe ; the more basal

tergites slightly brightened laterally ; sternites, together with the hypopygium, blackened.

Hab. Peru (Ayacucho).

Holotype, ♂, Yanamonte, La Mar, in fog forests, altitude 3000–4100 metres, September 2, 1941 (*Woytkowski*).

The specific name is derived from the coloration. Dis is the Roman equivalent of the Greek Pluto. The most similar species is *Limonia* (*Peripheroptera*) *rediviva* Alexander, from moderate altitudes in the Peruvian Andes. In this species, the halteres and legs are entirely black, while the entire thorax, including the pleura, is virtually without pruinosity. The black colour in *rediviva* shows reddish tints through the black to produce a decided piceous appearance on both the notum and pleura, a condition not emphasized in the original definition.

Limonia (*Geranomyia*) *tulumaycensis*, sp. n.

General coloration reddish brown ; thorax' unpatterned ; rostrum exceeding one-half the length of body ; halteres infuscated ; legs light brown, unpatterned ; wings with a weak brown tinge, unpatterned except for the darker brown oval stigma ; *Sc*₁ ending about opposite two-fifths the length of *Rs* ; male hypopygium with the tergite narrowly transverse ; ventral dististyle very large and fleshy, its rostral prolongation short and obtuse, with two subequal spines arising close together from small basal tubercles ; gonapophyses with outer edge of lobe toothed and erose.

Male.—Length, excluding rostrum, about 5 mm. ; wing 5.5 mm. ; rostrum about 3 mm.

Rostrum relatively long, dark brown, yellow at base. Antennæ with scape and pedicel obscure yellow, the latter darkened apically ; flagellum black ; basal flagellar segments short and crowded, the outer ones passing into oval ; terminal segment subequal in length to the penultimate. Front obscure yellow, posterior portion of head grey ; anterior vertex reduced to a narrow line.

Thorax almost uniform reddish brown, without evident præscutal stripes or other markings, the posterior sclerites of notum sparsely pruinose. Halteres relatively short, infuscated. Legs with the coxæ reddish yellow ; trochanters yellow ; remainder of legs light brown, unpatterned. Wings with a weak brown tinge, unpatterned except for the darker brown oval stigma ; veins brown, those in the costal and pre-

arcular fields a trifle more brightened. Venation *Sc* relatively long, *Sc*₁ ending about opposite two-fifths the length of *Rs*, *Sc*₂ near its tip; supernumerary cross-vein in cell *Sc* at near mid-length of distance between arculus and origin of *Rs*; cell 1st *M*₂ longer than vein *M*₃ beyond it; *m-cu* close to fork of *M*, about one-fifth longer than the distal section of *Cu*₁; cell 2nd *A* relatively narrow, the vein beyond the level of arculus nearly straight.

Abdomen reddish brown, the hypopygium concolorous. Male hypopygium (fig. 5) with the tergite, 9*t*, narrow, transverse, the caudal border gently emarginate, the lobes very low, with conspicuous setæ. Basistyle, *b*, and its ventromesal lobe small, the total area scarcely one-third that of the ventral dististyle, the lobe with very long pale setæ. Dorsal dististyle a gently curved sickle, at apex suddenly narrowed into a point. Ventral dististyle, *vd*, large and fleshy, the rostral prolongation correspondingly small, obtuse at apex; spines two, from very short basal tubercles; spines subequal in length, placed relatively close together. Gonapophyses, *g*, with the mesal-apical lobe toothed or erose along the outer edge.

Hab. Peru (Junin).

Holotype, ♂, Tulumayo Valley, Tarma, altitude 4000–8000 feet, October 25, 1940 (*Woytkowski*).

The present fly is readily told from other approximately similar species of the subgenus by the coloration of the body, legs and wings, in conjunction with the hypopygium. Among such species it is somewhat like *Limonia* (*Geranomyia*) *nugatoria* Alexander, but differs in the coloration and venation of the wings, body-pattern, and structure of the male hypopygium.

Trentepohlia (*Paramongoma*) *calliope*, sp. n.

General coloration of mesonotum brownish grey, the præscutal stripes confluent or virtually so, leaving the lateral borders broadly obscure brownish yellow; pleura almost uniform testaceous yellow; antennal flagellum black, the scape and pedicel brown; knobs of halteres dark brown; fore coxæ darkened; femora with a broad black subterminal ring, the tips abruptly white; tibiæ with about the central two-thirds black, the base and broader apex white; basitarsi white, the extreme tip infuscated; wings subhyaline, the stigma subcircular, dark brown; weak brown washes, especially evident in basal radial field and at wing-tip; vein *R*₃ unusually erect, *R*₂ arising from its base; abdominal tergites

dark brown, the lateral border yellow; sternites obscure yellow.

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

Rostrum yellow; outer palpal segments infuscated. Antennæ with scape and pedicel brown, the tips more yellowish, flagellum black; flagellar segments long-oval, subequal in length to the segments. Head brownish grey, the posterior portions of vertex and occiput paling to yellow; anterior vertex very narrow, reduced to a narrow strip that is scarcely as wide as two rows of ommatidia.

Mesonotal præscutum brownish grey, the usual three stripes virtually united into a discal shield, leaving broad obscure brownish-yellow lateral borders; posterior sclerites of notum dark brown, the median region of scutum paler, the scutellum and postnotum grey pruinose. Pleura and pleurotergite almost uniform testaceous yellow, sparsely pruinose. Halteres with stem yellow, knob dark brown. Legs with the coxæ testaceous yellow, the fore pair more infuscated; trochanters obscure yellow; femora obscure yellow basally, deepening to black just before the broad white tip, the latter approximately one-half as extensive as the blackened ring; tibia with the base broadly white, in degree a little exceeding the femoral tips, followed by a very broad black ring that involves about two-thirds the total length of segment, the tip again broadly white; basitarsi snowy white, the extreme tip infuscated; legs broken beyond this point. Wings subhyaline, the subcircular stigma dark brown, conspicuous; weak brown washes, especially basad of cord and most evident in the radial field, particularly the outer portion of cell *R* and adjoining portions of cord; wing-tip narrowly and vaguely darkened; veins brown, more brownish yellow in the costal field. Venation vein *R*₃ unusually erect, *R*₂ arising from its base, there being no element *R*₃₊₄; cell 1st *M*₂ subequal in length to vein *M*₁₊₂ beyond it; *m-cu* about one-fourth its length before the fork of *M*.

Abdominal tergites dark brown, the lateral borders yellow; sternites obscure yellow. Ovipositor with cerci infuscated, except at tips, relatively long and very slender, gently up-curved to the acute tips.

Hab. Peru (Junin).

Holotype, ♀, Satipo, Jauja, altitude 800–900 metres, July 16, 1940 (*Paprzycki*).

Most similar to *Trentepohlia* (*Paramongoma*) *petulans* Alexander, of south-eastern Brazil, differing in the details of

coloration of the body, legs and wings, and in the venation, as the unusually erect vein R_3 .

Neognophomyia paprzyckiana, sp. n.

General coloration of thorax brownish yellow, conspicuously patterned with brownish black; antennæ brown; femora chiefly dark brown, their bases restrictedly brightened; wings subhyaline, unpatterned; vein R_3 much longer than usual in the genus, approximately three-fifths as long as vein R_4 , cell R_2 at margin being nearly as extensive as cell R_3 ; male hypopygium with the tergal spines relatively short and stout the tips very acute; dististyle on inner portion produced, into a long slender spine that is scarcely roughened.

Male.—Length about 4.5 mm.; wing 4.8 mm.

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

Rostrum testaceous brown; palpi darker. Antennæ relatively long; scape and pedicel dark brown, flagellum a little paler; flagellar segments oval, with conspicuous verticils. Head light brown.

Thorax crushed and discoloured, brownish yellow, patterned with darker brown or brownish black, especially on præscutum, scutal lobes and postnotum. Pleura obscure yellow, conspicuously patterned with black, especially on dorsal sclerites and again on sternopleura. Halteres chiefly pale brownish yellow. Legs with the coxæ yellow, the fore and middle pairs a trifle darker; trochanters obscure brownish yellow; femora chiefly dark brown, their bases rather restrictedly brightened; tibiæ and basitarsi obscure yellow, the tips narrowly infuscated; terminal tarsal segments brownish black. Wings subhyaline, unpatterned, the prearcular and costal regions a little more yellowed; veins brown, paler in the brightened areas. Venation Sc_1 relatively short, subequal to R_{2+3+4} , the latter, in turn, a trifle longer than R_{3+4} ; R_3 much longer than usual in the genus, approximately three-fifths as long as vein R_4 , cell R_2 at margin being nearly as extensive as cell R_3 ; cell 1st M_2 only moderately broad, narrowed at base; $m-cu$ more than its length beyond fork of M ; cell 2nd A relatively narrow. In one wing of type, an adventitious cross-vein in cell R_4 .

Abdomen with the tergites chiefly darkened, paler in their central portions; sternites chiefly yellow, more darkened medially; hypopygium dark brown. Male hypopygium (fig. 6) with the so-called tergal spines, rs , relatively short

and stout, near their tips strongly narrowed, each terminating in a very acute blackened point. Basistyle, *b*, with unusually long powerful setæ. Dististyle, *d*, distinctive, the outer arm or style flattened, its outer margin with four strong setæ, of which one is terminal in position, another immediately back from tip; inner lobe or style heavily blackened, bearing several setæ, two of large size; at base of style a long blackened scabrous spine, this subequal in length to the style, at its base with four strong setæ. Phallosome, *p*, relatively broad, depressed-flattened, the apex subtruncate to very slightly emarginate, blackened.

Hab. Peru (Junin).

Holotype, ♂, Satipo, Jauja, altitude 800–900 metres, September 15, 1940 (*Paprzycki*). *Allotopotype*, ♀, May 31, 1940 (*Paprzycki*).

I am very pleased to name this fly in honour of the collector, who has discovered many new Tipulidæ in the vicinity of Satipo. A short but very interesting description of Satipo and vicinity has been published by Paprzycki (Rev. Chilena Hist. Nat. xlv. 390–392, 3 figs., 1940). This is the most isolated species of the genus so far discovered, differing from all others of the now numerous species in the unusual length of vein R_3 and the corresponding widening of cell R_2 , and in the structure of the male hypopygium, especially the scabrous blackened spine of the dististyle.

Neognophomyia bisetosa, sp. n.

General coloration yellow, the dorsal thoracic pleura with an interrupted brownish-black stripe; antennal flagellum black; legs yellow, the terminal tarsal segments darkened; wings whitish subhyaline, restrictedly patterned with pale brown; vein R_3 short, R_4 unusually long, so cell R_3 at margin is fully ten times as extensive as is cell R_2 ; abdominal tergites yellow medially, broadly blackened on sides; male hypopygium with the tergal spines terminating in very delicate twisted points; outer dististyle with only two setæ, one terminal; inner style narrowed to a slender blackened point; phallosome unusually broad, the narrowed apex blackened.

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

Rostrum brownish yellow; palpi darker brown. Antennæ with scape and pedicel pale brown, the latter darker outwardly; flagellum black; segments oval. Head obscure yellow; eyes (male) relatively large, narrowing the anterior vertex.

Thoracic notum yellow, polished, the scutellum paler. Pleura yellow, with an interrupted brownish-black dorsal stripe that appears as individual marks on propleura, anepisternum and adjoining portions of the dorsopleural membrane, dorsal pteropleurite and adjoining portions of pleurotergite. Halteres with stem yellow, knob broken. Legs with coxæ and trochanters light yellow; remainder of legs yellow, the terminal tarsal segments more infuscated. Wings whitish subhyaline, the prearcular and costal fields slightly more yellowish; stigma and a narrow seam over the anterior cord pale brown; veins brown, more brownish yellow in the brightened fields. Venation vein R_3 short, vein R_4 unusually long, deflected strongly caudad, ending at wing-apex; cell R_2 at margin very narrow, scarcely one-tenth that of cell R_3 ; cell 1st M_2 moderately widened outwardly.

Abdominal tergites on central portions, broadly brownish black on sides; subterminal segments more uniformly yellow; hypopygium darkened. Male hypopygium (fig. 7) with the so-called tergal spines, *ts*, slender, curved, pale, gradually narrowed to very delicate twisted points. Outer dististyle or branch, *od*, with only two setæ, one apical. Inner dististyle relatively slender, narrowed to a slender acute blackened point; surface of style with about seven very strong black setæ from large punctures, in addition to smaller inconspicuous bristles. Phallosome, *p*, unusually broad, the apex narrowed, blackened.

Hab. Peru (Junin).

Holotype, ♂, Satipo, Jauja, altitude 800–900 metres, July 17, 1940 (*Paprzycki*).

The nearest relatives of the present fly are species such as *Neognophomyia hostica* Alexander and *N. interrupta* Alexander, which differ conspicuously in the structure of the male hypopygium, notably the tergal rods and both dististyles.

Rhabdomastix (Rhabdomastix) luteola, sp. n.

Size small (wing, female, under 5.5 mm.); general coloration of body light yellow, without pattern; antennal flagellum black; halteres and legs yellow; wings greyish yellow, the stigma and a narrow seam over cord pale brown; sparse macrotrichia on distal ends of veins R_5 , M_{1+2} and M_3 ; vein Sc relatively long, Sc_1 ending about opposite three-fourths vein Rs .

Female.—Length about 5.5 mm.; wing 5.2 mm.

Rostrum and palpi yellow. Antennæ with scape and pedicel yellow, flagellum black; first flagellar segment stout, nearly twice the second; remaining segments subcylindrical, gradually decreasing in size outwardly. Head testaceous yellow; anterior vertex broad, approximately five times the diameter of the scape.

Thorax uniform light yellow, without pattern, the postnotum and metapleura vaguely whitish pruinose. Halteres pale yellow. Legs yellow, only the terminal segment a trifle darker. Wings greyish yellow, the prearcular and costal fields clearer yellow; stigma light brown, large, but its margins ill-defined; a very narrow and indistinct seam along the cord and vein *Cu*, best indicated by a darkening in colour of the veins; veins pale brown, paler in the brightened portions. Macrotrichia of veins represented by sparse series on distal ends of veins R_5 , M_{1+2} and M_3 . Venation *Sc* relatively long, Sc_1 ending about opposite three-fourths to four-fifths Rs ; R_{2+3+4} long, subequal to R_4 ; vein R_3 oblique, the distance on costa between R_{1+2} and R_3 about one-third to one-half greater than the latter vein; basal section of M_3 much reduced, m correspondingly long; vein 2nd *A* strongly sinuous, the cell comparatively narrow.

Abdomen testaceous yellow, including the genital shield. Ovipositor with the valves elongate.

Hab. Peru (Junin).

Holotype, ♀, Satipo, Jauja, altitude 800–900 metres, March 1, 1941 (*Paprzycki*).

Rhabdomastix (*Rhabdomastix*) *luteola* is well distinguished from other regional species by the light yellow coloration of the body, halteres and legs. All other such species have the coloration dark brown or grey.

Rhabdomastix (*Rhabdomastix*) *satipænsis*, sp. n.

Size very small (wing, female, 4 mm.); general coloration light grey, the præscutum with four very faintly indicated darker grey stripes; halteres pale; legs pale yellowish brown, the tarsi paling to yellow; wings pale grey, without markings; prearcular and costal fields clearer yellow; macrotrichia of veins beyond cord very sparse; vein *Sc* short, Sc_1 ending opposite mid-length of Rs or shortly beyond; cell R_3 small, vein R_3 suberect; abdomen dark brown, the genital shield concolorous; cerci very long and slender.

Female.—Length about 4.5 mm.; wing 4.4–4.2 mm.

Rostrum testaceous brown ; palpi brownish black. Antennæ pale brown ; flagellar segments (female) oval. Head light grey.

Pretergites pale yellow. Mesonotum almost uniform light grey, the præscutum with four very faintly indicated darker grey stripes ; pseudo-sutural foveæ and tuberculate pits dark. Pleura brownish testaceous, sparsely pruinose. Halteres pale. Legs with the coxæ and trochanters yellowish testaceous remainder of legs pale yellowish brown, the tarsi paling to yellow. Wings pale grey, the prearcular and costal fields clearer yellow ; no stigmal or other markings ; veins pale brown, still paler in the brightened fields. Macrotrichia of veins beyond cord very reduced in number, there being only one or two near the outer ends of each of distal sections of R_5 and M_{1+2} . Venation Sc short, Sc_1 ending opposite one-half to three-fifths the length of the long Rs ; cell R_3 small, vein R_3 suberect, R_4 strongly arcuated ; $m-cu$ variable in position, from about one-third its length beyond fork of M to fully its own length.

Abdomen, including the genital shield, dark brown ; ovipositor with the cerci very long and slender, darkened basally, the tips broadly yellow.

Hab. Peru (Junin).

Holotype, ♀, Satipo, Jauja, altitude 800–900 metres, July 7, 1940 (*Paprzycki*). *Paratopotypes*, 5 ♀♀, August 5–September 6, 1940 ; January 10, 1941 (*Paprzycki*).

The most similar species is *Rhabdomastix* (*Rhabdomastix*) *tantilla* Alexander, of Colombia, which is of about the same size, differing in details of coloration of the body and wings and in the venation, as the longer Sc , which terminates beyond two-thirds the length of Rs .

Rhabdomastix (*Rhabdomastix*) *alticola*, sp. n.

General coloration of mesonotum almost uniform dark brown to brownish black, without grey colour ; antennæ black throughout ; halteres infuscated, the base of stem yellow ; femora infuscated, the tips paling to obscure yellow ; wings with a brownish tinge, the large stigma, prearcular field and proximal portions of cells C and Sc more infuscated ; Rs long and relatively straight, subequal in length to distal section of vein R_5 ; vein R_3 short and nearly erect ; abdomen dark brown.

Female.—Length about 7–8 mm. ; wing 7.5–9 mm.

Rostrum very reduced, pale ; palpi black. Antennæ black throughout, relatively short (female) ; flagellar segments gradually decreasing in size outwardly ; first flagellar segment stout, nearly as long as the succeeding two segments taken together ; terminal segment longer than the penultimate. Head dull black, sparsely pruinose ; anterior vertex broad.

Pronotum dark brown, the posterior lateral portions obscure yellow ; pretergites dark. Mesonotum almost uniform dark brown to brownish black, without grey colour, the præscutum paling to brown on the humeral and lateral portions ; scutellum a trifle more testaceous brown. Pleura in the paratype specimens brown, in the type more bicoloured, obscure yellow with the dorsal sclerites strongly infuscated ; sternites and ventral meral region darkened. Halteres infuscated, the base of stem yellow. Legs with the coxæ pale brown ; trochanters obscure yellow ; femora infuscated, their bases restrictedly paler, the tips fading to obscure yellow ; tibiæ and tarsi brown. Wings broader than in *peruviana*, with a brownish tinge, the large stigma, prearcular field and proximal portions of cells *C* and *Sc* more infuscated ; veins brown. Macrotrichia of veins beyond cord occurring on distal portions of R_5 , M_{+2a} , M_3 and, in cases, the extreme outer portion of M_4 , the tri₁ch, ong and conspicuous. Venation R_s long and relatively straight, subequal in length to the distal section of vein R_5 ; vein R_3 short and nearly erect, the distance on margin between veins R_{1+2} and R_3 approximately three times the latter ; vein R_4 relatively long, gently arcuated, subequal to R_{2+3+4} .

Abdomen dark brown ; ovipositor with genital shield brownish yellow ; cerci long and slender, blackened basally, the outer portion horn-yellow.

Hab. Peru (Ayacucho).

Holotype, ♀, Yanamonte, La Mar, in fog forests, altitude 3000–4100 metres, September 3, 1941 (*Woytkowski*). *Paratopotypes*, 3 ♀♀, September 1–7, 1941.

The most similar described species is *Rhabdomastix* (*Rhabdomastix*) *peruviana* Alexander, from the vicinity of Lima, Peru. Of this I have seen only the male sex. This differs from the present fly in the brownish-yellow antennæ, pale halteres, the yellow femora with slightly darker tips, and the paler wings, with distinct venational details, as the oblique vein R_2 .