

Notes on the Tropical American Species of the Genus *Tipula* Linnaeus (Tipulidae, Diptera). Part IV.

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(With 24 figures)

The preceding parts under this general title were published in the Revista de Entomologia in 1945 and 1946 (Part I, 16: 330-356, 1945; Part II, 16: 415-440, 1945; Part III, 17: 172-201, 1946). In these papers I have discussed the two major subgenera of the genus *Tipula* Linnaeus that occur in South and Middle America, these being *Microtipula* Alexander and *Eumicrotipula* Alexander, each including in excess of 100 species within this faunal area.

As was indicated in the initial part, two further groups, *Bellardina* Edwards and *Neotipula* Alexander, are similarly characteristic of the Neotropics even though represented by relatively few species when compared with the gigantic groups named above. In addition, there are representatives of five further subgeneric groups that are eminently characteristic of the Nearctic fauna to the north and are represented in the region under consideration only by a few scattered species in the extreme northern part, that is, in Mexico and the Greater Antilles. It is the purpose of the present report to discuss these additional restricted subgenera and to describe a small number of new species in *Microtipula* and *Eumicrotipula*, virtually all being from Guatemala, Peru and Bolivia, where they were collected by my friends, Messrs. Thomas H. Farr, José M. Schunke, Felix Woytkowski and his son George Woytkowski, and Luis E. Peña. A few additional species from Mexico, Panama and Ecuador were taken by Messrs. Noël L. H. Krauss, Floyd Werner and Segundo Velastegui. I am very greatly indebted to all of the above entomologists and collectors for their continued and appreciated interest in saving these flies, the types of which are preserved in my personal collection.

Bellardina Edwards

Tipula (*Bellardina*) Edwards; Ann. Mag. Nat. Hist. (10) 8: 82; 1931; (type *craverii* Bellardi 1859, erroneously as *cravieri*).

A small group of the genus, widely distributed throughout the mountainous country of the mainland, crossing the Mexican boundary and represented by even more numerous species in the western United States and Canada.

They are large flies having a rather uniform general appearance, with handsomely marbled wings and usually with a pale subterminal ring on the femur. The venation shows *Rs* short, commonly subequal to *m-cu*; *Rs* and *R*₄₋₅ usually sinuous, with cell *R*₃ more or less constricted at near midlength. Squama hairy; veins beyond cord naked or with conspicuous setae, this character being unusually variable. Tibial spur formula 1-1-2. In the typical forms, the male hypopygium shows the basistyle separated from the ninth sternite by a distinct suture and the ninth sternite provided with a flattened or semitubular median lobe. It may be stated that there is a second group of species that has the basistyle more or less fused with the ninth sternite and without the median sternal appendage. For this group I had earlier proposed the subgeneric name *Sinotipula* (Alexander, 1935), which is available in case it is believed that these two groups of species should be kept separate. This latter group is represented in central and eastern Asia by a considerable number of unusually large and handsome species and also has rather numerous species in western North America, such including *aspersa* Doane, *commiscibilis* Doane, *calaveras* Alexander, *catalinensis* Alexander, *gothicana* Alexander, *pacifica* Doane, *rastristyla* Alexander, *sacajawea* Alexander, *subcinerea* Doane, and others. The typical group of the subgenus includes besides the species listed below a few further forms occurring in the southwestern United States, including *albimacula* Doane, *praelauta* Alexander, *pura* Alexander, *rupicola* Doane, and others.

List of Species of *Bellardina*

craverii Bellardi. — Mexico.
cydippe Alexander. — Guatemala, Venezuela.
larga Alexander. — Mexico.
parrai Alexander. — Mexico.
schizomera Alexander. — Mexico, southwestern U. S.
theobromina Edwards. — Venezuela, Ecuador, Peru, Bolivia.
wetmoreana Alexander. — Guatemala.

The identity of *Tipula obliquefasciata* Macquart still remains in question but it will very probably be found to fall in the present subgenus.

Neotipula Alexander

Tipula (*Neotipula*) Alexander; Journ. N. Y. Ent. Soc., 48: 105-106; 1940; (type *pectinella* Alexander 1940).

Only three species of this subgenus are definitely known to belong here, these including some of the largest and most striking of all Tropical American Tipulidae.

Frontal prolongation of head slender, with elongate nasus. Antennae 13-segmented, the more proximal flagellar segments more or less conspicuously lobed on outer half to produce a weak subpectinate to more strongly pectinate appearance, the usual basal swellings of the segments lacking; flagellar verticils reduced. Tibial spur formula 1-1-2; claws (male) lobed or obtusely toothed beneath. The venation shows veins *R*₃ and *R*₄₋₅ nearly straight, not sinuous or arched as in *Holorusia*, cell *R*₃ thus not constricted; cell *M*₄ unusually wide at margin, being only a little less than the combined cells *M*₁ to *M*₃. Squama naked; veins unusually glabrous. The venation of *T. (N.) paprzyckii* is shown (Fig. 17).

List of Species of *Neotipula*

maya Alexander. — Guatemala.
paprzyckii Alexander. — Amazonian Peru.
pectinella Alexander. — Panama.

Trichotipula Alexander

Tipula (*Trichotipula*) Alexander; Proc. Acad. Nat. Sci. Philadelphia for 1915: 468-469; 1915; (type *oropezoides* Johnson 1909).

Represented by numerous species in the arid and semi-arid parts of western North America, with fewer species in the Eastern Nearctic and Eastern Palaearctic regions. This and the succeeding four subgenera have been discussed in my earlier treatment of the Tipulidae of Northeastern North America (Diptera of Connecticut, 1: 235-292; 1942) and the data regarding structure are not repeated here. Besides the species listed below, the following forms have been taken at Campo, San Diego Co., California, within a mile of the Mexican Boundary, and so are virtually members of the fauna being discussed. — *Tipula beatula* Osten Sacken, *T. capistrano* Alexander, *T. furialis* Alexander, and *T. sayloriana* Alexander (see Alexander, Bull. Southern California Acad. Sci., 45: 1-16; 1946).

List of Species of *Trichotipula*

aplecta Alexander. — Mexico.
kraussi Alexander. — Mexico.
religiosa Alexander. — Mexico.
uxoria Alexander. — Mexico.
vultuosa Alexander. — Mexico.

Tipula Linnaeus

Tipula Linnaeus; Systema Naturae, Ed. 10: 585; 1758; (type *oleracea* Linnaeus 1758).

The typical subgenus is represented by relatively few species occurring throughout the Holarctic Region. Two species that are

placed here with considerable doubt occur in Mexico, these being *Tipula (Tipula) subvirgo*, sp. n., and *T. (T.) virgo* Osten Sacken, the latter still known only from the types (Durango City, Durango, 8100 feet, collected by Forrer).

Tipula (Tipula) subvirgo, sp. n.

Most nearly allied to *virgo*; mesonotum gray, the praescutum with three brown stripes, pleura and pleurotergite clear light gray, unpatterned; antennae black; legs black, the femoral bases yellowed; wings with the central portion whitish subhyaline, the costal border, prearcular field and stigma conspicuously dark brown; a broad dark brown seam in cell *M* adjoining vein *Cu*; abdomen brownish gray, the borders of the segments narrowly obscure yellow, hypopygium black; male hypopygium with the tergite transverse, its caudal margin produced into a broad obtusely rounded lobe that is provided with microscopic spinous points; posterior crest of inner dististyle produced backward, margined with strong black setae.

Male. — Length, about 14 mm.; wing, 15 mm.; antenna, about 4.5 mm.

Frontal prolongation of head light gray on dorsal half, pale brown below; nasus distinct; palpi black. Antennae (male) of moderate length, if bent backward extending to shortly beyond the base of abdomen, black, the scape weakly dusted with gray; flagellar segments moderately incised, longer than the verticils. Head light gray, the central region of vertex light brown.

Pronotum light gray, with a narrow darkened median line. Mesonotal praescutum chiefly covered by three medium brown stripes, the lateral borders light gray, the interspaces more obscure gray; posterior sclerites of notum clear light gray, especially the postnotum; scutal lobes weakly infuscated, particularly near the suture. Pleura and pleurotergite clear light gray, unpatterned; dorsopleural membrane buffy yellow. Halteres long, stem brownish yellow, knob dark brown. Legs with the coxae light gray; trochanters light brown, sparsely pruinose; remainder of legs black, the femoral bases yellowed, on the fore legs including the proximal fourth, on the other legs more extensive, including approximately the basal third; claws broken. Wings with the central part whitish subhyaline, the costal border, prearcular field and stigma conspicuously dark brown, the border including cells *C*, *Sc* and the narrow anterior part of cells *R* and *R*₁; a broad seam in cell *M* adjoining vein *Cu*; wing tip and posterior border broadly paler

brown; the pale central stripe almost reaches the wing apex in cell *R*₅; cell *Cu* chiefly whitened, the outer third darkened adjoining vein 1st *A*; basal half of cell 2nd *A* pale; veins brown, the anterior cord and adjoining veins brownish yellow. Venation: *Rs* slightly longer than *R*₂₋₃; *R*₁₋₂ entire; petiole of cell *M*₁ nearly twice *m*; *m-cu* at fork of *M*₃₋₄; cell 2nd *A* moderately broad.

Abdomen dark brownish gray, the caudal and lateral borders of the segments narrowly obscure yellow; hypopygium black, the styli yellow. Male hypopygium (Fig. 18) with the ninth tergite, 9*t*, transverse, the caudal margin produced into a broad obtusely rounded median lobe that is provided with abundant microscopic blackened spinous points. Outer dististyle, *od*, a broad pale blade, only about one-half longer than broad, nearly truncate at tip; setae short, chiefly marginal. Inner dististyle, *id*, with the beak short and stout, lower beak lacking; posterior crest produced backward, its margin with a row or comb of strong black setae; outer basal lobe erect, the apex obtusely rounded. In *virgo* Osten Sacken, the median tergal lobe is even wider, the apex broadly truncate or even very slightly concave. Crest of the inner dististyle provided with unusually long pale setae that are not marginal in position; crest not produced backward as in the present fly.

Habitat: Mexico.

Holotype, ♂, 44 kilos west of Toluca, Mexico, on Route 4, km 109, altitude 8,220 feet, June 28, 1948, in a pasture (Floyd Werner).

The most similar described species is *Tipula (Tipula) virgo* Osten Sacken, which differs chiefly in the hypopygial characters, as compared above.

Yamatotipula Matsumura

Yamatotipula Matsumura; Thousand Ins. Japan, Add. 2: 461-462; 1916; (type nova Walker 1848, as *nohirae* Matsumura).

The members of this subgenus range throughout the Holarctic Region, a single species entering our faunal limits. This is *Tipula (Yamatotipula) jamaicensis* Alexander, of the Greater Antilles, closely allied to a species, *T. (Y.) ludoviciana* Alexander, of the southeastern United States. The subgeneric characters have been detailed in another paper by the writer (Philippine Journ. Sci., 57: 107-108; 1935).

Oreomyza Pokorny

Oreomyza Pokorny; Wien. Ent. Zeitg., 6: 50; 1887; (type *glacialis* Pokorny 1887).

Like the last, *Oreomyza* includes numerous species throughout the Holarctic Region. To this date a single species has been found within our faunal limits, this being *Tipula* (*Oreomyza*) *bellardiana* Alexander, of Mexico. It seems certain that representatives of the very wide-spread and characteristic western Nearctic *unca* or *borealis* group will be found in Mexico since various species occur in California, Arizona and New Mexico, close to the Mexican Border. The subgeneric characters have been detailed in the paper last cited (l. c., 57: 120-122) and need not be repeated here.

Lunatipula Edwards

Tipula (*Lunatipula*) Edwards; Ann. & Mag. Nat. Hist., (10) 8: 81-82; 1931; (type *lunata* Linnaeus 1758).

Again, this represents a very large and characteristic Holarctic subgenus, with a very few species entering our faunal limits in the extreme north. In western North America, north of Mexico, it is one of the largest and most diversified of all groups of the family. The subgeneric characters have been stated in the paper previously cited (l. c., 57: 130-131).

List of Species of *Lunatipula*

abscissa Alexander. — Mexico.
dampfiana Alexander. — Mexico.
hoogstraali Alexander. — Mexico.
michoacana Alexander. — Mexico.

Undescribed species of *Microtipula* and *Eumicrotipula*.*Tipula* (*Microtipula*) *austrovolens*, sp. n.

Belongs to the *spinicauda* group; size large (wing, male, 16 mm. or more); mesonotum brownish orange, the pleura clearer yellow; antennae (male) relatively short, a little more than one-third the wing, flagellum black; wings strongly blackened, especially the costal border and stigma; abdomen orange yellow, with a relatively narrow subterminal black ring; male hypopygium with the lateral angles of the tergite produced into long narrow arms, the ventral surface on either side of the midline with a low flange that bears a continuous row of blackened setae; appendage of ninth sternite a lyriform structure, each arm slender, the apex dilated and prolonged into a long slender spine, the outer

end of the arm with dense pale setulae; inner dististyle with the beak long and slender.

Male. — Length, about 16-17 mm.; wing, 16-17 mm.; antenna, about 6.2-6.5 mm.

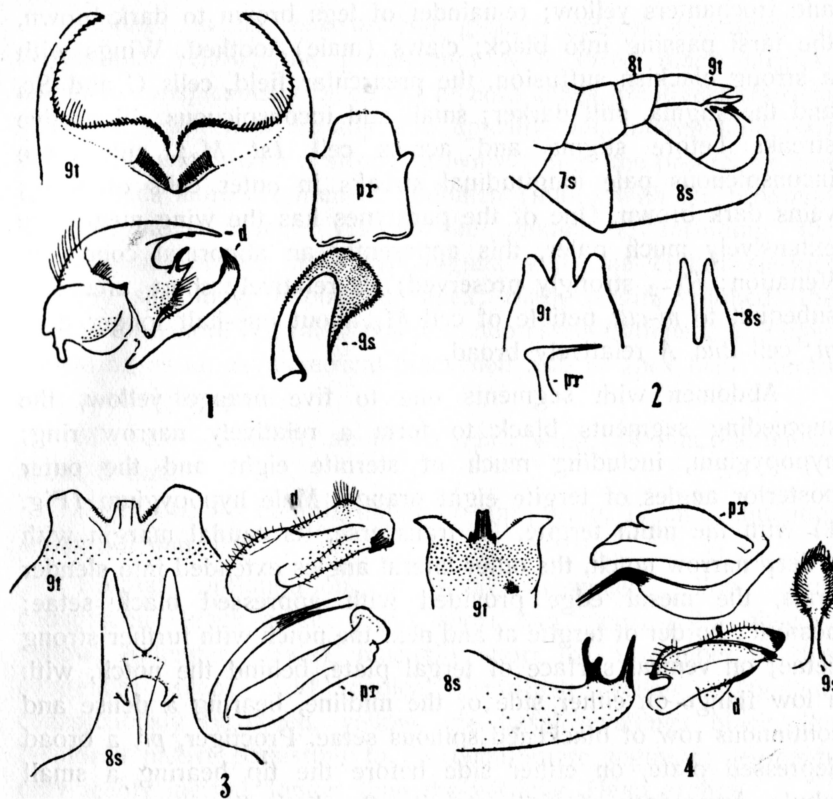


Fig. 1. *Tipula* (*Microtipula*) *austrovolens*, sp. n.; male hypopygium. — Fig. 2. *Tipula* (*Microtipula*) *peñana*, sp. n.; male hypopygium. — Fig. 3. *Tipula* (*Microtipula*) *dirhabdophora*, sp. n.; male hypopygium. — Fig. 4. *Tipula* (*Microtipula*) *hexamelania*, sp. n.; male hypopygium. — (Symbols: b, basistyle; d, dististyles; pr, proctiger; s, sternite; t, tergite).

Frontal prolongation of head reddish brown; nasus distinct; palpi obscure yellow, the intermediate segments more infuscated. Antennae (male) relatively short; scape, pedicel and extreme base of first flagellar segment orange, the remainder of flagellum black, the extreme tips of the more proximal segments orange; flagellar segments weakly incised; longest verticils subequal in length to the segments. Head cinnamon brown, the front, anterior vertex and narrow orbits more yellowed; no vertical tubercle.

Pronotum obscure orange. Mesonotum chiefly obscure

brownish orange, the praescutum with very vague indications of more reddish brown stripes; mediotergite densely provided with yellow setae. Pleura and pleurotergite clearer yellow, including the dorsopleural membrane. Halteres with stem brownish yellow, its base clearer yellow, knob dark brown. Legs with the coxae and trochanters yellow; remainder of legs brown to dark brown, the tarsi passing into black; claws (male) toothed. Wings with a strong blackish suffusion, the prearcular field, cells *C* and *Sc*, and the stigma, still darker; small and inconspicuous obliterative streaks before stigma and across cell *1st M*₂; still more inconspicuous pale longitudinal streaks in outer cells of wing; veins dark brown. One of the paratypes has the wing membrane extensively much paler, this apparently an abnormal condition. Venation: *R*₁₋₂ strongly preserved; *Rs* relatively short, arcuated, subequal to *m-cu*; petiole of cell *M*₁ about one-half longer than *m*; cell *2nd A* relatively broad.

Abdomen with segments one to five orange yellow, the succeeding segments black to form a relatively narrow ring; hypopygium, including much of sternite eight and the outer posterior angles of tergite eight orange. Male hypopygium (Fig. 1) with the ninth tergite, *9t*, transverse, its caudal margin with a deep narrow notch, the outer lateral angles extended into slender arms, the mesal edge provided with appressed black setae; posterior border of tergite at and near the notch with further strong setae; on ventral surface of tergal plate, behind the notch, with a low flange on either side of the midline, bearing a dense and continuous row of blackened spinous setae. Proctiger, *pr*, a broad depressed plate, on either side before the tip bearing a small lobule. Appendage of ninth sternite, *9s*, distinctive, appearing as a lyriform structure from a very short base, each arm (only one shown) long and slender, its tip strongly bent or recurved, dilated into a weak triangle, the inner apical angle of which is produced into a slender spine; more than the outer half of each arm with short dense yellow setulae; in a position of rest the arms hang ventrad, the recurved part and apical spine directed dorsad. Dististyles, *d*, with the outer style a slender rod, blackened at apex and narrowed into an acute spine; inner style with the beak unusually slender, lower beak bearing a slender blackened spine or rod before the pale acute apex. Eighth sternite not sheathing.

Habitat: Bolivia (Yungas District).

Holotype, ♂, Cristal Mayu, Chapare, altitude 1,200 meters, October 8, 1949 (Luis E. Peña). Paratopotypes, 2 ♂♂.

The most similar species is *Tipula (Microtipula) volens* Alexander, of Amazonian Peru, which differs in all details of the male hypopygium, particularly the tergite and appendage of the ninth sternite.

Tipula (Microtipula) peñana, sp. n.

Belongs to the *macrosterna* group; general coloration of mesonotum yellow, the praescutum with three black stripes; antennae conspicuously bicolored in both sexes, relatively short in male; femora yellow basally and apically, the intermediate part blackened; wings with a strong brownish tinge, the prearcular and costal fields more brightened; abdomen (male) with the proximal five segments orange yellow, the remainder, including the hypopygium, black; male hypopygium with the eighth sternite strongly sheathing, bilobed at apex; ninth tergite trilobed, the median lobe more ventral in position, depressed-flattened; proctiger appearing as an asymmetrical blackened rod, at apex bent laterad into a straight spine.

Male. — Length, about 15 mm.; wing, 14 mm.; antenna, about 5 mm.

Female. — Length, about 17 mm.; wing, 17 mm.; antenna, about 3.5 mm.

Frontal prolongation of head brownish yellow, with conspicuous black setae; nasus short and stout; palpi obscure yellow. Antennae (male) unusually short for a member of this subgenus; scape and pedicel brownish yellow, flagellum conspicuously bicolored, yellow, the basal swellings black, the bicolored nature persisting to the penultimate segment; segments only feebly incised, longer than the verticils. Head orange.

Pronotum orange yellow. Mesonotal praescutum polished yellow, with three black stripes, the median one broader and more intensely blackened in front, paling to brown behind; lateral stripes bent outward to the lateral margins, the posterior ends paler brown, crossing the suture onto the scutal lobes, interspaces more yellow pollinose; posterior sclerites of notum yellow, the scutellum more testaceous. Pleura and pleurotergite yellow, the dorsal sternopleurite vaguely more darkened. Halteres with stem and apex of knob obscure yellow, the base of knob dark brown. Legs with the coxae and trochanters orange yellow; femora yellow basally, the central portion blackened, the tips paling to obscure yellow or brownish yellow; tibiae dark brown; tarsi black; claws (male) broken. Wings with a strong brownish tinge, the prearcular field yellowed; cells *C* and *Sc* more brownish yellow; stigma small,

brown; a very restricted oblitative streak across cell *1st M*₂; veins brown, paler in the costal region, yellow in the prearcular field. Venation: *R*₁₋₂ entire; *Rs* shorter than *m-cu*; cell *M*₁ about twice its petiole; cell *2nd A* relatively broad.

Abdomen (male) with the proximal five segments orange yellow, the remainder of abdomen abruptly black, including the entire hypopygium. In the female, basal abdominal segments orange yellow, the second to fifth tergites trivittate with black, the succeeding three tergites uniformly black; sternites yellow, the sixth brownish yellow, the seventh black; ovipositor chiefly obscure yellow; cerci relatively short, compressed-flattened, the tip obtuse, blackened, highly polished; hypovalvae even more compressed, testaceous, the tips truncated. Male hypopygium (Fig. 2) with the eighth sternite, *8s*, greatly enlarged, sheathing, at apex divided into two slender lobes that are directed dorsad. Ninth tergite, *9t*, trifold, the lateral lobes a little shorter than the depressed-flattened median blade, the latter lying slightly more ventrad. What appears to represent the proctiger, *pr*, juts from the dorsal genital chamber as an asymmetrical rod, the stem slender, at apex bent laterad at a right angle into a long straight spine. The figures and description have been made from the dry type male.

Habitat: Bolivia (Yungas District).

Holotype, ♂, Cristal Mayu, Chapare, altitude 1,200 meters, October 8, 1949 (Luis E. Peña). Allotopotype, ♀, with the type.

This unusually distinct crane-fly is named for the collector, Señor Luis E. Peña G., Secretary of the Sociedad Chilena de Entomología, to whom I express my indebtedness for many interesting Tipulidae from Bolivia and Chile. The species is very different from all other known members of the *macrosterna* group, including the regional *Tipula* (*Microtipula*) *horribilis* Alexander and *T. (M.) scelestia* Alexander, which are as closely allied as any. The fly is readily told by the striking body coloration, antennae, and by all details of the male hypopygium.

Tipula (*Microtipula*) *dirhabdophora*, sp. n.

Belongs to the *macrosterna* group, allied to *diacanthos*; general coloration of mesonotum obscure yellow, sparsely gray pruinose, with three polished black stripes; antennae (male) relatively short, the basal flagellar segments weakly bicolored, black, with pale incisures; wings with a weak brownish tinge; tip of vein *R*₁₋₂ atrophied; male hypopygium with the tergite trilobed, the median lobe small; proctiger with the upper arm split before apex into two straight black spines; eighth sternite elongate, sheathing, produced into two long fingerlike lobes, on dorsal surface basad of the forking with a pair of small conical lobules.

Male. — Length, about 15 mm.; wing, 13 mm.; antenna, about 6.5 mm.

Frontal prolongation of head yellow, more pruinose above, nasus stout; palpi pale brown. Antennae (male) with the scape and pedicel obscure yellow, flagellum brownish black, the incisures restrictedly yellow, the outer segments uniformly darkened; flagellar segments elongate, very gently incised. Head obscure yellow, the entire anterior vertex brownish black.

Pronotum pale, light gray pruinose, narrowly more darkened medially. Mesonotum obscure yellow, sparsely gray pruinose, with three polished black stripes, the median one expanded at cephalic end, the lateral pair curved outward to the margin; posterior sclerites of notum obscure yellow, the cephalic portions of the scutal lobes narrowly more darkened. Pleura brownish yellow, gray pruinose; a small darkened area before the wing root; a more or less distinct brown line on the mesepisternum near the dorsal edge of the sternopleurite. Halteres brown, the knob more darkened, the base of stem restrictedly yellow. Legs with the coxae yellow, sparsely gray pruinose; trochanters yellow; femora yellow, the tips very narrowly infuscated; tibiae and tarsi brown, the outer tarsal segments darker; claws (male) toothed. Wings with a weak brownish tinge, the prearcular and costal fields, with the stigma, more yellowish brown; veins pale brown. Venation: Tip of *R*₁₋₂ atrophied; *m* longer than the petiole of cell *M*₁; cell *1st M*₂ pointed at outer end; basal sections of veins *M*₁₋₂ and *M*₃₋₄ nearly equal; cell *2nd A* moderately broad.

Abdomen reddish yellow, the tergites with a broken median brownish black stripe; a narrow brown ring that involves the seventh segment; hypopygium yellow. Male hypopygium (Fig. 3) with the ninth tergite, *9t*, having the caudal margin unequally trilobed, the glabrous lateral pair of lobes broad, divergent, the tips truncate and scarcely darkened, the small median lobe truncated at tip. Proctiger, *pr*, with the upper arm split before apex into two straight black spines; main body of proctiger stout, terminating in a knob. Dististyle, *d*, with the apex blackened; outer margin before apex with a low tubercle that bears several long pale delicate setae. Eighth sternite, *8s*, elongate, sheathing, produced into two long fingerlike lobes that are separated by a U-shaped notch; on dorsal surface basad of the forking with a pair of small conical lobules.

Habitat: Panama.

Holotype, ♂, Summit, Canal Zone, August 1946 (Noël L. H. Krauss).

Tipula (Microtipula) dirhabdophora is quite distinct from the other described species that center about *T. (M.) diacanthos* Alexander and *T. (M.) terribilis* Alexander, differing very particularly in all details of the male hypopygium.

Tipula (Microtipula) hexamelania, sp. n.

Belongs to the *macrosterna* group, allied to *mandator*; mesonotal praescutum polished yellow, with three chestnut stripes, the cephalic ends darkening into four more blackened areas; antennal flagellum chiefly black, the incisures of the segments narrowly yellow; femora and tibiae yellow, the tips narrowly blackened; male hypopygium with the caudal margin of the ninth tergite trilobed, the outer pair of lobes directed laterad, the median one narrow, blackened; proctiger terminating in two slender black spines; appendage of ninth sternite a slender-stemmed spatula; eighth sternite long and sheathing, divided into two parts, each of which splits at apex into three blackened lobes.

Male. — Length, about 16 mm.; wing, 15.5 mm.; antenna, about 8.5 mm.

Frontal prolongation of head relatively long, yellow; nasus short, provided with black setae; palpi yellow, the terminal segment clearer yellow. Antennae (male) elongate, exceeding one-half the length of the wing; basal three segments yellow, the succeeding ones bicolored, yellow at the incisures, the outer part of the small basal swelling black, the outer face of the elongate stem paler than the brown lower surface; outer segments uniformly brownish black; verticils shorter than the segments. Head brownish yellow, sparsely pruinose, more heavily so on the front and anterior vertex.

Pronotum testaceous yellow, vaguely darkened on the elevated part of the scutum. Mesonotal praescutum polished yellow with three chestnut stripes, the anterior ends of the lateral pair and each outer cephalic angle of the median stripe blackened, the former areas bent laterad to the margin; scutal lobes less distinctly patterned with chestnut. Pleura and pleurotergite yellow, pollinose; very reduced darkenings on the dorsal propleura and cephalic edge of the anepisternum. Halteres yellow, knob dark brown. Legs with the coxae and trochanters yellow; femora and tibiae yellow, the tips very narrowly and indistinctly black; tarsi brown, passing into black; claws (male) toothed. Wings yellowish brown, the prearcular field and cells *C* and *Sc* more saturated, especially cell *Sc*; stigma oval, pale brown; veins brown. Venation: *Rs* gently

arcuated, subequal in length to the straight R_{2-3} ; R_{1-2} preserved; cell *1st M*₂ small, narrowed distally; cell *M*₁ slightly longer than its petiole; *m-cu* some distance beyond origin of *M*₄, the basal section of the latter perpendicular.

Abdomen polished yellow, the second and third tergites infuscated medially, lateral tergal borders infuscated; sternites yellow; a conspicuous black subterminal ring involving segments seven and eight, excepting the outer end of the enlarged eighth sternite. Male hypopygium (Fig. 4) with the caudal margin of the ninth tergite, *9t*, trilobed, the glabrous lateral lobes directed laterad, the median one parallelsided, the margins channeled and subtended at base by a small point; dorsal surface of tergite with a transverse band of long black setae. Proctiger, *pr*, with the upper blade terminating in two slender black spines. Appendage of ninth sternite, *9s*, a slender-stemmed spatula, the blade nearly as broad as long, the fimbriations chiefly marginal. Dististyle, *d*, small and compact, shaped about as shown. Eighth sternite, *8s*, long and sheathing, divided into two parts, each of which splits at apex into two blackened spinous lobes, the inner one bearing a further blackened lobule on its face.

Habitat: Guatemala.

Holotype, ♂, El Naranjo, Chicacao, altitude 4,000 feet, August 6, 1949 (Thomas H. Farr).

Tipula (Microtipula) hexamelania is generally similar to *T. (M.) dirhabdophora*, sp. n., and *T. (M.) mandator* Alexander, differing in all details of structure of the male hypopygium.

Tipula (Microtipula) terpsichore, sp. n.

General coloration of mesonotum light reddish brown, sparsely pruinose, the pleura pale brown; antennae with basal three segments yellow, the succeeding ones black, rather strongly incised; wings brownish gray, conspicuously patterned with brown; vein R_{1-2} atrophied; basal abdominal tergites yellow, vaguely trivittate with brown, the subterminal segments black, to form a narrow ring; male hypopygium with the caudal border of the ninth tergite emarginate, produced into two slender divergent rods, the apices of which bear several blackened peglike spines; outer dististyle a large yellow blade, on lower margin beyond base with an erect slightly curved arm; inner dististyle resembling a very slender-necked bird, the stout beak blackened, the outer part of the head with abundant erect black setae.

Male. — Length, about 16 mm.; wing, 13 mm.; antenna, about 5 mm.

Frontal prolongation of head light brown, sparsely pruinose; nasus distinct; palpi brown, the incisures whitened, the terminal segment narrowly darkened at base, thence chiefly whitened. Antennae (male) relatively long, exceeding one-third the length of the wing; scape and pedicel yellow; first flagellar segment chiefly yellow, its apex darkened, succeeding segments black; flagellar segments rather strongly incised, the outer swellings longer and approximately as thick as the basal enlargements; verticils shorter than the segments. Head brownish gray; no vertical tubercle.

Pronotum chiefly gray, more infuscated medially above. Mesonotal praescutum light reddish brown, sparsely pruinose, without evident pattern; scutal lobes more brownish gray; posterior sclerites of notum somewhat clearer gray. Pleura and pleurotergite pale brown, sparsely pruinose; dorsopleural membrane pale. Halteres with stem brown, knob brownish black. Legs with the coxae pale brown, pruinose; trochanters yellow; femora brown; tibiae brownish black; tarsi black; claws (male) simple, hairy. Wings brownish gray, conspicuously patterned with brown, including the prearcular field, cells *C* and *Sc*, and the distal ends of the outer radial cells; stigma dark brown; more restricted brown seams over anterior cord, *m-cu* and distal section of *Cu*₁, and still less evidently over the outer end of cell 1st *M*₂ and outer medial branches; veins brown, somewhat darker in the patterned areas. Venation: *R*₁₋₂ atrophied; *r-m* narrowed by the approximation of veins *R*₄₋₅ and *M*₁₋₂; cell *M*₁ subequal to its petiole; cells 1st *M*₂ and *M*₄ widest across their bases; cell 2nd *A* relatively broad.

Basal abdominal tergites yellow, vaguely trivittate with brown, the sublateral stripes more diffuse and broken, lateral tergal borders gray; sternites brownish yellow, more or less variegated with darker, especially on the more proximal segments; seventh and eighth segments black, forming a conspicuous ring; hypopygium yellow. Male hypopygium (Fig. 5) with the ninth tergite, *9t*, large, slightly narrowed outwardly, the caudal margin broadly emarginate, provided with long conspicuous setae; two narrow divergent rods arise from a very short common base at midlength of posterior border, the outer half of inner margin of each with several black peglike spines. Outer dististyle, *d*, a large yellow blade, narrowed to an acute point, on lower margin beyond base bearing an erect slightly curved arm. Inner dististyle appearing

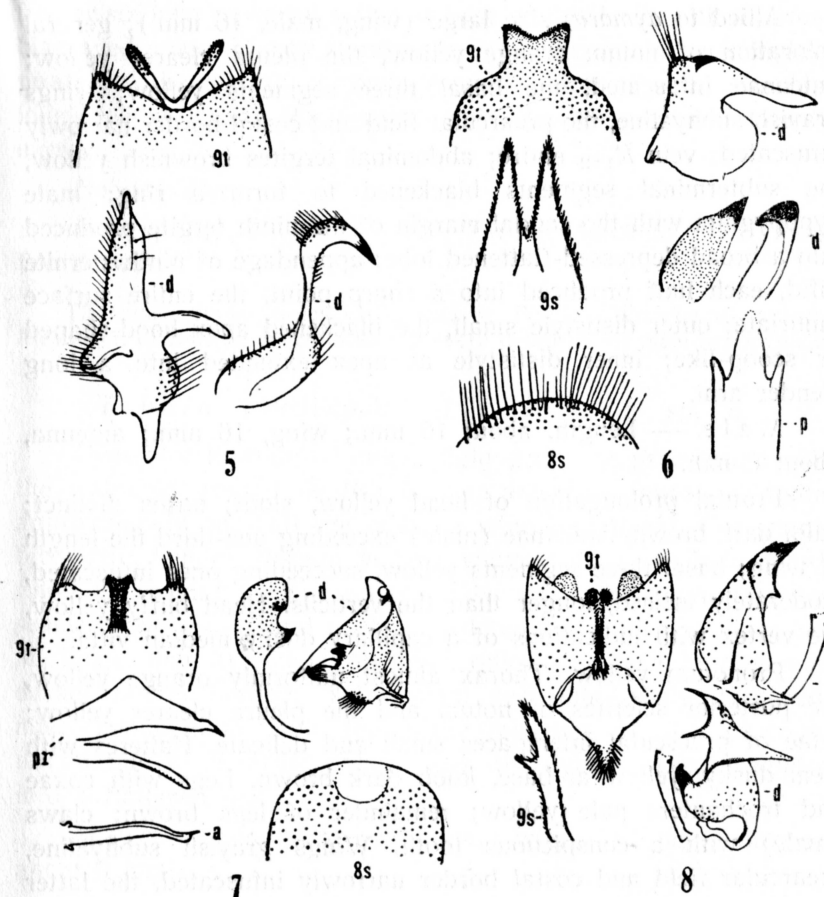


Fig. 5. *Tipula* (*Microtipula*) *terpsichore*, sp. n.; male hypopygium. — Fig. 6. *Tipula* (*Microtipula*) *porrecta*, sp. n.; male hypopygium. — Fig. 7. *Tipula* (*Microtipula*) *discophora*, sp. n.; male hypopygium. — Fig. 8. *Tipula* (*Microtipula*) *topoensis*, sp. n.; male hypopygium. — (Symbols: *d*, dististyles; *p*, phallosome; *pr*, proctiger; *s*, sternite; *t*, tergite).

like a very slender-necked bird, the enlarged head portion with abundant erect black setae, the stout beak blackened; base of the style dilated.

Habitat: Guatemala.

Holotype, ♂, El Naranjo, Chicacao, altitude 3,900 feet, August 1, 1949 (Thomas H. Farr).

The structure of the male hypopygium of the present fly, especially the dististyles, somewhat suggests *Tipula* (*Microtipula*) *auricularis* Alexander and allies, but the heavily patterned wings are more as in *T. (M.) klagesi* Alexander, which seems to be the closest described ally, differing in all details of structure of the male hypopygium.

Tipula (Microtipula) porrecta, sp. n.

Allied to *aymara*; size large (wing, male, 16 mm.); general coloration of notum orange yellow, the pleura clearer yellow; antennae infuscated, the basal three segments yellow; wings grayish subhyaline, the prearcular field and costal border narrowly infuscated; vein R_{1-2} entire; abdominal tergites brownish yellow, the subterminal segments blackened to form a ring; male hypopygium with the caudal margin of the ninth tergite produced into a broad depressed-flattened lobe; appendage of ninth sternite bifid, each half produced into a sharp point, the entire surface fimbriate; outer dististyle small, the blackened apex hood-shaped or scoop-like; inner dististyle at apex extended into a long slender arm.

Male. — Length, about 16 mm.; wing, 16 mm.; antenna, about 6 mm.

Frontal prolongation of head yellow, stout; nasus distinct; palpi dark brown. Antennae (male) exceeding one-third the length of wing; basal three segments yellow, succeeding ones infuscated, moderately incised, longer than the verticils. Head buffy yellow, the vertex with indications of a capillary dusky median vitta.

Pronotum yellow. Thorax almost uniformly orange yellow, the posterior sclerites of notum and the pleura clearer yellow; setae of praescutal interspaces small and delicate. Halteres with stem dusky, yellow at base, knob dark brown. Legs with coxae and trochanters pale yellow; remainder of legs brown; claws (male) with a conspicuous tooth. Wings grayish subhyaline, prearcular field and costal border narrowly infuscated, the latter barely passing veins R and R_1 into the cells behind; stigma oval, brown; veins brown. Venation: R_{1-2} entire; $r-m$ distinct, subequal to vein R_2 ; cell 1st M_2 narrowed at outer end; cell M_1 deep, its petiole slightly longer than m ; cell 2nd A relatively broad.

Abdominal tergites brownish yellow, the sternites clearer yellow; segments six to eight black; hypopygium chiefly yellow. Male hypopygium (Fig. 6) with the ninth tergite, 9t, very gradually narrowed outwardly, the distal end rounded, its central portion farther produced into a broad depressed-flattened lobe whose apex is very shallowly emarginate, blackened and fringed with dense short setae. Appendage of ninth segment a flattened blade that is produced into two straight points, the entire surface with abundant reddish fimbriations. Outer dististyle, d , a flattened blade, the blackened apex more or less hood-shaped or scoop-like. Inner dististyle flattened, at apex produced back on itself into a

long slender arm, the outer angle with a low knob provided with five or six long powerful setae; at base of this knob with a strong blackened spine. Eighth sternite, 8s, with the caudal end slightly produced, the margin convexly rounded, clothed with adundant long yellow setae. Phallosome with the apophyses relatively narrow.

Habitat: Peru.

Holotype, ♂, Utcuyacu, Junin, Tarma, March 5, 1948 (Felix Woytkowski).

The most similar described species is *Tipula (Microtipula) aymara* Alexander, of Bolivia, which differs in every detail of the male hypopygium.

Tipula (Microtipula) discophora, sp. n.

General coloration of thorax light gray, the praescutum with the restricted ground reddish brown; antennae (male) elongate, approximately one-half the body or wing, the flagellar segments bicolored; femora obscure yellow; wings with a weak brownish tinge, the costal border narrowly darker; veins along cord narrowly seamed with brown and further bordered by whitish hyaline; cell M_1 longer than its petiole; abdomen yellow, the basal tergites with darker lateral borders; subterminal segments partly darkened; male hypopygium with the major element of the proctiger terminating in an acute point; outer dististyle at apex expanded into a flattened disk.

Male. — Length, about 12 mm.; wing, 11.5 mm.; antenna, about 6 mm.

Frontal prolongation of head brown above, more yellowed on sides; basal segments of palpi light brown, the outer ones even paler, obscure brownish yellow. Antennae (male) elongate, approximately one-half the wing or body; basal three segments yellow, succeeding segments bicolored, black, the extreme tips narrowly yellow, the latter pattern persisting almost to the end of the organ, the outer three or four segments uniformly blackened; basal enlargements of segments small; longest verticils slightly more than one-third the segment. Head brownish gray, clearer gray on front and the narrow anterior vertex; no vertical tubercle.

Pronotum light brown. Mesonotal praescutum with the restricted ground reddish brown, with three relatively inconspicuous brownish gray stripes; posterior sclerites of notum light gray, the anterior parts of the scutal lobes slightly infuscated. Pleura light gray pruinose, the sternopleurite more yellowed. Halteres with stem

brownish yellow, knob infuscated. Legs with the coxae light gray; trochanters yellow; remainder of legs elongate, femora and tibiae obscure yellow, the tips of the latter darker; tarsi passing into brown; claws (male) long, toothed. Wings with a weak brownish tinge, the prearcular field and narrow costal border medium brown, cell *Sc* somewhat more yellowed; stigma oval, pale brown; distal ends of outer radial cells vaguely darkened; cord and outer end of cell *1st M*₂ narrowly seamed with pale brown, the latter areas in the vicinity of the cord further bordered by whitish hyaline; veins pale brown, darker in the outer radial field. Venation: *Sc* relatively short, *Sc*₂ ending at near one-fourth to one-fifth the length of the short arcuated *Rs*, the latter subequal to *m-cu*; *R*₁₋₂ entire; cell *M*₁ relatively broad, longer than its petiole; cell *2nd A* relatively broad.

Basal abdominal tergites brownish yellow, narrowly bordered laterally by pale brown, the sternites clearer yellow; seventh segment chiefly brown, the posterior borders yellow; eighth segment narrowly infuscated at base, the remainder, with the hypopygium, light yellow. Male hypopygium (Fig. 7) with the ninth tergite, *9t*, relatively large, approximately equal in greatest length and breadth, slightly narrowed outwardly; caudal margin subtruncate to very slightly emarginate, the outer lateral angles a trifle produced, provided with long black setae; median area slightly produced, continued cephalad on the ventral surface of tergal plate for about one-third the length of the sclerite as a low ridge provided with abundant black setae; on ventral surface on either side of midline with complex brushes of yellow setae (not figured). Proctiger, *pr*, including two pairs of plates, the larger pair narrowed outwardly to an acute common point. Appendage of ninth sternite long and conspicuous, slightly widened beyond base, thence narrowed, at apex again dilated into an even larger pale blade (twisted in unique type slide and exact outlines uncertain). Outer dististyle, *d*, with about the basal half a slender curved stem, thence dilated into a flattened blade, about as figured, the lower margin with a small blackened blade or beak. Inner dististyle as figured; beak slender, at the exact outer point or summit of the style with a small flattened blade and an acute spine. Aedeagus stout, gently sinuous, apophyses very reduced. Eighth sternite, *8s*, large but only slightly sheathing, the caudal margin moderately convex, the central region filled with pale membrane to appear virtually emarginate.

Habitat: Peru.

Holotype, ♂, Pucallpa, Loreto, March 27, 1947 (José M. Schunke).

The structure of the ninth tergite of the male hypopygium indicates a relationship with forms such as *Tipula (Microtipula) decens* Alexander, *T. (M.) sternohirsuta* Alexander, and others, from all of which the present fly is readily told by the structure of the male hypopygium, particularly the proctiger, both dististyles, appendage of the ninth sternite and the eighth sternite.

Tipula (Microtipula) topoensis, sp. n.

Belongs to the *decens* group; mesonotum buffy yellow, the praescutal stripes undifferentiated; antennal flagellum black, the more proximal segments with the extreme tips yellowed; legs brownish black, the femoral bases vaguely obscure yellow; wings grayish subhyaline, the costal border and stigma brown; male hypopygium with the ventral spinous ridge of the ninth tergite bilobed at either end; each arm of the appendage of the ninth sternite unequally bilobed; dististyles of the two sides slightly asymmetrical.

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

Frontal prolongation of head yellow; nasus lacking or exceedingly short and blunt; palpi obscure yellow. Antennae (male) moderately long, exceeding one-third the length of wing; scape and pedicel yellow; first flagellar segment black, broadly yellow basally, the extreme tip similarly brightened; remainder of organ black, the extreme tips of flagellar segments two to four narrowly yellow, the amount decreasing on outer segments; flagellar segments very gently incised, longer than the verticils. Head buffy yellow, more whitened surrounding the antennal bases.

Mesonotum buffy yellow, the praescutal stripes not or scarcely differentiated. Pleura more uniformly yellow, the ventral sternopleurite slightly pruinose. Halteres infuscated, the base of stem restrictedly yellow. Legs with the coxae and trochanters yellow; remainder of legs brownish black, the femoral bases vaguely obscure yellow; claws broken. Wings grayish subhyaline; prearcular field, cells *C* and *Sc*, and the stigma brown, the last somewhat darker; wing tip vaguely darkened; veins dark brown. Venation: *Rs* arcuated, about one-third longer than *R*₂₋₃; cell *1st M*₂ narrowed outwardly; cell *M*₁ about one-half longer than its petiole; cell *2nd A* broad.

Abdomen obscure yellow, the lateral and posterior borders of the tergites vaguely darker; segments seven and eight black,

forming a conspicuous subterminal ring; hypopygium yellow. Male hypopygium (Fig. 8) with the ninth tergite, *9t*, about as in the *decens* group; caudal border broadly emarginate, the lateral lobes narrow, provided with long black setae; midline of the ventral surface with a ridge that bears rows of strong black setae, these projecting beyond the caudal margin as a pair of lobes, the cephalic end of the ridge similarly forking into two narrower lobes that are fringed with long black setae; caudal border on either side of midline with a pale semimembranous blade that is densely provided with delicate setulae; on ventral surface of tergal plate with abundant long pale setae. Proctiger about as in the group, appearing as a depressed plate, at apex narrowed and bearing abundant long reddish spines. Appendage of ninth sternite, *9s*, profoundly bifid, each arm unequally bilobed, the surface and margin with abundant pale seta-like fimbriations. Inner dististyles, *d*, of the two sides apparently asymmetrical, as figured, the spines of one side much longer and more conspicuous than the other. Distal ends of the outer dististyles of both sides broken but evidently bearing setae at and beyond midlength.

Habitat: Ecuador.

Holotype, ♂, Rio Topo, Tungurahua, altitude 1225 meters, December 1948 (Segundo Velastegui); through Macintyre.

The other members of the *decens* group, including *Tipula* (*Microtipula*) *decens* Alexander, *T. (M.) percomptaria* Alexander, *T. (M.) sternohirsuta* Alexander, and others, all differ in the structure of the male hypopygium.

Tipula (*Microtipula*) *impatiens*, sp. n.

General coloration yellow, the mesonotal praescutum and scutum with more orange areas; antennae (male) elongate, exceeding one-half the length of the wing, the proximal flagellar segments bicolored; legs yellow; wings faintly tinged with brown, the costal border darker, cell *Sc* yellow; abdomen yellow, the seventh and eighth segments brownish black; male hypopygium with the caudal margin of the ninth tergite produced into two lobes that are provided with long black setae; appendage of ninth sternite appearing as two slender rods, the outer third setuliferous; outer dististyle a blackened rod, hinged at base; inner dististyle a long-oval blade, its beak a slender black spine; caudal margin of eighth sternite produced into a pale depressed lobe.

Male. — Length, about 11 mm.; wing, 11.5 mm.; antenna, about 7.6 mm.

Frontal prolongation of head yellow; nasus distinct; palpi with proximal segments light brown, the outer ones still paler, more brownish yellow. Antennae (male) elongate, exceeding one-half the wing; basal three segments yellow, the succeeding ones bicolored, the bases brownish black, the apices yellow, on the third and succeeding flagellar segments the amount of yellow

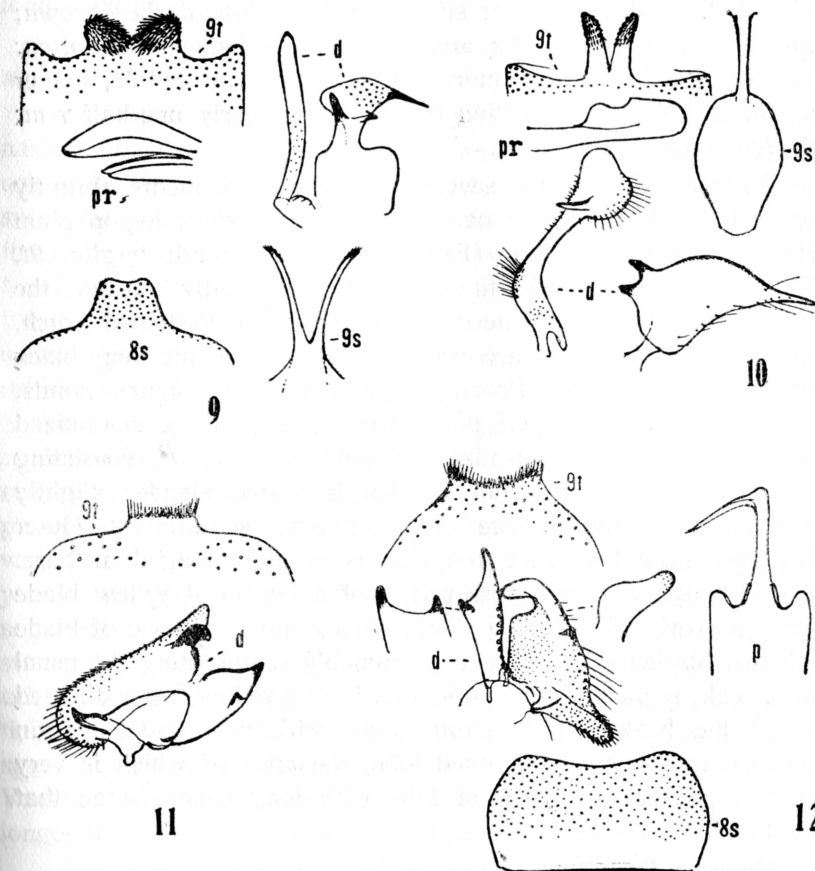


Fig. 9. *Tipula* (*Microtipula*) *impatiens*, sp. n.; male hypopygium. — Fig. 10. *Tipula* (*Microtipula*) *contemptata*, sp. n.; male hypopygium. — Fig. 11. *Tipula* (*Microtipula*) *amara*, sp. n.; male hypopygium. — Fig. 12. *Tipula* (*Microtipula*) *rectangulus*, sp. n.; male hypopygium. — (Symbols: *d*, dististyles; *p*, phallosome; *pr*, proctiger; *s*, sternite; *t*, tergite).

much restricted but persisting to the seventh segment, the remainder of organ uniformly blackened; basal swellings of segments small; longest verticils less than one-half the segments. Head light brown, more whitened surrounding the antennal bases, the center of the vertex with a linear pale brown line; no vertical tubercle.

Pronotum testaceous. Mesonotum chiefly testaceous, the three praescutal stripes and scutal lobes more orange; pleura and

pleurotergite more yellowed; scutellum and mediotergite with conspicuous pale setae. Halteres pale brownish, the knob only a little darker. Legs with the coxae and trochanters yellow; remainder of legs yellow, the outer tarsal segments a very little darker; claws broken. Wings with a faint brownish tinge, the costal border darker, including cell *C*, much of *R*, and the distal ends of outer radial cells; cell *Sc* yellow; stigma oval, slightly darker brown; veins brown. Venation: *Rs* arcuated, a little longer than *m-cu*; *R*₁₋₂ entire; vein *R*₂ erect, more than one-half *r-m*; cell *M*₁ longer than its petiole; basal section of *M*₄ erect, nearly one-half *r-m*; cell 2nd *A* relatively broad.

Abdomen yellow, the seventh and eighth segments abruptly brownish black to form a narrow subterminal ring; hypopygium yellow. Male hypopygium (Fig. 9) with the ninth tergite, 9*t*, slightly longer than wide, the caudal margin gently concave, the median area further produced, its apex with a V-shaped notch, forming two lobes that are provided with abundant long black setae, in part retrorse. Proctiger, *pr*, without blackened points, consisting of two unequal parts, the larger a more sclerotized troughlike structure. Appendage of ninth sternite, 9*s*, consisting of a median structure that divides into two slender slightly divergent rods, the surface of outer third setuliferous. Outer dististyles, *d*, a blackened rod that is strongly hinged at base. Inner dististyle consisting essentially of a long-oval yellow blade with a narrow stem; beak a slender black spine; at base of blade with two blackened spurs, one presumably representing the usual lower beak; surface of disk with several long yellow setae, directed toward the beak. Eighth sternite, 8*s*, with the caudal margin produced into a pale depressed lobe, the apex of which is very gently emarginate; surface of lobe with long coarse setae that are directed outward.

Habitat: Peru.

Holotype, ♂, Fundo Sinchono, Huanuco, altitude 1,500 meters, August 16, 1947 (José M. Schunke).

The present fly has no very close described relatives. In some respects it suggests *Tipula* (*Microtipula*) *effulta* Alexander, but the resemblance is not close.

Tipula (*Microtipula*) *contemplata*, sp. n.

Size relatively small (wing, male, 12 mm.); antennae elongate, about one-half as long as body, the flagellar segments chiefly bicolored; mesonotum orange, the praescutal interspaces weakly

infuscated; legs yellow; wings with a strong brownish tinge, the costal border broadly darker brown, the color continued to the wing tip; cell 2nd *A* broad; abdomen yellow, with a narrow dark brown subterminal ring; male hypopygium with the caudal border of tergite truncated, on either side of midline with a slender lobe; appendage of ninth sternite a flattened-depressed blade from a long slender stem.

Male. — Length, about 14 mm.; wing, 12 mm.; antenna, about 7.1 mm.

Frontal prolongation of head yellow, weakly darkened above; nasus distinct; palpi light brown. Antennae (male) elongate, about one-half the body length; basal three segments yellow, the succeeding ones bicolored, the basal enlargements brownish black, the extreme bases and the stems yellow; on the outer segments, the latter color becomes progressively more reduced, the outer two or three segments uniformly darkened; basal enlargements small, segments longer than the verticils. Head above brown, the orbits more yellowed.

Pronotum testaceous yellow. Mesonotal praescutum and scutum orange, the interspaces weakly infuscated, isolating broad stripes of the ground; scutellum and postnotum pale yellow, the pleurotergite a trifle more darkened. Pleura pale yellow. Halteres with stem obscure yellow, the apex of knob infuscated. Legs yellow, the tips of the tibiae narrowly darkened; outer tarsal segments brownish black; claws (male) toothed. Wings with a strong brownish tinge, the costal border broadly darker brown, cell *Sc* remaining yellow, the dark color continued to the wing tip; stigma slightly darker brown, oval; three isolated obliterative spots at the cord, in cells *R*, 1st *M*₂ and *M*₃; veins brown. Venation: *Rs* arcuated, nearly as long as *m-cu*; cell *M*₁ slightly longer than its petiole; cell 2nd *A* broad.

Abdomen yellow, the tergites narrowly darkened along the sides; segment seven and basal half of eight dark brown to form a subterminal ring; hypopygium yellow. Male hypopygium (Fig. 10) with the caudal border of the ninth tergite, 9*t*, truncated; on either side of midline with a slender lobe, on about the outer half with retrorse blackened setae. Proctiger, *pr*, with the paired upper blades compressed; lower blades setuliferous. Appendage of ninth sternite, 9*s*, a flattened depressed blade from a long slender stem. Dististyles, *d*, about as figured, the inner with the beak unusually long and slender, straight.

Habitat: Guatemala.

Holotype, ♂, Nahualate, altitude 485 feet, July 8, 1949 (Thomas H. Farr).

There are several allied species, including *Tipula* (*Microtipula*) *alecto* Alexander, *T. (M.) erostrata* Alexander, *T. (M.) eurymera* Alexander, *T. (M.) trinitatis* Alexander, and *T. (M.) urophora* Alexander, all differing among themselves and from the present fly in the details of structure of the male hypopygium.

Tipula (*Microtipula*) *amara*, sp. n.

Allied to *proctotricha*; mesonotum almost uniformly reddish brown, the scutellum a trifle darker; antennae elongate, exceeding one-half the length of wing; wings weakly infuscated, patterned with darker brown; male hypopygium with the tergite transverse, the central portion of the posterior margin produced into a low lobe that is fringed with black setae, the central ones more spinoid; outer dististyle oval, with a blackened point additional to the apical knob; inner dististyle with the beak flattened, its lower margin produced into a curved blackened lobe.

Male. — Length, about 11 mm.; wing, 12 mm.; antenna, about 7 mm.

Frontal prolongation of head light brown; nasus distinct; palpi with basal two segments brown, the third a little darker; fourth segment obscure yellow, narrowly infuscated basally. Antennae (male) elongate, exceeding one-half the length of the wing; basal three segments yellow, succeeding ones brown, the small basal enlargements slightly darker; verticils not exceeding one-half the length of the segments. Head medium brown, the front, anterior vertex and orbits light gray.

Pronotum brown. Mesonotal praescutum and scutum almost uniformly reddish brown, the scutellum a trifle darker. Pleura and pleurotergite more testaceous yellow. Halteres with stem brown, knob dark brown. Legs with the coxae and trochanters yellow; remainder of legs brownish yellow, the outer tarsal segments a very little darker; claws (male) toothed. Wings with a weak brownish tinge, restrictedly patterned with darker brown, this including the prearcular field, cell C, stigma and most of the outer radial field, more intense at margin; narrow brown seams at origin of *Rs*, along cord, outer end of cell 1st *M*₂ and over the outer medial fork; cell *Sc* yellow, paler than cell C; veins brown. Venation: *Rs* about one-third to nearly one-half longer than *m-cu*; *R*₁₋₂ preserved; basal section of *R*₄₋₅ very long, *r-m* correspondingly reduced; cell *M*₁ nearly twice its petiole; *m-cu*

a short distance before the fork of *M*₃₋₄; cell 2nd *A* moderately wide.

Abdomen chiefly light brown, badly broken in the unique type; segments six to eight, inclusive, darker brown to form a subterminal ring; sternites and hypopygium yellow. Male hypopygium (Fig. 11) with the tergite, 9t, transverse, the central part of the posterior margin slightly produced into a low transverse lobe that is fringed with more than 35 blackened setae, the outer ones more delicate, the central 20 to 25 stouter and more spinoid. Proctiger subrectangular in outline, setiferous on basal half, with a marked concentration at the mid-portion. Dististyles, *d*, about as shown, the outer style an oval structure that narrows to a blackened knob, on lower margin at near midlength with a further blackened conical point. Inner style with the beak flattened, with a curved blackened lobe on its lower portion; posterior part of style obtuse, with abundant setae, a few of which are very coarse; lower surface of lobe with a further conical blackened tooth. Aedeagus subtended by broadly oval apophyses.

Habitat: Peru.

Holotype, ♂, Chanchamayo, Junin, altitude 1,300 meters, July 20, 1947 (José M. Schunke). Paratopotype, ♂, 1,200 meters, February 10, 1949.

Tipula (*Microtipula*) *amara* is closely allied to *T. (M.) proctotricha* Alexander and *T. (M.) trichoprocta* Alexander, especially the former. All three species have the general features of the male hypopygium the same, differing in the structure of the ninth tergite and both dististyles.

Tipula (*Microtipula*) *rectangulus*, sp. n.

Size relatively small (wing, male, 10 mm.); thoracic dorsum almost uniformly obscure yellow, the praescutum unpatterned; antennae (male) moderate in length, slightly less than one-half the wing, brown, the proximal three segments yellow; wings conspicuously patterned with dark brown; male hypopygium with the tergite narrowed outwardly, the central part of the posterior border slightly produced, its margin very gently concave; aedeagus beyond midlength bent at slightly more than a rectangle into a long acute point.

Male. — Length, about 9 mm.; wing, 10 mm.; antenna, about 4.3 mm.

Frontal prolongation of head obscure yellow, darker on sides; nasus distinct; palpi brown. Antennae (male) moderately long, slightly less than one-half the length of wing; basal three segments

yellow, the succeeding ones brown, the basal enlargements scarcely darker than the remainder of the segments; verticils shorter than the segments.

Head above brown, light gray pruinose on front and the narrow orbits.

Thoracic dorsum almost uniformly obscure yellow, the praescutum unpatterned; pleura somewhat clearer yellow. Halteres with stem obscure yellow, knob slightly darkened. Legs with the coxae and trochanters yellow; femora yellowish brown, the bases clearer yellow, the tips somewhat darker; tibiae and tarsi dark brown; claws (male) conspicuously toothed. Wings with a weak brownish tinge, conspicuously patterned with dark brown, including the prearcular field, cells *C* and *Sc*, stigma, and an extensive clouding beyond the cord, most extensive in the outer radial field; origin of *Rs*, *m-cu* and medial veins conspicuously seamed with brown; veins brown. Venation: R_{1-2} entire; *Rs* strongly arcuated to subangulate at origin, a little longer than *m-cu*; basal section of R_{4-5} very long, greatly reducing to almost obliterating *r-m*; cell M_1 about one-third longer than its petiole; *m-cu* just before the fork of M_{3-4} ; cell 2nd *A* moderately broad.

Abdomen obscure brownish yellow, the tergites with a broad, nearly entire, dark brown central stripe; no sign of sublateral darkenings; segments six and seven, with the base of the eighth sternite, blackened, to form a conspicuous subterminal ring; hypopygium light yellow. Male hypopygium (Fig. 12) with the ninth tergite, 9*t*, narrowed outwardly, the central part of the posterior border slightly produced into a broad median lobe, its margin very gently concave, the border densely fringed with black setae, those in the center of the row shorter and more peglike. Proctiger without blackened points. Dististyles, *d*, about as figured; the smaller outer style unequally bispinous at outer end. Aedeagus, *a*, beyond midlength bent at slightly more than a rectangle into a long acute spinous tip. Eighth sternite, 8*s*, transverse, the apical third abruptly yellow; caudal border subtruncate to very gently emarginate.

Habitat: Peru.

Holotype, ♂, Chanchamayo, Junin, altitude 1,100 meters, January 28, 1949 (José M. Schunke). Paratopotype, ♂, February 9, 1949.

The most similar described species are *Tipula (Microtipula) amara*, sp. n., and *T. (M.) jivaronis* Alexander, which are well-distinguished by the hypopygial characters, particularly the tergite, dististyles and aedeagus.

Tipula (Microtipula) virgilia, sp. n.

Mesonotum chiefly reddish brown, the mediotergite gray pruinose; halteres brownish black; legs brownish black to black; wings with the costal border broadly dark brown, including cells *C* and *Sc* and much of *R*, the dark color continued to the wing tip in outer radial cells; other conspicuous clouds on wing, the largest over *m-cu*; *Rs* relatively long, nearly twice *m-cu*; cell M_1 short, subequal to its petiole; abdominal tergites brown, each segment with a large darker brown sublateral area, the extreme lateral borders grayish.

Female. — Length, about 15 mm.; wing, 14 mm.; antenna, about 2.8 mm.

Frontal prolongation of head moderately long, about two-thirds the remainder of head, obscure buffy yellow above, dark brown on sides; nasus stout; palpi dark brown, the outer two-thirds of the terminal segment paler. Antennae (female) with scape and pedicel yellow; basal two flagellar segments testaceous yellow, the remaining ones gradually darkening in color, subcylindrical, the basal swellings only feebly indicated; longest verticils shorter than the segments. Head with front buffy yellow, the posterior portions above more darkened, sparsely pruinose; posterior orbits very narrowly light gray.

Pronotum brown, gray pruinose, more heavily so on sides. Mesonotal praescutum, scutum and scutellum reddish brown, the praescutum with three very poorly indicated darker stripes; mediotergite gray pruinose. Pleura and pleurotergite light gray, dorsopleural membrane more yellowed. Halteres brownish black, the extreme base of stem obscure yellow. Legs with the coxae light gray; trochanters brownish yellow; remainder of legs passing through dark brown to black, the femoral bases more yellowed. Wings with the costal border broadly dark brown, including cells *C*, *Sc* and all of the basal half of *R*, thence continued distad to the wing tip, involving the stigma and all radial cells beyond the cord, excepting most of R_5 ; cell R_1 before stigma extensively pale; other seams over *m-cu* and distal section of Cu_1 , outer end of cell 1st M_2 , and the veins issuing from the latter cell; center of wing creamy yellow, the anal cells more grayish; veins brown, pale in the cubital and anal cells. Macrotrichia on veins R_{2-3} and R_3 , on outer half of R_{4-5} very sparse and scattered. Venation: *Rs* relatively long, nearly twice *m-cu*; R_{1-2} entire; cell 1st M_2 narrow; cell M_1 short, subequal to its petiole; M_{3-4} shorter than the basal section of M_{1-2} ; cell 2nd *A* of moderate width.

Abdominal tergites brown, each segment with a large darker brown sublateral area, the lateral borders narrowly grayish; extreme basal portions light gray, with a transverse pitted area on either side of midline; basal tergite broadly more yellowed on sides, succeeding tergites more vaguely obscure yellow just inside the more darkened sublateral parts; sternites chiefly concealed, the visible outer ones infuscated. Ovipositor with both the cerci and hypovalvae fleshy, flattened, the tips darkened and obtuse; surface of all valves conspicuously hairy to their tips.

Habitat: Peru.

Holotype, ♀, Aquaitia, Loreto, altitude 290 meters, September 17, 1946 (Felix Woytkowski).

An unusually attractive species, most similar in its wing pattern to *Tipula* (*Microtipula*) *palaeogama* Alexander, differing in all details of coloration of the body and wings, and in the venation.

Tipula (*Microtipula*) *palaeogama* Alexander

1944. *Tipula* (*Nephrotomodes*) *palaeogama* Alexander; Ann. Ent. Soc. America, 37: 307-309.

The type was from Abitagua, Napo-Pastaza, Ecuador, altitude 1,800 meters, April 15, 1940, taken by Macintyre. The male hypopygium of the type is shown (Fig. 15).

Tipula (*Microtipula*) *apollyon*, sp. n.

General coloration buffy yellow, the pleura clearer yellow; praescutum with a narrow darker median line; antennal flagellum black, the segments incised; wings with a strong brownish tinge, the costal border darker brown; *Rs* somewhat shorter than *m-cu*; abdomen fulvous yellow, the tergites with a narrow lateral stripe; subterminal segments blackened to form a narrow ring, hypopygium yellow; male hypopygium with the caudal border of tergite produced into a long more darkened portion that bears numerous short black setae; proctiger setiferous; appendage of ninth sternite small, more or less prow-shaped, tipped with abundant stout reddish setae; outer dististyle unequally bifid at outer end; inner style with a pale setiferous cushion on its face at base of the spinelike lower beak.

Male. — Length, about 12 mm.; wing, 12 mm.

Frontal prolongation of head relatively short, obscure yellow; nasus distinct; palpi pale brown, the terminal segment paling to light yellow. Antennae (male) relatively long; scape and pedicel yellow; most of remainder of antenna broken but flagellum

probably almost uniformly blackened, the proximal end of the first segment yellow; flagellar segments rather strongly incised, longer than the segments. Head medium brown.

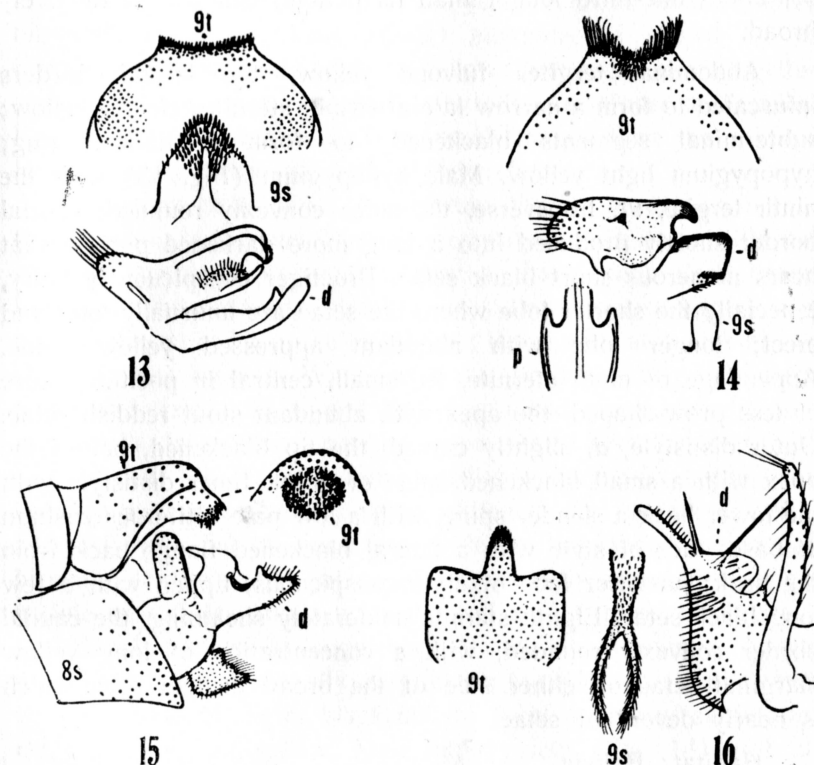


Fig. 13. *Tipula* (*Microtipula*) *apollyon*, sp. n.; male hypopygium. — Fig. 14. *Tipula* (*Microtipula*) *opipara*, sp. n.; male hypopygium. — Fig. 15. *Tipula* (*Microtipula*) *palaeogama* Alexander; male hypopygium. — Fig. 16. *Tipula* (*Microtipula*) *subeffeta*, sp. n.; male hypopygium. — (Symbols: d, dististyles; p, phallosome; s, sternite; t, tergite).

Thorax almost uniformly buffy yellow, the pleura and pleurotergite clearer yellow; mesonotum somewhat more fulvous, the praescutum narrowly darker medially. Halteres brownish yellow, the knobs darker brown. Legs with the coxae and trochanters yellow; femora brown, yellowed basally; tibiae dark brown; tarsi black; claws (male) toothed. Wings with a strong brownish tinge, the prearcular field, cells C and Sc, and the stigma much darker brown to form a narrow costal border; a narrow and vague darkened seam over the anterior cord; restricted

obliterative areas before stigma and across cell 1st M_2 , with other whitish streaks in the outer cells; veins dark brown. Venation: R_{1-2} strongly preserved; R_s somewhat shorter than $m-cu$; $r-m$ more than one-third as long as the basal section of R_{4-5} ; cell M_1 about one-third longer than its petiole; cell 2nd A relatively broad.

Abdominal tergites fulvous yellow, the lateral borders infuscated to form a narrow lateral stripe; sternites clearer yellow; subterminal segments blackened, to form a narrow ring; hypopygium light yellow. Male hypopygium (Fig. 13) with the ninth tergite, 9t, transverse, the sides convexly rounded; caudal border shortly produced into a long more darkened portion that bears numerous short black setae. Proctiger conspicuously hairy, especially the shorter lobe where the setae are unusually long and erect; longer lobe with abundant appressed yellow setae. Appendage of ninth sternite, 9s, small, central in position, more or less prow-shaped, the apex with abundant stout reddish setae. Outer dististyle, d , slightly curved, the tip blackened, before the apex with a small blackened spine or point. Inner dististyle with the lower beak a slender spine, with a low pale setiferous cushion at base; face of style with a lateral blackened flange back from the beak; posterior lobe of style conspicuous, tipped with a few long black setae. Eighth sternite moderately sheathing, the caudal border convexly rounded, with a concentration of long yellow marginal setae on either side of the broad median area which is nearly devoid of setae.

Habitat: Bolivia.

Holotype, ♂, Paractito, Cochabamba, September 22, 1949 (Luis E. Peña).

Tipula (Microtipula) apollyon superficially resembles species such as *T. (M.) luctifica* Alexander, *T. (M.) niobe* Alexander, and others, differing in the coloration, structure of the antennae, and especially in all details of the male hypopygium.

Tipula (Microtipula) opipara, sp. n.

General coloration obscure orange or fulvous; antennae (male) elongate, exceeding one-half the body or wing, flagellum black; wings weakly infuscated, patterned with brown, the cells before the cord conspicuously more whitened; basal abdominal segments yellow, the subterminal ones blackened to form a ring; male hypopygium with the ninth tergite narrowed outwardly, the caudal margin subtruncate, fringed with black setae, with a further

concentration at the midline; appendage of ninth sternite a small oval lobe; dististyles compact.

Male. — Length, about 11 mm.; wing, 11.3 mm.; antenna, about 7 mm.

Frontal prolongation of head yellow; nasus distinct; palpi brownish black. Antennae (male) elongate, as shown by the measurements; scape and pedicel yellow; first segment of flagellum obscure yellow, more infuscated outwardly, remainder of flagellum black; segments weakly incised, much longer than the verticils. Head obscure buffy; no vertical tubercle.

Pronotum pale brown. Mesonotum obscure orange or fulvous, the scutellum testaceous. Pleura more yellowed. Halteres with stem weakly infuscated, narrowly yellow at base, knob dark brown. Legs with the coxae and trochanters yellow; femora light brown, more yellowed at base, the tip darker; tibiae and tarsi dark brown; claws (male) toothed. Wings with the ground weakly infuscated; prearcular field, cells C and Sc , stigma and distal ends of outer radial cells dark brown; narrow brown seams over the cord, outer end of cell 1st M_2 and outer medial veins; cells before cord broadly and conspicuously more whitened, the centers of cell R and the outer medial ones less evidently brightened; veins dark brown. Venation: R_{1-2} preserved; R_s strongly arcuated at origin; petiole of cell M_1 about twice m ; cell 2nd A relatively broad.

Basal abdominal segments yellow, the proximal tergites narrowly darkened laterally; tergites six to eight and sternite seven, with the base of eight, blackened to form a narrow subterminal ring; hypopygium yellow. Male hypopygium (Fig. 14) with the ninth tergite, 9t, narrowed outwardly, the caudal margin subtruncate or very slightly emarginate, with a fringe of black setae; ventral surface of the median area with a concentration of shorter spinous setae. Proctiger moderately setiferous. Appendage of ninth sternite, 9s, a small oval lobe. Dististyles, d , compact; outer style subquadrate or suboval in outline, the margins blackened; inner style larger, its posterior lobe enlarged, with elongate setae, chiefly yellow, a few on the upper portion longer and blackened. Eighth sternite not sheathing, its caudal margin truncate.

Habitat: Bolivia (Yungas District).

Holotype, ♂, Cristal Mayu, Chapare, altitude 1,200 meters, October 10, 1949 (Luis E. Peña).

The most similar regional species include *Tipula (Microtipula) epione* Alexander, *T. (M.) intemperata* Alexander, and others, all differing in the coloration of the body and wings and in the structure of the male hypopygium.

Tipula (Microtipula) subeffeta, sp. n.

Allied to *effeta*; mesonotum almost uniformly dark brown, the pleura yellow; antennae moderately long, flagellum black; claws (male) simple; wings narrow, strongly infuscated, the costal border narrowly darker brown; male hypopygium with the median lobe of the tergite relatively narrow; appendage of ninth sternite lyriform, the branches subequal in length to the stem; inner dististyle with the rostrum a slender blade, at its base with two unequal blackened spines.

Male. — Length, about 15 mm.; wing, 12 mm.; antenna, about 5.7 mm.

Frontal prolongation of head brown above, yellow on sides; nasus short and stout; palpi with basal two segments brown, the terminal two yellow. Antennae with the scape and pedicel yellow, flagellum black; flagellar segments elongate-cylindrical, much longer than any of the verticils, the basal swellings small. Front and cephalic portion of the anterior vertex buffy yellow, the remainder of head dark brownish gray.

Pronotum brownish testaceous. Mesonotum almost uniformly dark brown, sparsely pruinose, the humeral and lateral portions obscure yellow; praescutal setae very short and sparse; lateral borders of mediotergite and ventral part of pleurotergite obscure yellow. Pleura yellow. Halteres brownish black. Legs with the coxae and trochanters yellow; remainder of legs dark brown to black, very long and slender; claws (male) small, simple. Wings narrow, strongly infuscated, cells *C* and *Sc*, with the stigma, even darker; posterior cells beyond the arculus and a prestigmal area paler; veins brown. Venation: *Sc*₂ ending about opposite three-fourths the length of *Rs*; *R*₁₋₂ preserved; petiole of cell *M*₁ nearly three times *m*; cell 2nd *A* very long and narrow.

Abdominal tergites dark brown, the outer ones a trifle more brightened at their extreme bases; proximal sternites yellow; a subterminal brownish black ring; hypopygium chiefly yellow, the tergite infuscated. Male hypopygium (Fig. 16) with the ninth tergite, 9*t*, subquadrate in outline, the median region produced caudad into a relatively narrow median lobe, the tip with dense blackened setae. Proctiger without blackened spines or points. Appendage of ninth sternite, 9*s*, lyriform, the stem subequal in length to the arms, its vestiture short and squamose; arms provided with long yellow fimbriations. Basistyle on mesal face with a triangular lobe, the surface microscopically roughened or squamulose, the outer face heavily blackened. Outer dististyle, *d*,

a simple cylindrical gently curved rod, its surface with scattered black setae, including a concentration of four or five at apex. Inner dististyle complex, the rostral part a slender darkened blade, near its base produced into two slender black spines, one fully twice as long as the other. Gonapophyses appearing as elongate flattened blades subtending the aedeagus.

Habitat: Peru.

Holotype, ♂, Tarapoto, San Martin, altitude 830 meters, March 11, 1947 (Felix Woytkowski).

The most similar described species are *Tipula (Microtipula) effeta* Alexander and *T. (M.) lyriformis* Alexander, both of which have the general appearance, wing color and venation much the same, differing in the details of structure of the male hypopygium, especially the tergite and inner dististyle.

Tipula (Eumicrotipula) accumulatrix, sp. n.

Size medium (wing, male, about 9 mm.); mesonotal praescutum brownish yellow with three brown stripes, the median one vaguely divided by a pale vitta, the anterior end of the stripe darker; antenna (male) relatively long, about two-thirds the wing, the flagellar segments strongly bicolored; wings brownish gray, patterned with darker brown and cream yellow areas, the costal border darker, interrupted by three relatively small subcircular yellow spots; vague pale spots in the distal ends of the outer medial cells; cell 1st *M*₂ small, irregularly pentagonal; cell *M*₁ deep; male hypopygium with the tergal notch rounded, broader than deep.

Male. — Length, about 8 mm.; wing, 8.9 mm.; antenna, about 6 mm.

Frontal prolongation of head buffy above, infuscated on sides below; nasus lacking; palpi black. Antennae (male) relatively long, as shown by the measurements; scape and pedicel yellow, the latter paler; flagellar segments bicolored, black on more than the proximal half, the apex yellow, the amount of the latter color decreasing on the outer segments; antennae broken beyond the seventh segment where the bicolorous nature is still apparent; flagellar segments long-cylindrical, with a dense erect white pubescence that is from one-half to nearly two-thirds as long as the diameter of the segment; verticils subbasal, about one-half longer than the diameter of the segment. Front yellow, the vertex slightly infuscated; vertical tubercle very low, vaguely grooved medially.

Pronotum light brown. Mesonotal praescutum brownish

yellow, with three brown stripes, the median one vaguely divided by a pale vitta, the anterior end of the stripe darker, humeral region more yellowed; scutum brownish gray, each lobe with two confluent dark brown areas; scutellum testaceous yellow, parascutella darkened; postnotum chiefly dark brown. Pleura and pleurotergite gray pruinose; a more or less distinct darkened area on the anepisternum, propleura more yellowed; dorsopleural membrane buffy. Halteres pale yellow, the knob brownish black. Legs with the fore coxae yellow, the others more brownish gray; trochanters yellow; femora obscure brownish yellow, clearer yellow at base, passing into black at outer end, the latter enclosing an obscure yellow ring that slightly exceeds the blackened apex; tibiae and tarsi black. Wings with the ground brownish gray, patterned with darker brown and cream yellow areas; the darker color includes the costal border, interrupted by three relatively small subcircular yellow spots, the central one not quite reaching costa; wing apex and a broad seam along vein *Cu* in cell *M* darkened, the latter interrupted by yellow opposite the first and third costal interspaces; vague pale spots in ends of cells *R*₅ to *M*₃, inclusive; an extensive post-stigmal brightening; two pale areas near outer end of cell *1st A*; prearcular field yellowed, clearer close to the arculus; veins brown, yellow in the brightened parts. Venation: *R*₁₋₂ lacking; *R*_s straight, nearly twice *m-cu*; cell *1st M*₂ small, irregularly pentagonal, *m* being the shortest element, about one-third to one-fourth the petiole of cell *M*₁, the latter cell deep; *m-cu* on *M*₃₋₄ before the fork.

First abdominal tergite and basal half of tergite two light yellow, the succeeding tergites dark brown, the posterior lateral portions more yellowed; sternites and hypopygium dark brown. Male hypopygium with the median notch of the tergite rounded, broader than deep, the adjoining margins subangular or weakly produced.

Habitat: Guatemala.

Holotype, ♂, El Naranjo, Chicacao, altitude 4,000 feet, August 8, 1949 (Thomas H. Farr).

The most similar described regional species is *Tipula* (*Eumicrotipula*) *obscuricincta* Alexander, which differs especially in the short antennae of the male and in all details of coloration and venation.

Tipula (*Eumicrotipula*) *cyclomera*, sp. n.

Belongs to the *glaphyoptera* group; mesonotal praescutum with four dark brown stripes, the intermediate pair on the cephalic

half only, the center of the disk brownish gray; flagellar segments uniformly brownish black; legs black, the femora with a narrow yellow subterminal ring; wings whitish subhyaline, restrictedly patterned with darker; abdomen yellow, the outer half blackened; male hypopygium with the caudal border of tergite triemarginate;

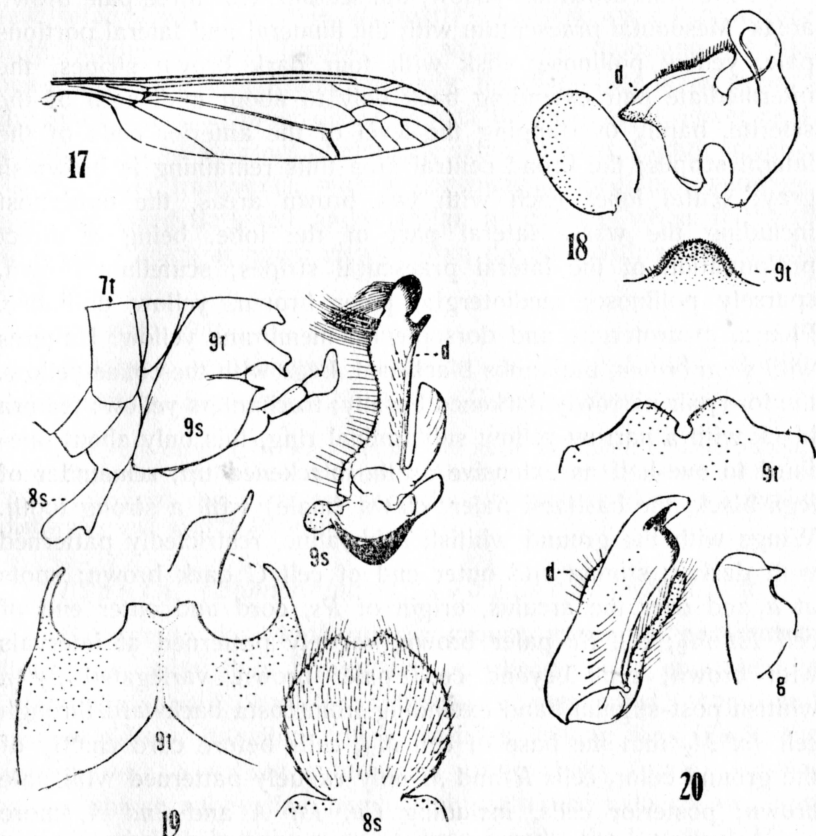


Fig. 17. *Tipula* (*Neotipula*) *paprzyckii* Alexander; venation. — Fig. 18. *Tipula* (*Tipula*) *subvirgo*, sp. n.; male hypopygium. — Fig. 19. *Tipula* (*Eumicrotipula*) *cyclomera*, sp. n.; male hypopygium. — Fig. 20. *Tipula* (*Eumicrotipula*) *subglabrata*, sp. n.; male hypopygium. — (Symbols: d, dististyles; g, gonapophysis; s, sternite; t, tergite).

eighth sternite with an unusually large and conspicuous subcircular appendage.

Male. — Length, about 15 mm.; wing, 15.5 mm.; antenna, about 3.8 mm.

Frontal prolongation of head subequal in length to the remainder of head, brownish yellow above, abruptly blackened on sides and beneath; nasus short and stout; palpi dark brown, passing into black. Antennae (male) of moderate length; scape

and pedicel yellow, flagellum brownish black; flagellar segments very feebly incised, the basal swellings slightly indicated; longest verticils subequal to the segments. Head above obscure yellow; anterior vertex nearly three times the diameter of the scape; vertical tubercle low.

Pronotum brownish yellow, the scutum with three pale brown areas. Mesonotal praescutum with the humeral and lateral portions pale, yellow pollinose; disk with four dark brown stripes, the intermediate pair extending back only to about midlength of the sclerite, barely overlapping the level of the anterior ends of the lateral stripes; the broad central area thus remaining is brownish gray; scutal lobes each with two brown areas, the outermost including the whole lateral part of the lobe, being a direct prolongation of the lateral praescutal stripes; scutellum brown, sparsely pollinose; mediotergite paler brown, yellow pollinose. Pleura, pleurotergite and dorsopleural membrane yellow. Halteres with stem brown, the knobs blackened. Legs with the coxae yellow, the fore pair narrowly darkened basally; trochanters yellow; femora black with a narrow yellow subterminal ring, this only about one-third to one-half as extensive as the blackened tip; remainder of legs black, the basitarsi paler; claws (male) with a strong tooth. Wings with the ground whitish subhyaline, restrictedly patterned with darker; stigma and outer end of cell *C* dark brown; spots at *h* and over the arculus, origin of *Rs*, cord and outer end of cell *1st M*₂; cell *Sc* paler brown, vaguely patterned at intervals with brown; cells beyond cord paler brown, variegated by a whitish post-stigmal band extending from costa backward through cell *1st M*₂ into the base of cell *M*₃; cells before cord chiefly of the ground color, cells *R* and *M* only vaguely patterned with pale brown; posterior cells, including *Cu*, *1st A* and *2nd A*, more extensively clouded with pale brown; veins brown. No squamal setae; veins beyond cord with abundant short trichia. Venation: *R*₁₋₂ present but pale, with trichia only at base; petiole of cell *M*₁ shorter than *m*; cell *1st M*₂ pentagonal, the second section of *M*₁₋₂ nearly twice *m*; *m-cu* at fork of *M*; cell *2nd A* broad.

Basal abdominal segments yellow, the lateral tergal borders narrowly darkened, most evident on the second segment; fifth and succeeding segments blackened. Male hypopygium (Fig. 19) with the ninth tergite and sternite fused basally, the posterior half with a membranous suture. Basistyle produced into a small acute spine that is directed caudad. Ninth tergite, *9t*, with the median region produced into a quadrate plate, its caudal margin with a

shallow U-shaped emargination; median plate separated from the deflected lateral blades by major rounded emarginations; viewed from the side, the lateral blades appear flattened, the lower angle of each produced into a spine; bases of lateral blades with numerous long black setae, the broad median blade glabrous or virtually so. Appendage of ninth sternite very small, with relatively few setae. Outer dististyle, *d*, nearly glabrous, its outer surface with oblique parallel furrows; in shape, the style appears like one-half of an egg split longitudinally, the plane face being toward the inner dististyle. Inner dististyle with the beak stout, lower beak small; two separate rows of elongate setae on crest. Eighth sternite, *8s*, narrowly transverse, with a conspicuous median appendage, this depressed-flattened and circular in outline, when flattened showing a notch at apex; viewed from the side with a lateral lobe or tooth.

Habitat: Peru.

Holotype, ♂, Cinchao, Huanuco, on wooded hills, altitude 2,500 meters, September 22, 1947 (George Woytkowski).

This very distinct fly suggests species such as *Tipula* (*Eumicrotipula*) *inca* Alexander or *T. (E.) tephronota* Alexander, but is entirely different. The hypopygial characters are unusually strong, particularly the tergite, dististyles and eighth sternite.

Tipula (*Eumicrotipula*) *subglabrata*, sp. n.

Belongs to the *glaphyroptera* group; mesonotal praescutum light gray, with four brown stripes, the anterior ends of the intermediate pair obsolete; antennae 12-segmented, scape and pedicel yellow, flagellum black; halteres yellow; legs black, the femora with a yellow subterminal ring; claws (male) simple; wings whitish subhyaline, handsomely patterned with yellow, light brown and dark brown; *m-cu* at three-fourths the length of *M*₃₋₄; abdominal tergites light yellowish brown, the borders conspicuously blackened; male hypopygium with no evident appendage on eighth sternite; inner dististyle with the crest unusually glabrous.

Male. — Length, about 17 mm.; wing, 18 mm.; antenna, about 3 mm.

Frontal prolongation of head brownish black above, paling to yellow beneath; palpi brownish black. Antennae (male) moderately long, 12-segmented, including the terminal button; scape and pedicel yellow, flagellum black; flagellar segments with basal enlargements small and inconspicuous, the segments feebly to scarcely incised; verticils a little exceeding the segments. Head

buffy yellow; anterior vertex about twice the greatest diameter of scape.

Pronotum buffy yellow, darker on sides. Mesonotal praescutum with four brown stripes, the anterior ends of the intermediate pair obsolete, the stripes confluent behind; interspaces light gray, the central area more suffused in front, lateral praescutal borders chiefly dark brown; posterior sclerites of notum brown, pruinose, the mediotergite darker brown. Pleura chiefly light gray pruinose, more or less variegated with darker; dorsopleural membrane more or less darkened. Halteres elongate, yellow. Legs with the coxae and trochanters light gray pruinose; remainder of legs black, the femora with a yellow subterminal ring, this slightly narrower than the blackened tip; femoral bases slightly paler than the remainder; claws (male) simple. Wings whitish subhyaline, handsomely patterned with yellow, light brown and dark brown; the yellow color includes the stigma and the subcostal interspaces; the darkest pattern involves a major post-aricular area, with spots at origin of *Rs*, at one-third the length of cell *R*, the anterior cord, this confluent with a major darkening over the outer end of cell *1st M*₂, the latter sending an oblique arm or spur to the costal border across the outer radial field, ending in cell *R*₂; a further major seam over the outer two-fifths of vein *Cu*, including *m-cu*; smaller brown marginal spots, much larger on *2nd A* and as marginal areas in cells *1st A* and *2nd A*; the pale ground is subequal to or a little more extensive than the dark pattern; veins yellow, slightly darker in the patterned portions. Venation: *Rs* long, more than twice *m-cu*; *R*₁₋₂ entire, with trichia except at tip; *m-cu* at three-fourths the length of *M*₃₋₄.

Abdominal tergites light yellowish brown, the surface sparsely pruinose, the caudal borders narrowly pale; lateral tergal margins conspicuously blackened; basal sternites light yellowish brown, the outer segments somewhat darkened medially; hypopygium brownish yellow, the basistyles darker. Male hypopygium (Fig. 20) with the ninth tergite, *9t*, transverse, the caudal margin with two rounded lobes, separated by a smaller subcircular median notch; vestiture of tergite, including the lobes, small and sparse. Basistyle entire, small. Appendage of ninth sternite small, elongate. Outer dististyle, *d*, long and narrow, about two-thirds as long as the inner style, provided with abundant long setae over the entire length. Inner dististyle with the entire outer margin virtually glabrous, without the conspicuous crests and fringes of setae common in the subgenus; dorsal crest a very low flange or lobe,

with a few pale scattered setae; beak of style pale, lower beak much broader and obtuse, heavily blackened. Gonapophysis, *g*, flattened, the apex very obtuse, the beak small and inconspicuous. Eighth sternite without an appendage.

Habitat: Peru.

Holotype, ♂, Chinchao, Huanuco, on wooded hills, altitude 2,500 meters, September 22, 1947 (George Woytkowski).

This striking fly requires little comparison with other species. In the nature of its wing pattern it suggests *Tipula (Eumicrotipula) mocoa* Alexander, of Colombia, differing in all details of coloration and pattern of the wings. The male sex of *mocoa* is still unknown.

Tipula (Eumicrotipula) mithradates, sp. n.

Belongs to the *glaphyoptera* group; mesonotal praescutum yellow, with three brown stripes, additional to the lateral darkening; femora brown, the distal end broadly yellow, enclosing a black subterminal ring; wings pale cream, the base and anterior border more yellowed; a heavy marmorate dark and paler brown pattern; abdomen chiefly yellow; male hypopygium very large and conspicuous, especially the swollen ninth tergite, the latter with the apical margin produced into five arms or blades; outer dististyle appearing as a nearly glabrous arm, the apex expanded; inner dististyle with two groups of long and conspicuous reddish setae.

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

Frontal prolongation of head brownish yellow; nasus small and inconspicuous; palpi yellow, the outer fourth of the terminal segment more infuscated. Antennae (male) moderately long; scape and pedicel yellow, flagellum bicolored, yellow, the basal enlargements black, the bicolored nature persisting throughout the length of the organ. Head yellow, the vertex with a brown central stripe; vertical tubercle relatively low.

Pronotum yellow, with three brown areas. Mesonotal praescutum yellow, with three brown stripes, the lateral borders similarly darkened; scutum yellow, each lobe with three confluent brown areas, the central region again darkened; scutellum yellow, with a brown central line that is widened behind; mediotergite yellow with about the central third dark brown, the posterior border again pale; pleurotergite with the anapleurotergite pale, the swelling of the katapleurotergite darkened. Propleura patterned with pale brown, the remainder of pleura chiefly yellow, very

vaguely darkened. Halteres elongate, yellow. Legs with the coxae and trochanters yellow; femora obscure brownish yellow basally, passing into brown, the distal fifth or sixth yellow, enclosing a black subterminal ring, this subequal in width to the yellow tip; tibiae and basitarsi brown, the tips narrowly blackened; remainder of tarsi darker brown; claws (male) with a strong basal tooth. Wings with the ground pale cream color, the costal and prearcular fields strongly yellow; a heavy marmorate dark and paler brown pattern, the darker areas including a postarcular mark and spots at near midlength of vein *Sc*, origin of *Rs* and cord; apical and posterior cells chiefly covered by paler brown clouds, each apical cell with a central yellow spot at margin; dark cloud in outer end of cell *M* with a paler center; darkened pattern in cells *Cu*, 1st *A* and 2nd *A* conspicuously zigzag; stigma and distal ends of outer radial cells paler cinnamon brown; a linear brown streak down the center of cell *R*, interconnecting the three dark areas; obliterative area through cell 1st *M*₂ and deep into cell *M*₃ more whitened; outer third of cell *R*₅ more yellowish white; veins brown, more yellowed in the brighter costal portions. Venation: *R*₁₋₂ entire; *Rs* about twice *m-cu*; cell 1st *M*₂ pentagonal; *m* and petiole of cell *M*₁ subequal.

Abdomen, including hypopygium, chiefly yellow, the first tergite restrictedly darkened medially above. Male hypopygium (Figs. 21, 22) very large, especially the ninth tergite which is large and tumid, this particularly conspicuous when viewed from above; suture between the tergite and sternite indicated by pale membrane. Ninth tergite, *9t*, with conspicuous incurved lateral bladeliike arms that project beyond the level of the median armature; the latter consists of a small triangular central lobe subtended by larger and more flattened sclerotized blades that appear spinelike when viewed from above; lateral tergal arms when viewed laterally appearing as flattened blades, their tips more or less bifid. Outer dististyle, *od*, distinctive, appearing as a nearly glabrous arm, the apex expanded into a subtriangular blade. Inner dististyle, *id*, narrow, the lower beak smaller than the primary or outer one; the entire crest of the style with two separate rows of long setae, the outer group shorter and more nearly straight, each seta bulbous at apex; lower group of setae extending in a long row over about one-third the length of the style, forming a very dense group of long strongly warty reddish setae. Gonapophyses with the mesal apical lobe a slender curved rod, united with the darker basal rod by pale membrane, producing

a hinged appearance. Eighth sternite, *8s*, with a ligulate median lobe that is provided with long setae, the base with a further group of even longer reddish bristles that subtend the lobe.

Habitat: Peru.

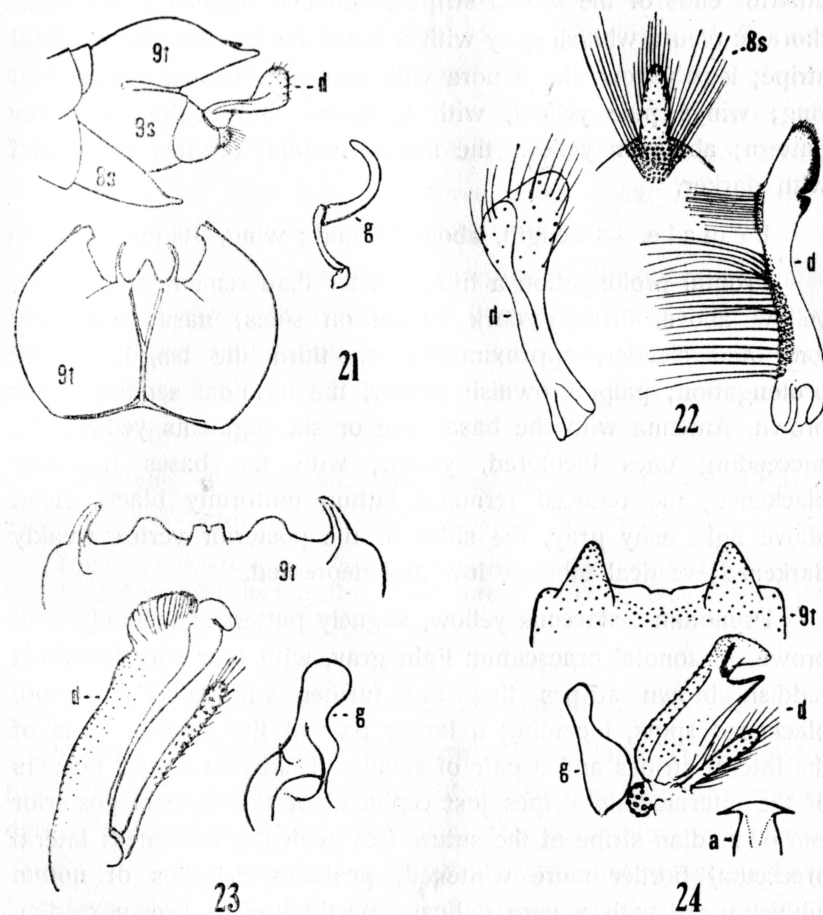


Fig. 21, 22. *Tipula* (*Eumicrotipula*) *mithradates*, sp. n.; male hypopygium. — Fig. 23. *Tipula* (*Eumicrotipula*) *fortior*, sp. n.; male hypopygium. — Fig. 24. *Tipula* (*Eumicrotipula*) *notoria* Alexander; male hypopygium. — (Symbols: *d*, dististyles; *g*, gonapophysis; *s*, sternite; *t*, tergite).

Holotype, ♂, Chinchao, Huanuco, on wooded hills, altitude 2,500 meters, September 16, 1947 (George Woytkowski). Paratopotype, ♂, September 21, 1947.

This striking fly requires little comparison with other generally similar members of the *glaphyoptera* group. In its general appearance it suggests forms like *Tipula* (*Eumicrotipula*) *juventa* Alexander but the details of coloration and, especially, the male hypopygium are entirely distinctive.

Tipula (Eumicrotipula) infidelis, sp. n.

Belongs to the *glaphyoptera* group; mesonotum light gray, with four very indistinct reddish brown stripes, the latter variegated by four more blackened spots, the larger ones representing the anterior ends of the lateral stripes; antennal flagellum bicolored; thoracic pleura whitish gray with a broad dark brown longitudinal stripe; legs yellow, the femora with a narrow brown subterminal ring; wings pale yellow, with a sparse and scattered darker pattern; abdomen yellow, the more proximal tergites variegated with darker.

Female. — Length, about 18 mm.; wing, 19 mm.

Frontal prolongation a little shorter than remainder of head, yellow above, broadly dark brown on sides; nasus unusually long and slender, approximately one-third the length of the prolongation; palpi brownish yellow, the terminal segment dark brown. Antenna with the basal five or six segments yellow, the succeeding ones bicolored, yellow, with the bases narrowly blackened, the reduced terminal button uniformly black. Head above light ashy gray, the sides of the posterior vertex weakly darkened; vertical tubercle low and depressed.

Pronotum testaceous yellow, vaguely patterned medially with brown. Mesonotal praescutum light gray, with four very indistinct reddish brown stripes that are further variegated by more blackened spots, including a larger pair at the anterior ends of the lateral stripes and a pair of smaller dashes on lateral borders of the intermediate stripes just cephalad of the former; posterior end of median stripe at the suture less evidently darkened; lateral praescutal border more whitened; posterior sclerites of notum whitish gray with a very delicate, partly broken brown median vitta. Pleura whitish gray, with a broad conspicuous dark brown longitudinal stripe extending from the cervical region backward, covering the whole propleura and lateral parts of the pronotum, crossing the dorsal anepisternum and pteropleurite to below the wing root, involving part of the dorsopleural membrane in the region of the spiracle. Halteres yellow, the knobs suffused with greenish. Legs with the coxae and trochanters whitened; remainder of legs yellow, the femora with a narrow brown subterminal ring that is subequal in width to the pale tip; tibiae and the individual

tarsal segments with the tips narrowly darkened. Wings with the ground pale yellow, the prearcular and costal regions a trifle deeper yellow; a sparse and scattered pale brown pattern, chiefly in the apical and posterior fields, representing the much reduced remnants of the normal zigzag pattern common in the subgenus; spots at near one-third the length of cell *R*, origin of *Rs* and outer end of cell *1st M*₂ darker and thus more evident; almost the cephalic half of the wing scarcely patterned, except as indicated; veins yellow, a little darker in the clouded areas. Venation: *Rs* a little less than three times *m-cu*; *R*₁₋₂ entire; petiole of cell *M*₁ about one-half longer than *m*.

Abdomen yellow, the lateral margins of the more proximal tergites dark brown; tergites one and two with a much paler brown median stripe; subterminal sternites with the posterior borders narrowly pale brown. Cerci long and slender, gently upcurved.

Habitat: Peru.

Holotype, ♂, Chinchao, Huanuco, on wooded hills, altitude 2,500 meters, September 5, 1947 (George Woytkowski).

Tipula (Eumicrotipula) infidelis suggests species such as *T. (E.) scriptella* Alexander and a few allied forms, differing evidently in the coloration of the body and wings.

Tipula (Eumicrotipula) incondita, sp. n.

Belongs to the *glaphyoptera* group; size large (wing, male, over 19 mm.); general coloration of mesonotum light brown, the disk with four dark brown stripes, the postnotum and pleura chiefly pale; antennae (male) elongate, scape and pedicel yellow, flagellum black, the segments moderately incised; femora with outer third blackened, enclosing a clearly defined yellow ring; wings light yellow, with a handsome marbled pattern of pale brown and sparser darker brown areas; a conspicuous white oblitative area across cell *1st M*₂; abdominal tergites fulvous yellow, with broad and conspicuous black lateral stripes; outer segments, including the hypopygium, dark brown; male hypopygium with the inner dististyle unusually glabrous, especially on the outer fourth; appendage of eighth sternite a small short-oval lobe, provided with a few long setae.

Male. — Length, about 17 mm.; wing, 19.3 mm.; antenna, about 7.5 mm.

Frontal prolongation of head relatively long, exceeding the remainder of head, obscure yellow; nasus elongate; palpi with proximal two segments obscure yellow, the outer two black. Antennae (male) relatively long, as shown by the measurements; scape and pedicel light yellow, flagellum black; flagellar segments with basal enlargements relatively conspicuous, the segments feebly incised; longest verticils subequal to or slightly less than the segments. Head obscure yellow, the vertex with a faintly indicated darker central stripe, extending backward from a low entire vertical tubercle.

Pronotum dark brown, sparsely pruinose, vaguely brightened in places. Mesonotal praescutum with the ground light brown, the disk with four dark brown stripes that are relatively inconspicuous against the ground, the intermediate pair separated by a still darker brown central line; scutum gray, the lobes variegated with darker plumbeous area, the median line dark brown; scutellum yellowish gray, darkened medially, parascutella pale; postnotum reddish yellow. Pleura similarly reddish yellow, vaguely more darkened on the ventral sternopleurite; dorsopleural membrane infuscated. Halteres relatively long, stem obscure yellow, its base and the knob clear light yellow. Legs with the coxae and trochanters yellow; femora reddish brown, more yellowed basally, passing into black on outer third, the area enclosing a clearly defined yellow ring that is somewhat narrower than the black apex; tibiae light yellowish brown, the tips narrowly blackened; tarsi chiefly light brown, the outer segments darker; claws simple. Wings with the ground light yellow, handsomely patterned with pale brown and sparser darker brown areas, the former producing a marbled effect in the apical and posterior fields; the darker marks are relatively small, placed at arculus, at origin of *Rs* and at about two-thirds the distance to the latter, stigma and a seam over the cord; more extensive darkenings at about two-thirds and again at apex of cell *M*; a linear darkened streak in

center of outer three-fourths of cell *R*; a small white prestigmal mark and a major white obliterative area across cell 1st *M*₂, extending from the outer end of cell *R* into the base of *M*₃, involving more than one-half of cell 1st *M*₂; small yellow marginal spots at ends of outer medial cells; prearcular field variegated yellow and brown; veins brown, more yellowed in the interspaces of veins *Sc* and *R* and likewise in the outer radial field. Venation: *R*₁₋₂ entire; *Rs* long, about two and one-half times *m-cu*, the latter oblique; cell 1st *M*₂ small, pentagonal; petiole of cell *M*₁ and *m* subequal; *m-cu* on vein *M*₄, forming a short erect basal section.

Basal abdominal tergites fulvous yellow, with very broad and conspicuous black lateral stripes; sternites yellowed; outer segments, including the hypopygium, chiefly dark brown, vaguely patterned with obscure yellow. Male hypopygium with the appendage of the ninth sternite a moderate-sized oval lobe, clothed with dense yellow setae, with a group of very long yellow setae at lower end, totalling six or seven in number and virtually as long as the appendage itself. Mesal face of basistyle with an oval darkened lobe that is provided with delicate setulae. Outer dististyle a slender rod, with long setae on the outer two-thirds, more concentrated at apex. Inner dististyle with the beak obtuse, the lower beak even more so; vestiture of style very sparse, the dorsal fringe consisting of a few erect yellow setae, the outer fourth, in the vicinity of the beaks, glabrous. Gonapophyses very obtuse, with smooth margins. Appendage of eighth sternite a small short-oval lobe provided with a few long setae, these exceeding the appendage in length.

Habitat: Bolivia.

Holotype, ♂, along road to Chapare, Cochabamba, altitude 3,800 meters, October 23, 1949 (Luis E. Peña).

Tipula (*Eumicrotipula*) *incondita* is quite distinct from the numerous regional members of the group, the most similar being species such as *T. (E.) arecuna* Alexander, *T. (E.) conspicillata* Alexander, *T. (E.) delectata* Alexander, *T. (E.) duida* Alexander, *T. (E.) resplendens* Alexander, and others. All of these differ among themselves particularly in the details of coloration of the body, legs and wings, and in the structure of the antennae and the male hypopygium.

Tipula (Eumicrotipula) fortior, sp. n.

Belongs to the *glaphyroptera* group; size large (wing, male, over 19 mm.); mesonotum light gray with four darker stripes; nasus lacking; antennal scape and pedicel yellow, flagellar segments beyond the first black, the segments incised; femora brownish yellow, with a clearer yellow subterminal ring, the tip blackened; wings whitish, marbled with brown, including a major dark brown area at and before the origin of *Rs*; R_{1-2} entire; *Rs* long, about two and one-half times *m-cu*; abdominal segments two to five yellow with brownish black sublateral stripes, the outer segments, including the hypopygium, brownish black; male hypopygium with the tergite transverse, the posterior border lobed, including slender yellow lateral blades; inner dististyle long and narrow, the dorsal crest developed only at outer end.

Male. — Length, about 18 mm.; wing, 19.5 mm.; antenna, about 6 mm.

Frontal prolongation of head relatively long, nearly equal in length to remainder of head, light brownish gray above, dark brown on sides; nasus lacking; palpi black. Antennae (male) relatively long, about one-third the body; scape and pedicel light yellow, first flagellar segment brownish yellow, darker outwardly, remainder of organ black; flagellar segments with the basal enlargements conspicuous, the segments incised, longer than the verticils. Head above grayish white, the sides of the posterior vertex infuscated; vertical tubercle relatively low and inconspicuous.

Pronotum dark brown. Mesonotal praescutum with the ground light gray, with four darker stripes, the intermediate pair dark gray, narrowly bordered behind by darker, separated in front by a capillary black median vitta, most intense at the cephalic border; sublateral stripes darker and narrower; lateral and humeral regions less distinctly darkened; scutum light gray, each lobe with two darkened areas; scutellum light gray, parascutella dark brown; postnotum pruinose when viewed laterally, dark brown and giving the appearance of being rubbed when seen from above;

pleurotergite brown, the katapleurotergite more silvery pruinose. Mesopleura gray pruinose, the metapleura obscure brownish yellow, the ventral meral region dark gray. Halteres yellow. Legs with the coxae light gray pruinose; trochanters yellow; femora yellow basally, thence passing through brownish yellow to yellowish brown, the tips broadly blackened, preceded by a clearer yellow subterminal ring; tibiae brownish yellow, the tips blackened; tarsi black; claws (male) hairy, with a basal tooth. Wings whitish, conspicuously marbled with brown, including darker areas at arculus, a major one at and before origin of *Rs*, and another including the stigma and a major seam over the anterior cord, enclosing a small white spot before the stigma; a similar large darkened area in the outer end of cell *M*; wing tip extensively paler brown; other paler brown clouds in most cells; the white ground includes a complete crossband beyond the cord, reaching the posterior border in cell M_3 ; basad of the cord the pale ground areas lightly exceed the dark markings in amount; veins brown, more yellowed in the costal interspaces and at arculus. Venation: R_{1-2} entire but pale; *Rs* long, about two and one-half times *m-cu*; petiole of cell M_1 a trifle longer than *m*; *m-cu* at fork of M_{3-4} .

Abdomen with the basal tergite pruinose, tergites two to five, inclusive, yellow, with brownish black sublateral stripes that become paler and more diffuse on the outer segments, the lateral margins gray pruinose; first tergite with a vague central brown darkening; basal sternites more uniformly yellow; outer segments, including the hypopygium, brownish black. Male hypopygium (Fig. 23) with the ninth tergite, *9t*, transverse, the posterior border irregularly 5-lobed; median lobe short and broad, the apex truncated and slightly notched; sublateral lobes broadly subtriangular; lateral lobes appearing as slender yellow blades. Outer dististyle, *d*, long and slender, very slightly widened outwardly. Inner dististyle long and narrow, the beak short and more or less decurved, the lower beak appressed; dorsal crest developed only at outer end in the region of the beak, short and compact, transversely furrowed. Appendage of ninth sternite not clearly

evident in slide mount and evidently lacking or else very small and inconspicuous. Appendage of eighth sternite a small darkened lobe, with scattered strong setae.

Habitat: Bolivia.

Holotype, ♂, along road to Chapare, Cochabamba, altitude 3,800-4,000 meters, October 23, 1949 (Luis E. Peña).

Tipula (Eumicrotipula) fortior is most similar in its general appearance to species such as *T. (E.) huanca* Alexander and *T. (E.) mocoa* Alexander, differing in all details of coloration. The structure of the male hypopygium, especially of the ninth tergite and inner dististyle, appears to be distinctive of the species.

Tipula (Eumicrotipula) notoria Alexander

1942, *Tipula notoria* Alexander; Journ. N. Y. Ent. Soc. 50: 137-139.

The type was from Pundoa, Tungurahua, Ecuador, altitude 3,000 meters, July 12, 1939, taken by Macintyre. The male hypopygium of the type is shown (Fig. 24).

Tipula (Eumicrotipula) invigilans, sp. n.

Belongs to the *glaphyroptera* group; size medium (wing, male, 13 mm.); antennae (male) short, flagellar segments bicolored; mesonotal praescutum chiefly yellowish gray on cephalic half, the posterior half with three entire dark brown stripes, the lateral pair bent outward to the lateral border; pleura yellowish gray, patterned with brown; femora obscure yellow, with a nearly terminal dark brown ring that is preceded by a clearer yellow annulus; wings whitish subhyaline, patterned with brown; tip of vein R_{1-2} atrophied; basal abdominal segments yellow, the caudal borders narrowly ringed with darker; subterminal segments brownish black, hypopygium yellow; ninth tergite with caudal border broadly emarginate; outer dististyle long and slender, with sparse setae.

Male. — Length, about 12.5 mm.; wing, 13 mm.; antenna, about 1.8 mm.

Frontal prolongation of head dark brown, the dorsal surface possibly of a different color (not apparent in the type specimen);

palpi with proximal two segments yellow, the outer ones brownish black. Antennae (male) short; scape and pedicel yellow, succeeding segments bicolored, brownish black on basal half, the apex yellow, the outer segments more obscured. Head above buffy gray.

Pronotum medially buffy gray, variegated on sides with brownish black. Mesonotal praescutum chiefly yellowish gray on cephalic half, the anteromedian portion more darkened, posterior half with three entire dark brown stripes, the lateral pair bent outward to the border; posterior interspaces gray; posterior sclerites of notum yellowish gray, the scutal lobes, parascutella, mediotergite and ventral pleurotergite variegated with brown. Pleura yellowish gray, conspicuously patterned with brown, including a spot on the dorsopleural membrane before the wing-root and extensive areas on the anepisternum, metapleura and meron. Halteres elongate, yellow. Legs with the coxae darkened basally, most narrowly so on the posterior pair; trochanters yellow; femora obscure yellow, with a nearly terminal dark brown ring that is preceded by a somewhat clearer yellow annulus; tibiae yellow, the tips broadly infuscated; tarsi brown, passing into black; claws (male) simple. Wings whitish subhyaline, heavily patterned with brown, the dark color more extensive than the pale, especially in the outer cells; cells *C* and *Sc* more brownish yellow, the latter with four brown areas; pale interspaces in cell *R* subequal in extent to the darkenings; outer medial cells with pale marginal spots; whitened oblitative area across cell $1st\ M_2$ and into base of cell M_3 conspicuous, the post-stigmal pale band more yellowed; veins brown. Venation: Sc_2 ending about opposite four-fifths the length of the long *Rs*, the latter slightly less than three times *m-cu*; tip of vein R_{1-2} atrophied, the outer half pale; basal section of R_{4-5} short to very reduced; petiole of cell M_1 from one-third to one-half longer than *m*; basal section of M_4 perpendicular.

Basal abdominal segments yellow, the caudal borders narrowly ringed with darker; lateral tergal borders broadly and conspicuously blackened, more interrupted and broken on the outer segments; subterminal segments dark brown to brownish

black, the basal pale triangles present on segments six and seven; hypopygium chiefly yellow. Male hypopygium having the caudal margin of the ninth tergite with a broad U-shaped median notch, the lateral lobes truncated. Appendage of ninth sternite relatively small, suboval, with abundant yellow setae, most numerous on the lower half where they form a loose brush. Outer dististyle long and slender, only slightly enlarged outwardly, setae very sparse, with about eight longer ones grouped at the distal end. Inner dististyle broad at base, narrowed outwardly (apex broken). Apex of gonapophysis obtuse.

Habitat: Peru.

Holotype, ♂, Chinchao, Huanuco, altitude 2,500 meters, September 26, 1947 (George Woytkowski).

Generally similar to *Tipula* (*Eumicrotipula*) *juventa* Alexander, differing in the coloration and structure of the male hypopygium.