

PAPÉIS AVULSOS
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NEW OR LITTLE-KNOW *TIPULIDAE* (DIPTERA)
FROM SÃO PAULO, BRASIL — Part II

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The preceding part under this general title was published in November 1942 (Papéis Avulsos Dept. Zool. Sec. Agr., São Paulo, 2, no. 3: 39 — 77). In the present article I am continuing the survey of the rich crane-fly fauna of São Paulo, the study being based on extensive collections made at Juquiá by LAURO TRAVASSOS FILHO, and at Cantareira, by Messrs L. R. GUIMARÃES and LAURO TRAVASSOS FILHO. A few additional species were based on materials taken by Messrs. MESSIAS CARRERA, FREDERICO and JOHN LANE, J. LIMA, and P. JOSÉ SEBASTIÃO SCHWARZMAIER. Except where stated to the contrary in the text the types of the new species and representatives of the other forms are preserved in the Departamento de Zoologia da Secretaria da Agricultura de São Paulo. I take this opportunity to express my deep thanks to all of the above listed entomologist who have done so very much to make known the rich Tipulid fauna of São Paulo.

As indicated in the first part under this title, it seems advisable to attempt a detailed recording of these flies of São Paulo, since such a completed list would undoubtedly provide a splendid idea of the entire fauna of southeastern Brasil. In order to keep the record more clearly it is proposed to number the various species so that at any given date it will be possible to ascertain exactly how many species of these flies have been reported in the series of papers here attempted. I have listed those species previously treated and numbered them as follows:

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T I P U L I N A E

1. *Ozodicera (Dihexaclonus) lanei* ALEXANDER, 1942.
2. *Ozodicera (Dihexaclonus) terrifica* ALEXANDER, 1942.
3. *Ozodicera (Dihexaclonus) tripallens* ALEXANDER, 1942.
4. *Macromastix (Macromastix) guimarãesi* ALEXANDER, 1942.
5. *Macromastix (Macromastix) travassosana* ALEXANDER, 1942.
6. *Holorusia (Holorusia) antinympa* ALEXANDER, 1942.
7. *Holorusia (Holorusia) horni* ALEXANDER, 1926.
8. *Holorusia (Holorusia) ocellata* (ENDERLEIN, 1912).
9. *Holorusia (Holorusia) zikani* ALEXANDER, 1936.
10. *Tipula (Microtipula) gladiator* ALEXANDER, 1914.
11. *Tipula (Microtipula) gutticellula* ALEXANDER, 1936.
12. *Tipula (Microtipula) sex-cincta* ALEXANDER, 1942.
13. *Tipula (Eumicrotipula) guarani* ALEXANDER, 1914.
14. *Brachypremna variitibia* ALEXANDER, 1936.

L I M O N I I N A E

LIMONIINI

15. *Limonia (Dicranomyia) mistura* ALEXANDER, 1942.
16. *Limonia (Dicranomyia) palliditerga* ALEXANDER, 1942.
17. *Limonia (Rhipidia) annulicornis* (ENDERLEIN, 1912).
18. *Limonia (Rhipidia) domestica* (OSTEN SACKEN, 1859).
19. *Limonia (Geranomyia) cinereinota* (ALEXANDER, 1913).
20. *Limonia (Geranomyia) damicoi* ALEXANDER 1942.
21. *Helius (Helius) pallidipes* ALEXANDER, 1926.

HEXATOMINI

22. *Austrolimnophila (Limnophilella) multipicta* ALEXANDER, 1939.
23. *Austrolimnophila (Austrolimnophila) acutergata* ALEXANDER, 1939.
24. *Austrolimnophila (Austrolimnophila) bïdaria* ALEXANDER, 1942.
25. *Austrolimnophila (Austrolimnophila) pallidistyla* ALEXANDER, 1942.
- 25a. *Austrolimnophila (Austrolimnophila) p. perlimbata* ALEXANDER, 1942.
26. *Austrolimnophila (Austrolimnophila) subpacifera* ALEXANDER, 1942.
27. *Austrolimnophila (Austrolimnophila) tenuilobata* ALEXANDER, 1942.

28. *Epiphragma (Epiphragma) solatrix imitans* ALEXANDER, 1913.
 29. *Pseudolimnophila megalops* ALEXANDER, 1942.
 30. *Polymera (Polymera) obscura* MACQUART, 1838.
 31. *Ctenolimnophila (Campbellomyia) neolimnophiloides* ALEXANDER, 1942.
 32. *Hexatoma (Eriocera) carrerai* ALEXANDER, 1942.
 33. *Atarba (Atarba) anthracina* ALEXANDER, 1937.

ERIOPTERINI

34. *Trentepohlia (Paramongoma) concubens* ALEXANDER, 1942.
 35. *Trentepohlia (Paramongoma) extensa* ALEXANDER, 1913.
 36. *Gymnastes (Paragymnastes) perexquisita* ALEXANDER, 1938.
 37. *Teucholabis (Teucholabis) flavithorax* (WIEDEMANN, 1821).
 38. *Teucholabis (Teucholabis) jocosa* ALEXANDER, 1913.
 39. *Gonomyia (Progonomyia) subsaturata* ALEXANDER, 1942.
 40. *Molophilus (Molophilus) scabricornis* ALEXANDER, 1942.

TIPULINAE

41. *Tanypremna (Tanypremna) calliope*, sp. n

Size large (wing, female, 26 mm.); abdomen very long; mesonotal praescutum almost covered by four reddish brown stripes that are separated by more blackened impressed lines; legs with white central rings on tibiae and on tarsal segments one to three, inclusive, the bases and tips of all these segments blackened; wings with a strong brownish tinge, the more proximal cells with grayish centers; stigma and a major cloud over the anterior cord dark brown; *Rs* oblique, subequal to R_2+3 ; petiole of cell M_1 exceeding *m*.

♀. — Length, about 54 mm.; wing, 26 mm.; antenna, about 2.6 mm.; abdomen alone, 45 mm.

Frontal prolongation of head uniformly pale yellow, the entire cephalic portion produced, its tip tufted with long yellow setae; palpi pale brown. Antennae short; scape and pedicel yellow; flagellum brownish black, the base of the proximal segment brightened; basal two or three flagellar segments more or less fused together. Head light brown behind, more yellow on front and anterior vertex.

Pronotum very reduced, brownish yellow. Mesonotal praescutum almost covered by four reddish brown stripes that are separated by more blackened, impressed lines; humeral region of praescutum obscure yellow; scutal lobes similarly patterned with reddish

brown; scutellum brownish yellow, with a conspicuous central dark brown area, broadest in front, narrowed to a point behind, parascutella more testaceous; postnotum chiefly brown, its posterior half more yellowed; cephalic fourth of mediotergite with delicate transverse corrugations; pleurotergite narrowly dark brown on its dorsal portion, the intermediate section yellowish pollinose, the ventral half dark gray. Pleura light yellow, the dorsal portion just before wing-root infuscated. Halteres pale brown, knob darker with its apex obscure yellow. Legs with coxae pale brown, sparsely pruinose; trochanters yellow; femora brown, the tips narrowly dark brown; tibiae obscure brownish yellow basally, deepening to dark brown, the tips black, between the two latter areas a broad and clearly defined white ring that is a little less than one-half the black apex beyond; basitarsi black, at near midlength with a broad white ring, the darkened base subequal in width to the white annulus, the blackened tips about one-fourth this length; second tarsal segment similarly black at both ends, with more than two-thirds of the length white, the blackened base about three times as extensive as the unusually narrow tip; third tarsal segment again very narrowly black at both ends, with about the central five-sixth dirty white; fourth segment dirty white, its tip very narrowly blackened; terminal tarsal segment uniformly black; the pattern on all the legs is generally the same; claws (female) simple. Wings with a strong brownish tinge, virtually reducing the gray ground to central streaks in cells *R*, *M* and the broad bases of the Anal cells; distal portions of outer medial cells similarly pale; a dark brown pattern involves the stigma and a large irregular cloud over the anterior cord; wing base and proximal portions of the basal cells strongly darkened; veins brownish black. Venation: *Rs* oblique, subequal to R_{2+3} ; R_{1+2} lying parallel and very close to the free tip of Sc_2 , cell Sc_2 thus long and narrow; petiole of cell M_1 , longer than *m*; *m-cu* on M_4 a short distance beyond base of latter, the first section of M_4 perpendicular; cell 2nd *A* wide.

Abdomen elongate, as shown by the measurements; basal tergites variegated light brown and yellow, the latter occurring as two rings on tergite two and as basal brightenings on the succeeding two or three segments; outer tergites more uniformly dark chestnut brown, the lateral borders still darker brown but interrupted at near midlength by obscure yellow marks opposite the transverse tergal impressions; sternites obscure yellow to brownish yellow. Ovipositor with the genital shield blackened; cerci straight, exceeding in length the hypovalvae.

HOLOTYPE, ♀, Juquiá, altitude 400 meters, November 1940 (TRAVASSOS).

Tanypremna (Tanypremna) calliope is one of the largest and most conspicuous species of the subgenus so far discovered. In its physical proportions it is closest to *T. (T.) longissima* (ENDERLEIN, 1912), likewise from southeastern Brasil. By my key to the species of the genus (Journ. N. Y. Ent. Soc., 22: 207-208; 1914), in the nature of its leg pattern the present fly would run to the otherwise entirely different *T. (T.) longipes* (FABRICIUS, 1805). It is evident that there are many species in this unusually interesting genus which is entirely Neotropical in its distribution.

42. *Tanypremna (Tanypremna) porteriai limai*, subsp. n.

Size relatively large (wing, female, over 20 mm.); general coloration reddish brown to brown; thoracic pleura yellow, unpatterned; halteres relatively short and stout, brownish yellow, base of knob weakly darkened; femora dark brown to brownish black; tibiae obscure brownish yellow, the tips narrowly blackened, with indication of a very vague, clearer yellow, subterminal ring; proximal four tarsal segments yellow, very narrowly tipped with brownish black; wings suffused with brown, especially on proximal half and in anal field; a small but conspicuous dark brown cloud over the anterior cord; cell *1st M*₂ relatively large, basal section of *M*₁₊₂ shorter than *m*; petiole of cell *M*₁ shorter than *m*.

♀. — Length, about 42 mm.; wing, 21 mm.; abdomen alone, 35 mm.

Frontal prolongation of head obscure yellow, slightly more darkened on sides; entire region of nasus drawn cephalad so that the actual produced area is very stout; palpi relatively stout, basal segment light brown, two succeeding segments brownish yellow, terminal segment abruptly narrowed, brown. Antennae with scape and pedicel obscure yellow; basal flagellar segments brownish yellow, the outer ones darker; flagellar segments subcylindrical to slightly constricted at their bases, verticils subequal to the segments. Front and anterior vertex white, the posterior vertex cinnamon brown, the genae somewhat darker and more pruinose; a vaguely indicated darker capillary vitta on the posterior vertex.

Pronotum obscure yellow, infuscated medially. Mesonotal praescutum chiefly covered by four brown stripes that are delimited chiefly by the usual impressed lines; cephalic portion of sclerite, especially the humeral portion, more reddened; scutal lobes darkened; posterior sclerites of notum badly crushed, apparently pale brown, the mediotergite paler laterally and caudally; pleurotergite

pale brown with a small blackened spot behind the spiracle. Pleura yellow, unpatterned. Halteres relatively short and stout, stem brownish yellow, knob weakly darkened at base, its apex pale. Legs with the coxae pale yellow, whitish pruinose; trochanters obscure yellow, the posterior faces of the fore and middle pairs conspicuously blackened, the posterior pair clear; femora dark brown to brownish black, narrowly brightened basally, covered with short but dense black setae; tibiae obscure brownish yellow, the tips rather narrowly blackened, with indications of a broad and very ill-defined clearer yellow area on distal half before the blackened apex; basal four tarsal segments yellow, narrowly tipped with brownish black, the bases less evidently darkened, leaving the broad central portion pale; terminal segment uniformly blackened; claws (female) simple. Wings with more than the proximal half, including most of cells *R* and *M*, rather strongly suffused with brown, the cells beyond cord and most of *Cu* and *1st A* paler, more grayish brown; cell *2nd A* and adjoining portion of cell *1st A* again rather strongly suffused; stigma small, oval, rather pale brown and indistinct; a small, circular, very distinct dark brown spot at anterior cord, covering *r-m* and adjoining portions of vein R_4+5 ; cells *C* and *Sc* more uniformly lighter brown than the remainder of ground; veins medium brown. Venation: Both R_1+2 and free tip of Sc_2 preserved but pale; R_2+3 relatively oblique, a little shorter than *Rs*; R_3 long and nearly straight; distal section of R_4+5 strongly sinuous, narrowing cell R_3 at near two-thirds its length; cell *1st M*₂ relatively large, basal section of M_1+2 shorter than *m*; cell M_1 deep, its petiole shorter than *m*; *m-cu* only a trifle longer than M_3+4 , placed at the fork of the latter; cell *2nd A* relatively wide.

Abdomen elongate; tergites reddish yellow, broadly more infuscated medially, restricting the ground to basal sublateral areas; lateral border narrowly darkened; outer segments more uniformly infuscated; basal sternites reddish, the outer segments darker; ovipositor with dorsal shield reddish chestnut; cerci dark reddish brown, straight, their tips obtuse.

HOLOTYPE, ♀, Sacoman, altitude 750 meters, May 8, 1942 (J. LIMA).

I am pleased to name this fly in honor of the collector. It is considered as representing a subspecies of *Tanypremna* (*Tanypremna*) *porteriana* ALEXANDER 1936, although it differs in several important regards of coloration and venation of the wings. In the typical form, the distal section of vein R_4+5 is gently and evenly sinuous, without the marked twist found in the present fly, the

basal section of R_{4+5} is elongate, while cell $1st M_2$ has a different conformation.

43. *Ozodicera* (*Dihexaclonus*) *pumila* Alexander 1942.
Juquiá, altitude 30-50 meters, April 7, 1940 (TRAVASSOS); type.
44. *Ozodicera* (*Ozodicera*) *schwarzmaierana* Alexander 1942.
Pindamonhangaba, 1940 (SCHWARZMAIER); type.
45. *Holorusia* (*Holorusia*) *laevis* Alexander 1914.
Pindamonhangaba, October 15, 1940 (SCHWARZMAIER).
46. *Holorusia* (*Holorusia*) *tarda* Alexander 1935
Pindamonhangaba, October 15, 1940 (SCHWARZMAIER).
47. *Tipula* (*Microtipula*) *affabilis*, sp. n.

Size medium (wing, male, 12.5 mm.); mesonotum yellow, unpatterned; antennae conspicuously bicolored, the flagellar segments yellow with black basal enlargements; knobs of halteres infuscated; wings with a weak brownish tinge, the prearcular and costal fields darker brown; basal abdominal tergites obscure yellow, broadly blackened on sides; a very narrow subterminal black ring that involves only segment seven; segments eight and nine yellow; male hypopygium with the median region of ninth tergite produced into a depressed appendage, its lateral angles produced into glabrous horns; inner dististyle with beak long and subpendulous; ventral surface of lower beak microscopically corrugated; appendage on ninth sternite appearing as two flattened pale blades that are densely provided with long setoid extensions, especially conspicuous and elongate at and near apex; eighth sternite without apical lobe.

♂. — Length, about 12 mm.; wing, 12.5 mm.; antenna, about 6 mm.

Frontal prolongation of head yellow, about one-half the remainder of head; nasus distinct; palpi obscure yellow. Antennae (male) relatively elongate, about one-half the length of body; scape, pedicel and first flagellar segment yellow; succeeding segments conspicuously bicolored, the basal swellings black, the pedicels yellow, the amount of the latter decreasing on the outer segments, the bicolorous nature persisting faintly to the penultimate segment; segments moderately incised; verticils much shorter than the segments. Head light brown; anterior vertex moderately wide, approximately three times the diameter of scape.

Pronotum testaceous yellow. Mesonotum almost uniformly light yellow, unpatterned; praescutum almost glabrous; mediotergite

with scattered longer yellow setae. Pleura light yellow. Halteres with stem yellow, knob infuscated. Legs with coxae and trochanters yellow; remainder of legs light brown, the outer tarsal segments passing into black; claw (male) toothed. Wings with a weak brownish tinge, the prearcular field, cells *C* and *Sc*, and the stigma darker brown, the central portion of the last a little paler; very narrow and inconspicuous brown seams along cord and over the outer end of cell *1st M*₂, obliterative areas relatively extensive; veins dark brown, paler in the costal field. Macrotrichia of veins *R*₃ and *R*₄₊₅ abundant, lacking on *R*₁₊₂, virtually lacking on outer branches of *M*, in cases with one or two on *M*₁. Venation: *R*₁₊₂ entire; *Rs* about one-half longer than *R*₂₊₃; cell *M*₁ about twice its petiole, the latter longer than *m*; cell *1st M*₂ long, cell *2nd A* relatively wide.

Basal abdominal tergites obscure yellow medially, broadly blackened on sides; sternites yellow; a very narrow subterminal blackened ring, involving only segment seven; segments eight and nine abruptly yellow. Male hypopygium (Fig. 1) with the ninth tergite, *9t*, relatively long, its caudal margin gently emarginate, the median region produced into a broad-based appendage with conspicuous glabrous lateral horns; median region of caudal border weakly bilobed, each lobe with a brush of setae. Proctiger appearing as two flattened plates, united above to form a hood-shaped structure. Basistyle with the usual oval blackened corrugated structure on mesal face near base. Outer dististyle tiny, with a few long setae at apex. Inner dististyle, *id*, about as shown; beak blackened, long and subpendulous; lower beak shorter but conspicuous, blackened, its ventral surface microscopically corrugated; entire lower face and dorsal crest of style with long coarse setae and more abundant and dense shorter ones. Appendage of ninth sternite, *9s*, appearing as two separate narrow pale blades, their tips incurved, the surface, but especially the apices with unusually long pale setoid projections. Eighth sternite moderately sheathing, the caudal portion not produced into a lobe.

HOLOTYPE, ♂, Serra da Cantareira, altitude about 900 meters, December 1940 (GUIMARÃES & TRAVASSOS).

Readily told from other regional members of the subgenus by the coloration of the antennae and, especially, the structure of the male hypopygium, particularly the ninth tergite, inner dististyle and appendage of the ninth sternite. In general appearance it is most similar to species such as *Tipula (Microtipula) eurymera*, sp. n., yet entirely distinct.

45. *Tipula* (*Microtipula*) *efferox*, sp. n.

Size medium (wing, male, about 13 mm.), antennae (male) nearly one-half the length of wing; general coloration light brown, the praescutum with four slightly darker stripes; wings brownish yellow, the costal border more brownish yellow; abdominal tergites yellow, with three black stripes; a relatively narrow but conspicuous subterminal black ring; male hypopygium with the tergite narrowed outwardly, with a deep V-shaped notch, the lobes narrower than the notch; eighth sternite produced at apex into a conspicuous lobe, nearly parallel-sided, its apex with a broad V-shaped emargination; pale basal mark reaching about to the basal third of this lobe.

♂. — Length, about 13.5 — 14 mm.; wing, 12.5 — 13 mm.; antenna, about 5.8 — 6 mm.

Frontal prolongation of head moderately long, approximately three-fifths the remainder of head, yellow; nasus distinct; palpi pale brownish yellow. Antennae (male) moderately long, nearly one-half the length of wing; scape and pedicel yellow; first flagellar segment yellow basally, the distal third infuscated; succeeding segments uniformly black; segments strongly incised, the outer lobe being almost as conspicuous as the basal enlargement; longest verticils nearly as long as the segments. Head brownish gray, the front and orbits more buffy.

Pronotum brownish yellow, transversely lined with darker. Mesonotum light brown, the praescutum with four slightly darker brown to scarcely evident stripes; posterior sclerites of notum a little more pollinose. Pleura uniformly yellow. Halteres with stem obscure yellow, knob more infuscated. Legs with coxae and trochanters yellow; femora brownish yellow, tibiae and basitarsi a trifle darker; tarsi passing into black; claws (male) toothed. Wings with a strong brownish yellow tinge; prearcular field, cells *C* and *Sc*, and the stigma more brownish yellow; obliterative areas before stigma and across cell *1st M*₂ very restricted; veins dark brown, more brownish yellow in the costal fields. Squama naked; macrotrichia of veins beyond cord conspicuous on veins *R*₂₊₃ and *R*₃ to *Cu*₁, inclusive; *1st A* and *Rs* glabrous, *2nd A* with trichia on distal half or more. Venation: *R*₁₊₂ entire; cell *M*₁ nearly three times its petiole, the latter exceeding *m*; cell *1st M*₂ elongate; basal section of *M*₁₊₂ and *m* subequal to and nearly parallel to one another; cell *2nd A* wide.

Abdominal tergites yellow, with three black stripes, the ground interspaces distinct through the sixth segment; sternites more uniformly yellow; black subterminal ring relatively narrow, including

all of segments seven and eight excepting the apical lobe of the latter; hypopygium yellow. Male hypopygium (Fig. 2) with the tergite, 9t, narrowed outwardly, with a deep V-shaped or U-shaped notch, the lobes slightly narrower than the notch, their mesal margins thickened and set with abundant black spinous setae; on dorsal surface of lobes the setae are smaller and paler; disk of tergite behind the lobes with scattered long black setae. Proctiger depressed, scoop-shaped, the distal third paling to delicate white membrane, the apex shallowly emarginate. Basistyle without a blackened lobe on mesal face. Dististyle with posterior portion obtuse, scarcely or but slightly produced; beak slender; dorsal crest behind the beak with long abundant setae; lower beak conspicuously blackened, bidentate. Gonapophyses, appearing as oval blades that exceed one-half the length of aedeagus, their basal joining with the latter relatively narrow. Lobe of eighth sternite, 8s, conspicuous, nearly parallel-sided, about one-third longer than its width across base; apex with a broad V-shaped emargination to produce evident lateral lobes; pale basal mark reaching about to the basal third of lobe.

HOLOTYPE, ♂, São Paulo, Cidade Jardim, December 13, 1940 (CARRERA); ALEXANDER Collection through exchange with CARRERA. PARATOPOTYPE, ♂; PARATYPE, 1 ♂, Serra da Cantareira, altitude about 900 meters, December 1940 (GUIMARÃES & TRAVASSOS).

The only species with which the present fly might be confused is *Tipula (Microtipula) ferocia* ALEXANDER 1937, which differs especially in the details of structure of the male hypopygium, particularly the ninth tergite, dististyle and lobe of the eighth sternite. In the latter, the tergite has a small but evident secondary notch at the base of the U-shaped posterior emargination; the sternal lobe is broader, its pale basal mark very large, extending to beyond mid-length of the lobe.

49. *Tipula (Microtipula) eurymera*, sp. n.

Size medium (wing, male, over 14 mm.); antennae exceeding one-half the length of wing, basal three segments yellow; nasus present; claws (male) toothed; wings brownish yellow, the costal border, including stigma, slightly darker brown; basal five abdominal segments yellow, the tergites with a narrow, nearly lateral brown stripe; a broad black subterminal ring involving segments six to eight; male hypopygium with the tergite terminating in two subacute lobes that are separated by a deep V-shaped notch, their margins fringed with long black setae; appendage of ninth sternite a simple flattened spatula with a subequal stem.

♂. — Length, about 13.8 — 14 mm.; wing, 14 — 14.3 mm.; antenna, about 7.8 — 8 mm.

Frontal prolongation of head relatively short and stout, a little less than remainder of head, obscure yellow, more intensely so above; nasus stout; palpi testaceous yellow, the apex of the elongate terminal segment brightening to orange. Antennae (male) elongate, exceeding one-half the wing; basal three segments yellow, succeeding two or three segments indistinctly bicolored, blackened, particularly on the basal swellings, the extreme base and apex obscure yellow; outer segments more uniformly darkened with the basal swellings more intense; flagellar segments very weakly incised; verticils shorter than the segments, the longest unilaterally distributed; pubescence of segments short and relatively inconspicuous. Head dull fulvous; anterior vertex about three times the diameter of scape.

Thoracic notum with anterior portions almost uniform fulvous, the posterior sclerites more testaceous yellow; vestiture of praescutal interspaces black, erect and moderately conspicuous; of the mediotergite more elongate and pale. Pleura orange yellow. Halteres with stem yellow, knob infuscated. Legs with the coxae and trochanters yellow; femora obscure yellow, tibiae a trifle darker; tarsi elongate, passing into black; claws (male) toothed. Wings with a warm brownish yellow tinge; prearcular field, cells *C* and *Sc*, with the stigma, slightly darker brown; veins brown; obliterative areas before stigma and across base of cell *1st M*₂ very restricted and inconspicuous. Venation: *Sc*₂ ending about opposite one-third the length of *Rs*, the latter arcuated, a trifle shorter than *m-cu*; *R*₁₊₂ entire, about three-fifths *R*₂₊₃; cell *M*₁ nearly three times its petiole; cell *1st M*₂ about parallel-sided, *m* being subequal to or only a trifle longer than the basal section of *M*₁₊₂; cell *2nd A* broad.

Basal five abdominal segments obscure yellow, the tergites on either side with a narrow and poorly indicated brown lateral stripe becoming interrupted near the outer portion of segments; segments six to eight, inclusive, black, forming a conspicuous subterminal ring; hypopygium yellow. Male hypopygium (Fig. 3) with the tergite, *9t*, large, narrowed outwardly, ending in two conspicuous subacute lobes that are margined with very long black setae, particularly along their mesal margins; these margins thickened, on their ventral surface produced backward into elongate-oval lobes that are densely provided with black spinous setae. Proclitiger *pr*, an elongate-triangular scoop that narrows into a central pale point, on the margin before apex with a small, inwardly directed

sclerotized point; dorsal of this main body of proctiger with paired slender arms having expanded tips, as also found in various other members of the subgenus. Basistyle without a blackened lobe on mesal face. Dististyles, *d*, complex, about as figured; lower style slender-stemmed, at apex expanded into an oval head from the base of which juts backward a blanckened spinous point; outer style more compact. Appendage of ninth sternite, *9s*, *a* depressed-flattened spatula with a subequal narrowed stem, the entire surface and margins produced into long, abundant, setoid projection (not shown). Eighth sternite not sheathing; caudal border unarmed, provided with scattered normal setae only.

HOLOTYPE, ♂, Serra da Cantareira, altitude about 900 meters, December 1940 (GUIMARÃES & TRAVASSOS). PARATYPE, ♂, Nova Teutonia, Santa Catharina, October 18, 1935 (PLAUMANN); Alexander Collection.

The most similar species in *Tipula (Microtipula) amoenicornis* ALEXANDER 1922, which is known to me only from the type locality (Tucuman, Argentina); in this latter fly the appendage of the ninth sternite is entirely different, appearing as a slender, strap-like lobe, approximately parallel-sided, at its apex split into two slender lobules. The other distributed records of *amoenicornis*, as named by me, all seem to refer to the present fly and to various subspecies thereof. Two of these latter are defined herewith:

Tipula (Microtipula) eurymera goyazicola, subsp. n.

Generally as in the typical form, differing in the details of the male hypopygium. Ninth tergite with a broad U-shaped notch, the lateral lobes broadly and almost transversely truncated, each with dense brushes of setae totalling in excess of 40 to 50 per lobe, the margins of notch with somewhat fewer setae. Conformation of dististyles slightly different; appendage of ninth sternite virtually the same as in typical form.

HOLOTYPE, ♂, Goyaz, Brasil, January 1938 (received from Dr. George Tulloch). PARATOPOTIPE, a broken ♂.

Tipuia (Microtipula) eurymera paraguayicola, subsp. n.

Generally as in the typical form, differing in the details of the male hypopygium. Ninth tergite with the caudal margin very broadly and shallowly emarginate, isolating unusually small and inconspicuous lateral lobes that are not much larger than the median furcal lobes; each lateral lobe with relatively few setae, totally about 15 to 20, the broad central emargination further fringed with setae.

Conformation of dististyles again differing slightly from either of the above discussed subspecies, the posterior portion of the inner dististyle shorter and more obtuse.

HOLOTYPE, ♂, Santa Barbara, Paraguay, October 17, 1924 (F. SCHADE).

50. *Tipula* (*Microtipula*) *feliciana*, sp. n.

Size large (wing, male, over 17 mm.); antennae about one-third the length of body; flagellum bicolored, the segments black with the tips narrowly yellow; general coloration of body brownish yellow, the praescutum with four more brownish gray stripes that are inconspicuously bordered by brown; wings with a strong brownish tinge, the stigma darker; a small darkened cloud over the anterior cord; cell *1st M*₂ elongate, parallel-sided; abdominal tergites obscure yellow, with a broad, nearly lateral black stripe on either side, the outer segments more uniformly darkened; a black subterminal ring on segments six and seven; male hypopygium with the caudal margin of ninth tergite emarginate, provided with groups of coarse black setae; outer dististyle elongate, clavate; inner dististyle compact, its outer portion with a truncate blackened plate, the anterior angle of which is produced into a spike-like point; eighth sternite not sheathing nor produced.

♂. — Length, about 18 mm.; wing, 17.5 mm.; antenna, about 6 mm.

Frontal prolongation of head short, less than the remainder of head, yellow; nasus conspicuous, with black setae; palpi light brown. Antennae (male) of moderate length, about one-third the length of body; basal three segments yellow, succeeding segments bicolored, black, with the very narrow apices yellow, the amount of latter involving only about the distal seventh or eighth, becoming less on the outer segments, the terminal three uniformly darkened; proximal end of second flagellar segment yellow; flagellar segments moderately incised, elongate; verticils shorter than the segments, unilaterally distributed, the verticils of opposite face reduced to a single small seta on the enlargement. Head light brown, with a faint grayish cast, the anterior vertex more yellowish; vertical tubercle lacking.

Pronotum brownish yellow. Mesonotal praescutum obscure brownish yellow, with four more brownish gray stripes that are inconspicuously bordered by brown; scutum pale brown, each lobe with two vaguely darker brown areas; scutellum and postnotum testaceous brown; mesonotum virtually glabrous. Pleura testaceous

yellow. Halteres with stem yellow, knob dark brown. Legs with coxae and trochanters yellow; remainder of legs brown, the femora paler, tarsi blackened. Wings with a strong brownish tinge, particularly the prearcular field, cell *Sc* and adjoining portion of *R*; stigma oval, darker brown; a small darkened cloud over the anterior cord; posterior cord much less evidently seamed with brown; veins dark brown. Squama naked; veins beyond cord with conspicuous macrotrichia, including all veins of outer radial field, M_1 and M_2 ; *Rs* with trichia throughout its length. Venation: *Rs* unusually long, about three times R_{2+3} or nearly twice the gently sinuous *m-cu*; R_{1+2} entire; *r-m* reduced by the approximation of veins; petiole of cell M_1 subequal to *m*; cell 1st M_2 elongate, parallelsided; cell 2nd *A* relatively broad.

Abdominal tergites conspicuously obscure yellow or fulvous medially, with broad blackened, nearly lateral borders, these becoming even more extensive on outer segments and more or less interconnected subcaudally; tergites two to four with a further narrow median stripe, on the outer segments this becoming obscured in the general darkening of the segments; extreme lateral and caudal borders of segments narrowly yellow; basal rings of tergites pale, gray pruinose, particularly on the sides; sternites yellow; a subterminal black ring, involving segments six and seven, together with the basal two-thirds of sternite eight; hypopygium yellow. Male hypopygium (Fig. 4) with the ninth tergite, *9t*, large, slightly narrowed outwardly, the central portion of the caudal border with a broad shallow emargination that is fringed with abundant coarse black spinous setae, the narrow median space free from these and more membranous; sides of tergite with a dense grouping of ordinary setae. Proctiger without chitinized points. Basistyle with an oval blackened corrugated lobe on mesal face, as is common in the subgenus. Outer dististyle, *od*, unusually long and clavate. Inner dististyle, *id*, compact, the beak slender; outer portion of style, distad of the beak, produced into a truncated blackened plate, the anterior angle of which is produced into a sharp black spine; inner portion of style near base with a setiferous lobule. Gonapophyses appearing as long-oval pale flattened blades that subtend the aedeagus. Eighth sternite not sheathing nor produced.

HOLOTYPE, ♂, Serra da Cantareira, altitude about 900 meters, December 1940 (GUIMARÃES & TRAVASSOS).

In its large size, darkened wings, with long *Rs*, and the structure of the male hypopygium, particularly the ninth tergite and inner dististyle, the present fly differs widely from all described regional forms. In its size and general appearance it somewhat suggests

Tipula (Microtipula) aymara ALEXANDER 1912, of Bolivia, but the resemblance is superficial only. In the unique type I cannot see any appendage on the ninth sternite of the male hypopygium, as is common in the subgenus, and this may have been accidentally broken or actually lacking or much reduced.

51. *Tipula (Microtipula) juquiella*, sp. n.

Size relatively small (wing, male, 15.5 mm.); general coloration of thorax uniformly yellow; antennae (male) elongate, approximately one-half the length of body; basal flagellar segments bicolored; wings light brown, the costal border, including outer radial field, more darkened; *Rs* arcuated, a little longer than *m-cu*; male hypopygium with the median tergal appendage conspicuously bilobed, each lobe near apex bearing a single strong spine; eighth sternite with a relatively short lobe, its tip obtusely rounded.

♂. — Length, about 10 mm.; wing, 11.5 mm.; antenna, about 5.2 mm.

Frontal prolongation of head relatively short, a little more than one-half the remainder, yellow; nasus short but distinct; palpi brownish yellow, outer segment broken. Antennae (male) relatively long, approximately one-half the body; basal three segments yellow, succeeding ones bicolored, the basal swellings blackened, the pedicels paler, the latter becoming darker on the outer segments; terminal segments more uniformly blackened; flagellar segments elongate, moderately incised, much exceeding the verticils in length. Head brownish yellow; anterior vertex a little wider than twice the greatest diameter of scape.

Thorax almost uniformly yellow, the praescutum and scutum still deeper yellow but without pattern; praescutal vestiture virtually lacking. Halteres with stem obscure yellow, knob slightly darkened. Legs with coxae and trochanters yellow; remainder of legs broken. Wings with the ground light brown, the prearcular and costal fields, with the distal ends of outer radial cells, darker yellowish brown, stigma oval, still darker brown; cord vaguely seamed with brown; vague whitish streaks along cord and over vein M_{1+2} to beyond its fork; veins dark brown. Squama naked; veins beyond cord with relatively sparse trichia in outer radial field and on *Rs*, in the medial field only on veins M_1 and M_2 . Venation: *Rs* arcuated, a little exceeding *m-cu*; R_{1+2} entire; M_{3+4} short, from one-half to two-thirds *m*; *m-cu* just beyond fork of M_{3+4} on M_4 ; petiole of cell M_1 longer than *m*; cell 2nd A moderately wide.

Abdomen with basal tergites yellow medially, the lateral portions more darkened, this becoming more extensive on outer segments;

a subterminal black ring; hypopygium and preceding segment yellow. Male hypopygium (Fig. 5) with the tergite, *9t*, slightly narrowed outwardly, the lateral lobes produced; median region prolonged into a conspicuous bilobed structure, each arm of which is a flattened blade that terminates in a single strong slender spine; ventral surface of tergite on either side with abundant setae. Basistyle with a brush of setae immediately beneath the insertion of the dististyles; mesal face of basistyle with an elongate-oval blackened plate, its surface microscopically corrugated. Outer dististyle small, with conspicuous setae on distal half. Inner dististyle, *id*, about as shown; lower beak small, blackened. Eighth sternite, *8s*, produced into a relatively short, depressed-flattened median lobe, its tip obtusely rounded.

HOLOTYPE, ♂, Juquiá, altitude 40 meters, April 7, 1940 (TRAVASSOS); Alexander Collection through exchange with Carrera.

Tipula (Microtipula) juquiella is most similar to species such as *T. (M.) pala* ALEXANDER 1939 and *T. (M.) paloides* ALEXANDER 1940, differing especially in the structure of the male hypopygium, particularly the ninth tergite.

52. *Tipula (Microtipula) letalis* Alexander 1937

Serra da Cantareira, altitude about 900 meters, December 1940 (GUIMARÃES & TRAVASSOS).

53. *Tipula (Eumicrotipula) mordax*, sp. n.

Closest to *serval*; general coloration buffy yellow, patterned with brown; antennae with scape brownish black; flagellar segments almost uniformly brownish black; mesonotal praescutum with three dark brown stripes; posterior portion of mediotergite darkened; halteres with distal half of knob whitish yellow; fore coxae darkened; femora obscure yellow, with a brownish black subterminal ring; wings light yellow, heavily patterned with brown, including a series of darker brown subcostal areas, the second and third about as wide as the intervening interspace; vein R_{1+2} atrophied; stigma with conspicuous trichia; abdominal tergites yellow, with sublateral dark brown stripes; male hypopygium with the eighth sternite unarmed.

♂. — Length, about 10 — 12 mm.; wing, 11 — 13.5 mm.; antenna, about 3 — 3.5 mm.

♀. — Length, about 11 — 12 mm.; wing, 12.5 — 13 mm.

Frontal prolongation of head obscure yellow on dorsal half, dark brown beneath; nasus distinct; palpi black, the terminal

segment relatively short, about equal to the preceding three combined. Antennae with scape brownish black; pedicel obscure yellow; first flagellar segment infuscated, restrictedly brightened at base; remaining flagellar segments brownish black, the basal enlargement a trifle darker; segments only weakly incised; verticils shorter than the segments. Head buffy yellow, unpatterned; vertical tubercle moderately developed.

Pronotum obscure yellow. Mesonotal praescutum buffy yellow, with three conspicuous dark brown stripes; a small brownish black spot on extreme lateral border opposite humeri; scutum obscure brownish yellow, each lobe patterned with dark brown; posterior sclerites of notum testaceous yellow, both the mediotergite and pleurotergite more infuscated on posterior or lower portion. Pleura obscure yellow, patterned with brown on the propleura and somewhat less evidently on the anepisternum and meron; sternopleurite and dorsopleural region unpatterned. Halteres with stem yellow, in the holotype with the knob darkened basally, whitish yellow on apical half; in allotype and paratypes, the knobs more uniformly darkened. Legs with fore coxae infuscated, the middle pair less distinctly so; hind coxae yellow; trochanters yellow; femora obscure yellow, more infuscated outwardly, with a rather narrow but conspicuous brownish black subterminal ring preceded by a clearer yellow annulus, the tip yellowish brown, about one-half as wide; tibiae and tarsi dark brown to brownish black, the former somewhat brighter on proximal portion. Wings with the ground color light yellow, heavily patterned with medium and darker brown clouds; cell *C* brownish yellow, cell *Sc* with the ground interspaces clear yellow; heaviest dark areas subcostal, the first at *h* and arculus, extending from costa to beyond vein *Cu*, forming a large post-arcular area; second and third marks subequal in extent to the interspaces, not involving cell *C*, behind in cell *C* united and extending into cell *M*, reaching vein *Cu*; fourth area small, at end of *Sc*, confluent with a conspicuous cloud over anterior cord, this latter again confluent with the stigma; elsewhere on wing numerous brown clouds, subequal in extent to the interspaces, the areas not as clearcut and contrasted as in *serval*; subapical portion of cell *Cu* and basal portion of *1st A* chiefly of the yellow ground; veins dark brown, variegated by yellow, especially in the prestigmal and post-stigmal radial fields. Stigma with about 20 stigma on its basal third. Venation: *Rs* shorter than in *serval*, about twice R_{2+3} ; R_{1+2} atrophied; basal section of M_4 unusually long and perpendicular.

First abdominal tergite very pale testaceous yellow succeeding segments more intensely yellow, with a broken sublateral brown stripe,

more conspicuous on basal portion of second segment, becoming paler on outer portion; on outer segments, the brown more extensive but paler, narrowly interrupted by the posterior borders of the segments, at the bases of the tergites reaching the lateral borders as a more intensely darkened spot; sternites yellow, outer segments brownish yellow; hypopygium obscure yellow. Male hypopygium (Fig. 6) with the tergite, *9t*, transverse, the median region of caudal border produced into two small obtuse glabrous lobes that are separated by a subequal rounded notch; lateral portion of tergite produced into much larger, more pointed lobes, with abundant setulae and elongate setae. Outer dististyle a moderately developed spatulate blade, with very sparse but very elongate setae, especially on outer margin. Inner dististyle with the beak flattened, obtuse, not heavily blackened; lower beak more pointed, narrowly but conspicuously blackened; fringe of dorsal crest of style of long but very delicate setae. Gonapophyses, *g*, appearing as flattened blades, the apex obtuse, the outer edge more thickened and more or less broken near its outer end. Phallosome, *p*, short, an incomplete cylinder, densely covered with retrorse hooks or short spines. Eighth sternite unarmed.

HOLOTYPE, ♂, Serra da Cantareira, altitude about 900 meters, December 1940 (GUIMARÃES & TRAVASSOS). ALLOTOPOTYPE, ♀ PARATOPYPES, 10 ♂ ♀.

The present fly seems closest to *Tipula (Eumicrotipula) serval* ALEXANDER 1937, differing in the rather numerous colorational details mentioned in the description, including the darkened scape, brightened knob of halteres, and distinct venation and pattern of wings, including the more approximated second and third dark subcostal areas. In *serval* this interspace is very wide, approximately three times as wide as the second dark area. It should be noted that the paratypes of the series are somewhat smaller than the types and almost all have the halteres uniformly darkened.

L I M O N I I N A E

LIMONIINI

54. *Limonia (Dicranomyia) miseranda*, sp. n.

General coloration of mesonotum reddish yellow, the praescutum with a narrow brown median stripe, widest in front; antennae with basal segments black, flagellum yellowish brown; halteres with stem yellow, knob weakly darkened; legs obscure yellow,

passing though light brown to black; wings with a weak yellowish tinge; *Rs* shorter than the basal section of R_{4+5} ; cell M_2 open by the atrophy of *m*; *m-cu* before fork of *M*; ovipositor with cerci very slender and delicate, gently upcurved; hypovalvae blackened at bases.

♀. — Length, about 6 mm.; wing, 5.66 mm.

Rostrum and palpi black. Antennae with scape and pedicel black, flagellum pale brown or yellowish brown, darker outwardly; flagellar segments oval, constricted at incisures; terminal segment about one-half longer than penultimate. Head grayish to yellowish gray, the center of vertex darker; anterior vertex of moderate width, a little greater than the diameter of scape.

Pronotum dark brown. Mesonotal praescutum reddish yellow with a narrow brown median stripe, widest in front, on posterior half of sclerite narrowed to a capillary vitta that barely reaches the suture; posterior sclerites of notum reddish yellow, the pronotum a little darker, very sparsely pruinose. Pleura yellow. Halteres relatively short; stem pale yellow, knob weakly darkened. Legs with coxae and trochanters yellow; femora obscure yellow, very vaguely darkened at tips; tibiae and basitarsi light brown; remainder of tarsi black; claws (female) with a conspicuous outer tooth and two of three microscopic basal denticles. Wings (Fig. 7) with a weak yellowish tinge, the prearcular and costal fields a trifle deeper yellow; auxiliary portion of cell 2nd *A* weakly darkened; stigma not differentiated; vein brown, yellow in the flavous portions. Venation. Sc_1 , ending just before origin of *Rs*, Sc_2 far from its tip, Sc_1 alone subequal to *Rs*, the latter shorter than basal section of R_{4+5} ; cell M_2 open by atrophy of *m*; *m-cu* before fork of *M*.

Abdomen brownish yellow, the basal tergites more or less darkened medially; sternites more obscure yellow. Ovipositor with cerci very slender and delicate, gently upcurved; hypovalvae straight, yellow, restrictedly blackened at bases.

HOLOTYPE, ♀, Juquiá, altitude 400 meters, November 1940 (TRAVASSOS).

Limonia (Dicranomyia) miseranda is most similar to Chilean species such as *L. (D.) cautinensis* ALEXANDER 1941, and *L. (D.) flavaperta* ALEXANDER 1941, differing in the coloration of the body and in the venation.

55. *Limonia (Limonia) capitonius*, sp. n.

General coloration obscure yellow, the pronotum and mesonotal praescutum with a conspicuous dark brown median tripe; an-

tennae with flagellar segments oval to elongate, with short apical pedicels; femora brownish black, their tips narrowly yellow; wings with a weak brownish tinge, the oval stigma dark brown; a broad pale brown seam along vein *Cu* in cells *M* and *M*₄; male hypopygium with the dististyle single, terminating in a conspicuous beak, before this point provided with very conspicuous erect setae; gonapophyses unusually broad, pale.

♂. — Legth, about 6 mm.; wing, 7 — 7.2 mm.

♀. — Length, about 7 mm.; wing, 7 mm.

Rostrum and papi black. Antennae black; basal flagellar segments oval, with short glabrous apical necks, the outer segments becoming more elongate with the apical pedicels correspondingly shortened; terminal segment about one-third longer than the penultimate; longest verticils unilaterally arranged, about half longer than the segments. Head dark brownish gray; anterior vertex reduced to a capillary light gray strip.

Pronotum dark brown above, paling to obscure yellow on sides. Mesonotal praescutum broadly obscure yellow on sides, with a conspicuous dark brown median stripe; lateral stripes very reduced; scutum dark brown, the median region restrictedly pale; scutellum brightened at base, darker apically; postnotum brown. Pleura yellow, more or less patterned with brown on the propleura, anepisternum, ventral sternopleurite and ventral pleurotergite. Halteres with stem pale, knob weakly darkened; stem with a fringe of long conspicuous setae. Legs with fore coxae darkened, remaining coxae and all trochanters yellow; femora obscure yellow basally, passing into brownish black, the tips narrowly yellow; tibiae and tarsi brownish black; claws (male) with a small acute spine at near midlength and a much longer one at base. Wings (Fig. 8) with a weak brownish tinge, the oval stigma conspicuous, dark brown; a broad pale brown seam in cells *M* and *M*₄ adjoining vein *Cu*; veins brown. Venation: *Sc* long, *Sc*₁ ending about opposite three-fourths *Rs*, *Sc*₂ near tip; cell 1st *M*₂ shorter than vein *M*₁₊₂ beyond it; *m-cu* close to fork of *M*.

Abdominal tergites black, sternites yellow or brownish yellow, the outer sternites more darkened; posterior borders of sternites narrowly clearer yellow. Ovipositor with cerci elongate, very slender, gently upcurved. Male hypopygium (Fig. 11) with the tergite, *9t*, large, transverse, the posterior border weakly emarginate, with two low rounded lobes. Basistyle, *b*, with the ventromesal lobe simple its distal half with setae. Dististyle, *d*, single, its area a little less than that of the basistyle; main body of style weakly bilobed on

outer margin; rostral prolongation a slender blackened beak, longer and more abrupt in the paratype male than in the type; inner lobule of style just before the beak with very abundant and dense erect setae, the outer lobe with long coarse setae. Gonapophyses, *g*, unusually broad, pale, the tip obtuse. Aedeagus, *a*, relatively stout.

HOLOTYPE, ♂, Juquiá, altitude 400 meters, November 1940 (TRAVASSOS). ALLOTOPOTYPE, ♀. PARATOPOTYPE, 1 ♂.

Limonia (Limonia) capitoni is apparently a member of the *apicata* group, having several species throughout tropical and subtropical America. It differs from all regional members of the subgenus in the peculiar male hypopygium.

56. *Limonia (Neolimnobia) hypocrita* Alexander 1935

Serra da Cantareira, altitude about 900 meters, December 1940 (GUIMARÃES & TRAVASSOS).

57. *Limonia (Rhipidia) cassandra*, sp. n.

General coloration of praescutum reddish brown laterally, the disk and median line more blackened; antennae (male) with ten long-bipectinate flagellar segments, their bases and branches black, the stems conspicuously whitened; thoracic pleura striped with black and gray; bases coxae broadly blackened, their tips abruptly yellow; tips of femora blackened; wings brownish yellow, the posterior prearcular field and a conspicuous pattern at and beyond the origin of *Rs* darker brown; *Sc*₁ ending about opposite one-third the length of *Rs*; male hypopygium with two long, gently curved rostral spines.

♂. — Length, about 7 mm.; wing, 7.5 mm.; antenna, about 2 mm.

Rostrum brown; palpi black. Antennae with scape and pedicel black; flagellar segments bicolored, the basal swellings and branches black, the apical stem whitened; first flagellar segment simple, the stem a little shorter than the enlarged portion; flagellar segments two to eleven, inclusive, each with two branches, the longest (about fifth or sixth flagellar segment) approximately three times the segment; second flagellar segment with branches about twice the segment; eleventh segment with branches about one-half longer than the segments. Head gray, the posterior vertex with a large velvety black central spot; anterior vertex narrow, a little more than one-half the diameter of scape.

Pronotum dark reddish brown, more blackened laterally. Mesonotal praescutum with the very broad cephalic and lateral portions

light reddish brown to yellowish brown, more or less pruinose, especially internally, the posterior discal portion conspicuously blackened, sending a median spur cephalad as a central stripe; posterior sclerites of notum chiefly blackened, the scutal lobes variegated by more reddish brown; posterior sclerites of notum sparsely pruinose. Pleura pruinose striped longitudinally with black, including narrower dorsal stripes and a broader ventral one, the latter extending from the cervical region, across the coxal bases, the ventral region abruptly yellow. Halteres with stem yellow, knobs broken. Legs with basal half coxae black, the tip yellow; tronchanters yellow; a single leg (fore) remains; femora yellow, the tips rather broadly and conspicuously blackened; tibiae and basitarsi yellow, the tips more infuscated; remainder of tarsi broken. Wings with a strong brownish yellow tinge, the anterior prearcular field and costal region even brighter yellow; a relatively sparse but conspicuous brown pattern, as follows: Posterior prearcular field; arculus; about midway between arculus and origin of *Rs*; origin of *Rs* and fork of *Sc*; seams along cord and outer end of cell *1st M*₂; stigma chiefly pale brown, darker and more intense over *R*₁₊₂ and *R*₂; centers of all cells beyond cord, especially in the radial field, distinctly infuscated; a yellowish spot at outer end of cell *1st A* adjoining the tip of vein *End A*; veins brown, more yellowed in the costal interspaces. Venation: *Sc*₁ ending about opposite one-third the length of *Rs*, *Sc*₂ longer, at its tip; *Rs* weakly angulated at origin; *m-cu* at fork of *M*.

Abdomen obscure brownish yellow, the incisures and lateral borders more blackened; hypopygium brighter. Male hypopygium (Fig. 12) with the tergite, *9t*, transverse, the caudal margin very gently emarginate to produce low lateral lobes each provided with numerous setae, the central area glabrous. Basistyle, *b*, relatively small, its total area scarcely more than one-third that of the ventral dististyle; ventromesal lobe oval, bearing a small lateral lobule on face near base. Dorsal dististyle a slender curved rod, at apex narrowed into a long black spine. Ventral dististyle, *vd*, large and fleshy, the mesal face with setae unusually small and scattered, of the other surfaces longer but not abundant; rostral prolongation of moderate length, the two spines elongate, curved gently backward, a little shorter than the prolongation itself, approximated at their bases. Gonapophyses, *g*, with mesal-apical lobe black, especially at the short subacute tip.

HOLOTYPE, ♂, Juquiá, altitude 400 meters, November 1940 (TRAVASSOS).

In its general appearance, the present fly is much like *Limonia* (*Rhipidia*) *shadei* ALEXANDER 1929, which has the antennae of

the male almost simple or with the pectination barely indicated. Besides the antennal structure, the present insect differs in the coloration of the body and wings, the venation, and structure of the male hypopygium.

58. *Limonia (Rhipidia) longurio* Alexander, 1938

Tremembé, July 1940 (TRAVASSOS).

59. *Limonia (Rhipidia) subterminalis* (Alexander 1921)

Serra da Cantareira, altitude about 900 meters, December 1940 (GUIMARÃES & TRAVASSOS). Formerly known only from Argentina.

60. *Limonia (Geranomyia) unispinifera* Alexander 1938

Juquiá, altitude 400 meters, November, 1940 (TRAVASSOS).

61. *Orimarga (Orimarga) chionomera*, sp. n.

General coloration black, sparsely pruinose; head silvery gray; halteres with blackened knobs; femora and tibiae brownish yellow, the tips more infuscated; basitarsi with about the proximal two-fifths brownish black, the remainder and all of tarsal segments two and three snowy-white; wings with a strong blackish tinge; R_{1+2} unusually long, exceeding R_s ; basal section of R_{4+5} long, strongly arcuated to angulated; abdominal tergites and hypopygium black; basal sternites obscure yellow, their caudal portions inconspicuously more darkened.

♂. — Length, about 5.5 — 6.5 mm.; wings, 5 — 6.5 mm.

♀. — Length, about 6 — 7 mm.; wing, 6 — 6.5 mm.

Rostrum black, relatively long, nearly equal in length to the remainder of head; palpi black. Antennae black throughout; flagellar segments oval, the outer ones somewhat more elongate; verticils short. Head silvery gray; anterior vertex narrow, less than the diameter of scape.

Thoracic dorsum almost uniformly blackened, the surface slightly pruinose to produce a faint pleumbeous appearance. Dorsal pleurites blackened, the ventral ones, especially the sternopleurite and meron, more reddish brown. Halteres with stem obscure yellow, knob blackened. Legs with the coxae and trochanters reddish yellow, the fore pair darker; femora and tibiae brownish yellow, their tips more infuscated; basitarsi with about the proximal two-fifths brownish black, the remainder of sclerite and segments two and three snowy-white, the two outer segments blackened. Wings (F. 9) with a strong blackish tinge, some of the veins, especially in the cubital and anal fields and again in the outer radial field more

blackened; veins brown. Veins beyond general level of cord with abundant macrotrichia. Venation: Sc_1 ending shortly before fork of Rs , Sc_2 at its extreme tip; Rs long, angulated at origin; R_{1+2} unusually long, exceeding either Rs or R_{2+3} ; free tip of Sc_2 about opposite midlength of R_{2+3} , vein R_1 being unusually long, nearly one-half Rs ; basal section of R_{4+5} unusually long, strongly arcuated or angulated to square at origin; inner end of cell M_2 arcuated; cell M_3 longer than its petiole; $m-cu$ about opposite midlength of Rs ; vein $2nd A$ long, cell $2nd A$ wide subbasally.

Abdominal tergites and hypopygium black; basal sternites obscure yellow, their caudal portions inconspicuously more darkened. Male hypopygium with the outer dististyle uniformly blackened, long and slender, tapering to the acute point. Outer gonapophyses with very broad bases, the apical blades short and pale, their acute tips almost hyaline; inner apophyses stout, the papillose heads small.

HOLOTYPE, ♂, Serra da Cantareira, altitude about 900 meters, December 1940 (GUIMARÃES & TRAVASSOS). ALLOTOPOTYPE, ♀. PARATOPOTYPES, 3 ♂ ♀; PARATYPES, 1 ♂, 1 ♀, Juquiá, altitude 400 meters, November 1940 (TRAVASSOS).

Orimarga (Orimarga) chionomera is readily told from all other regional species by the venation and the coloration of the legs, particularly the elongate basal section of R_{4+5} and the broadly whitened tarsi of all legs. It is closest to species such as *O. (O.) excessiva* ALEXANDER 1926, and allies, which have the basal section of R_{4+5} short, subequal to and in transverse alignment with $r-m$. The only other regional dark-winged *Orimarga* is *O. (O.) lanei* ALEXANDER 1942, which has the legs uniformly blackened and the venation entirely different.

62. *Orimarga (Orimarga) neogaudens*, sp. n.

Size large (length, male, over 8 mm.); mesonotum cinnamon brown, the lateral borders broadly whitened; dorsal thoracic pleura with a conspicuous black longitudinal stripe; halteres yellowish white; fore femora snowy white, their tips blackened; remaining femora brownish yellow with blackened tips; all tibiae snowy-white with blackened tips; tarsi snowy-white; wings light yellow, the prearcular field more whitened; a very restricted and inconspicuous darker pattern, especially over the cord; R_{1+2} elongate, exceeding R_{2+3} ; basal abdominal segments conspicuously dimidiate, light yellow, the outer half of each blackened; subterminal segments black, the basistyles abruptly yellow.

♂. — Length, about 8.5 — 9.5 mm.; wing, 6.5 — 7 mm.

Rostrum and palpi black. Antennae with scape black, pedicel paler, flagellum light brown; flagellar segments short-oval, the outer ones scarcely more elongate; verticils short. Head light gray, more infuscated on sides of posterior vertex; anterior vertex relatively narrow, a little less than the diameter of scape.

Pronotum whitened dorsally, black on sides; pretergites pale yellow. Mesonotal praescutum and scutum rich cinnamon brown, without distinct pattern, the lateral borders broadly more whitened pruinose; scutellum infuscated, parascutella pale; medio-tergite yellowish white, narrowly darkened medially; pleurotergite with dorsal half yellowish white, its dorsal portion chiefly covered by the black pleural stripe. Pleura extensively darkened, particularly by a black stripe extending from the cervical region to the base of abdomen, passing through and beneath the base of halteres; ventral portions a little paler, the two darker fields enclosing a slightly brightened area on the dorsal sternopleurite. Halteres yellowish white. Legs with the coxae and trochanters brownish black; fore femora snowy-white, the tips broadly and conspicuously black; tibiae similarly white, the tips more narrowly blackened; tarsi snowy-white; middle and hind femora brownish yellow, the tips blackened; tibiae and tarsi about as on fore legs. Wings (Fig. 10) with a light yellowish tinge, the prearcular region and extreme base of costal field whitened; very weak and inconspicuous brown clouds over *Cu*, elements of cord, including *m-cu* and origin of *Rs*; veins yellow, darker in the infuscated portions; costal fringe relatively long and dense; macrotrichia of veins beyond cord on all veins from R_{1+2} to *Cu* excepting R_{2+3} , basal third of second section of M_{1+2} and M_{3+4} . Venation: *Rs* elongate, gently arcuated at origin, nearly one-half longer than R_{2+3} and almost subequal to R_{1+2} ; basal section of R_{4+5} moderately long and very strongly arcuated; cell M_3 a little shorter than its petiole; *m-cu* nearly opposite mid-length of *Rs*; vein *2nd A* long, the cell large.

Abdominal segments conspicuously bicolored, the basal half of each segment light yellow, its apex brownish black; this type of pattern includes segments two to seven, segments eight and nine black; basistyles conspicuously light yellow; basal sternite almost uniformly black. Male hypopygium with the basal half of outer dististyle yellow, the long needle-like apex blackened; inner style only a little shorter, yellowish white. Basistyle with a dense group of unusually long setae on mesal face at base. Inner gonapophyses relatively short and stout, at apex expanded into a short pale cap, the apex of which is microscopically papillose; outer gonapophyses

from expanded bases, their outer portion nearly straight, the tips paling into membrane.

HOLOTYPE, ♂, Juquiá, altitude 400 meters, November 1940 (TRAVASSOS). PARATOPOTYPE, ♂.

Allied to species such as *Orimarga (Orimarga) excessiva* ALEXANDER 1926, but entirely different in coloration of the body and legs. It is one of the most distinct and striking members of the genus so far discovered.

63. *Orimarga (Diotrepha) travassosi* Alexander 1943

Juquiá, altitude about 40 meters, April 7, 1940 (TRAVASSOS).

HEXATOMINI

64. *Austrolimnophila (Austrolimnophila) microspilota* Alexander 1943

Juquiá, altitude about 40 meters, April 7, 1940 (TRAVASSOS).

65. *Epiphragma (Epiphragma) juquicola*, sp. n.

General coloration dark brown, variegated with fulvous and obscure yellow; antennae with the fusion-segment yellow, the succeeding flagellar segments black; fore and middle legs with a different pattern than the posterior pair, including a great increase in black on both femora and tibiae, all tarsi yellow; wings yellow, heavily spotted with brown, the ocelliform pattern restricted to a single area at origin *Rs*; male hypopygium with a pale yellow flange on outer margin of interbase before apex.

♂. — Length, about 11 — 12 mm.; wing, 11 — 12.5 mm.; antenna, about 1.6 — 1.8 mm.

Rostrum short, brown; palpi black. Antennae (male) of moderate length; scape and pedicel black, the former brownish gray pruinose above; fusion-segment of flagellum abruptly light yellow; remainder of flagellum, including terminal segment, black; two segments and a partial third involved in the fusion, the last darkened; remaining segments long-cylindrical, with long conspicuous verticils that exceed the segments in length. Head grayish brown, brighter in front and with indications of a still darker brown central stripe; anterior vertex a little more than three times the diameter of the scape.

Pronotum obscure yellow, the scutum narrowly darkened and impressed medially, the scutellum extensively infuscated, brightened behind on either side; pretergites obscure yellow. Mesonotal praescutum with the restricted ground fulvous, patterned with obscure brownish yellow and black; the usual stripes are yellow with a slightly darker median vitta, widened on posterior half; lateral stripes poorly indicated, more pruinose, crossing the suture onto the scutal lobes; margin of praescutum narrowly but conspicuously blackened, more or less interrupted at the humeri; posterior sclerites of notum chiefly brownish gray, the scutal lobes patterned with darker; pleurotergite more blackened ventrally, somewhat more yellowed on dorsal portions. Pleura obscure yellow, striped longitudinally with brownish black, including a more dorsal stripe from the cervical region across the propleura, anepisternum and dorsal pteropleurite; ventral stripe across the distal half of fore coxae, ventral sternopleurite, bases of middle and hind coxae, and the meral region; dorsopleural membrane buffy, variegated behind with brown. Halteres relatively long, infuscated, base of stem yellow. Legs with coxae light yellow except where traversed by the dark pleural stripe, as described; trochanters obscure yellow with a small black apical spot on inner face; femora obscure brownish yellow basally, this narrowest on fore legs, widest on posterior pair; remainder of femora black, with a narrow yellow postemedial ring and a subequal brightened apex; on posterior legs the basal black femoral ring is paler, more infuscated; tibiae yellow, patterned with black, very extensively so on fore legs where only the narrow base and slightly wider tip is yellow; on mid-tibia the black ring is slightly narrower, the pale tip correspondingly widened; on posterior tibia the entire segment is yellow excepting a narrow black sub-basal ring that is only about one-fifth as extensive as the yellow outer portion; tarsi of all legs light yellow. Wings with the ground color yellow, very heavily spotted with brown, including about five or six larger and darker brown costal areas, the second over the origin of *Rs*, the third at fork of *Sc*; fourth area at R_{1+2} and R_2 ; remaining cells with somewhat paler washes, all more or less confluent and subequal in extent to the ground areas; dark area at origin of *Rs* ocelliform, with a small yellow center; remaining areas so broken that the usual ocelliform pattern is lost; veins **brownish yellow**, darker brown in the patterned areas. Venation: *Rs* long, strongly angulated at origin. r_{2+3+4} about twice the basal section of R_5 ; *m-cu* approximately its own length beyond the fork of *M*.

Abdominal tergites obscure brownish yellow, bordered laterally by blackish to produce more or less defined lateral stripes, the

outer segments more uniformly darkened; sternites yellow, the basal rings infuscated; subterminal segments and hypopygium dark brown to brownish black. Male hypopygium with the tergal lobes low and inconspicuous. Interbases of peculiar form, stout on basal half, the distal portion narrowed and more sinuous, its tip acute; outer margin before apex with a yellow flange or crest. Inner dististyle with the tip bent at a right angle into an acute spine, the margins smooth and glabrous; basal portion of style with relatively few strong setae from conspicuous basal tubercles.

HOLOTYPE, ♂, Juquiá, altitude 400 meters, November 1940 (TRAVASSOS). PARATOPOTYPE, ♂.

The present fly is most similar to species such as *adpersa* (WIEDEMANN, 1828), which appears to be closely allied. This is described as having the head and antennae yellow, the thorax and abdomen clear brown, together with other differences in the pattern of the legs and wings. What I had formerly identified as being *adpersa* (Proc. U. S. Nat. Mus., 44 : 541 — 542; 1913) from interior British Guiana also disagrees in certain details from the above mentioned description and the identity of *adpersa* must be held in doubt until the type (Frankfurt Museum) can be re-examined.

66. *Epiphragma* (*Epiphragma*) *persancta* Alexander 1938

São Paulo, Cidade Jardim, December 13, 1940 (CARRERA); Serra da Cantareira, altitude about 900 meters, December 1940 (GUIMARÃES & TRAVASSOS).

67. *Limnophila kerteszi* Alexander, 1914

The type was from São Paulo but the species has not been re-discovered in this State in the intervening thirty years.

68. *Ctenolimnophila* (*Campbellomyia*) *paulistae* Alexander, 1943

Batea, November 1940 (JOHN LANE).

ERIOPTERINI

69. *Teucholabis* (*Paratropesa*) *amatrix*, sp. n.

General coloration reddish yellow, conspicuously variegated with black, including a more or less complete transverse band across the praescutum at near two-thirds the length, consisting of large lateral areas and the posterior third of the usual median praescutal stripe; fore femora darkened, remainder of legs yellow, the terminal tarsal segments brownish black; wings light yellow, with two

brown crossbands; *r-m* present; cell M_2 open by the atrophy of basal section of M_3 ; abdominal tergites black, sternites chiefly reddish yellow.

♂. — Length, about 6 — 6.5 mm.; wing, 6.5 — 7 mm.

Rostrum yellow, about one-half the remainder of head; palpi black. Antennae with scape and pedicel yellow, flagellum brownish black; flagellar segments oval, verticils longer than the segments. Head varying in color from black to deep chestnut brown.

Pronotum yellow. Mesonotal praescutum reddish, conspicuously patterned with black, including a median spot on anterior fourth and a more or less complete transverse band at about the posterior two-thirds, this representing major lateral spots and a slightly smaller posteriormedian one, usually more or less interrupted at the interspaces; posterior portion of praescutum narrowly of the ground color; posterior sclerites of notum reddish yellow, heavily patterned with black, including the scutal lobes, scutellum, posterior half of mediotergite and virtually all of the pleurotergite. Pleura reddish or reddish yellow, with conspicuous silvery areas across dorsal sternopleurite, pteropleurite, dorsal meron and metapleura. Halteres yellow. Legs with coxae and trochanters yellow; fore legs, especially the femora, darkened, brownish black; tibiae and basitarsi usually paler; remainder of legs obscure yellow, only the outer tarsal segments brownish black; claws simples. Wings (Fig. 13) light yellow, handsomely patterned with brown, this appearing as two crossbands, the first at level of origin of *R*_s and tip of vein 2nd *A*, more widened in cells *M* and *Cu*; second band at cord, nearly parallel-sided throughout, more deeply colored in the stigmal portion, paler in outer end of cell *Cu* but reaching the margin; veins yellow, conspicuous, dark brown in the patterned areas. Venation: *Sc*₁ ending about opposite one-third *R*_s, *Sc*₂ nearly opposite origin of *R*_s, in cases a trifle before or beyond this point; *r-m* distinct; cell M_2 open by atrophy of basal section of M_3 ; *m-cu* usually from one-third to one-half its length beyond fork of *M*.

Abdominal tergites black; sternites reddish yellow, the proximal segments more or less patterned with brownish black across their bases; hypopygium chiefly infuscated. Male hypopygium (Fig. 14) with the lobe of basistyle, *b*, stout, terminating in a long black spine; mesal edge with long setae, becoming shorter but more dense before the spine. Dististyles, *d*, about as figured.

HOLOTYPE, ♂, Juquiá, altitude 400 meters, November 1940 (TRAVASSOS). PARATOPOTYPES, several ♂ ♂.

By my most recent key to the species of *Paratropesa* (KONOWIA, 12 : 44 — 45; 1933), the present fly runs to *Teucholabis* (*Paratropesa*) *lindneri* ALEXANDER 1933, of the Bolivian Chaco. This differs in the leg-pattern, as the blackened tips of the femora and tibiae, in the wing-pattern, as the posthumeral darkened area, and in the details of structure of the male hypopygium, particularly the dististyles.

70. *Teucholabis* (*Paratropesa*) *jactans* (Alexander 1913)

Juquiá, altitude 400 meters, November 1940 (TRAVASSOS).

71. *Teucholabis* (*Teucholabis*) *inulta* Alexander 1936

Juquiá, altitude 400 meters, November 1940 (TRAVASSOS).

72. *Gonomyia* (*Lipophleps*) *cantareirae*, sp. n.

Belongs to the *manca* group; mesonotal praescutum and scutum cinnamon brown; thoracic pleura vaguely patterned with reddish yellow and whitish stripes; knobs of halteres infuscated; legs pale brown; wings weakly tinged with brown, stigma lacking; *Sc* short, *Sc*₁ ending a distance before origin of *Rs* about equal to two-thirds the length of the latter; male hypopygium with the basistyle small, its outer lobe produced into a blackened rod that is weakly bidentate at apex, the inner margin with microscopic setulae; dististyle elongate; aedeagus long.

♂. — Length, about 3 mm.; wing, 3.6 mm.

Rostrum light yellow; palpi black. Antennae black; flagellum broken. Head yellow in front, more darkened behind.

Pronotum and pretergites whitened. Mesonotal praescutum, scutal lobes and base of scutellum uniform cinnamon brown; extreme borders of praescutum behind the humeri yellow; median region of scutum and posterior portion of scutellum obscure yellow; mediotergite reddish brown, more darkened on cephalic portion. Pleura and pleurotergite reddish yellow, striped with more whitish pruinose, the pattern very vague and ill-defined; dorsopleural membrane pale yellow. Halteres with stem dirty white, knob infuscated. Legs with coxae yellow, the fore pair a trifle darker; trochanters testaceous yellow; remainder of legs pale brown with only the outer two segments darker. Wings with a weak brownish tinge, the prearcular and costal fields more yellowish; stigma lacking; veins pale brown, scarcely more brightened in the yellow fields. Venation: *Sc* short, *Sc*₁ ending a distance before origin of

Rs about equal to two-thirds the length of the latter; cell R_3 wide at margin; cell *1st M*₂ closed; *m-cu* close to fork of *M*; cell *2nd A* wide.

Abdominal tergites dark brown, sternites yellow; hypopygium chiefly yellow. Male hypopygium (Fig. 17) of unique conformation. Basistyle, *b*, relatively small, its outer lobe produced into a blackened rod that exceeds the dististyle in length; at apex the rod is expanded and angularly bent, with a small tooth on mesal face at point of angulation; outer portion of rod with a dense series of setulae along the inner margin and face; apex weakly bidentate. Dististyle, *d*, at base very closely applied to, or partially fused with, the basistyle, elongate, projecting caudad to beyond the angulation of outer lobe of basistyle, at apex slightly dilated, the actual tip pointed; style provided with a few setae, including the usual fasciculate pair, of which the more basal one is slightly the larger; apex and outer surface of style with abundant microscopic setulae. Aedeagus, *a*, long and simple, projecting caudal beyond all other elements of the hypopygium; surrounding its base a semicircular plate that is produced into a single weak spine.

HOLOTYPE, ♂, Serra da Cantareira, altitude about 900 meters, December 1940 (GUIMARÃES & TRAVASSOS).

The present fly is entirely different from all other generally similar forms, especially in the hypopygial characters. The stout blackened outer lobe of the basistyle is quite distinct from all other regional species. The nature of the basistyle is approached by some other species, including *Gonomyia (Lipophleps) orthomera* ALEXANDER, 1937, of Puerto Rico, but these flies differ in all other regards.

73. *Gonomyia (Lipophleps) carrerai* Alexander 1943
Juquiá, altitude about 40 meters, April 7, 1940 (TRAVASSOS).

74. *Gonomyia (Lipophleps) extenuata*, sp. n.

Belongs to the *cinerea* group; antennal flagellum chiefly yellow; knob of halteres brownish black; fore femora blackened on more than proximal third, the remainder paling to obscure yellow; middle and hind femora obscure yellow, with a narrow, pale brown, subterminal ring; basitarsi of all legs white with narrowly darkened tips; wings tinged with brown, the costal border yellow; cell *1st M*₂ closed; male hypopygium with three dististyles, the outer and intermediate ones subequal in length, the former a darkened blade that bears an acute black spine on its inner margin near base; intermediate style a long slender spine, setulose before the acute blackened tip; inner dististyle a small oval pale structure; phallosome a broad

depressed plate, near its apex on either side produced laterad into pale horns; surface of plate with abundant, very delicate setulae.

♂. — Length, about 3.5 mm.; wing, 4 mm.

♀. — Length, about 4.5 — 5 mm.; wing, 4.5 — 5 mm.

Rostrum dark brown; palpi black. Antennae with the scape dusky; pedicel and most of flagellum yellow, the outer segments of the latter infuscated; outer flagellar segments passing into elongate; intermediate flagellar segments (male) with the unusually long verticils common in the subgenus. Head yellow, the center of vertex infuscated.

Pronotum very pale yellow, dark brown medially; pretergites white. Mesonotum dark brown, sparsely pruinose; scutum gray medially, each lobe and a central vitta darker; scutellum brownish gray, narrowly darkened medially, the posterior border restrictedly obscure yellow; mediotergite brownish gray, restrictedly yellow on sides and posterior angles; pleurotergite pale brown. Pleura conspicuously striped longitudinally with dark brown and white, including a broader stripe of the latter color from the fore coxae to the base of abdomen, bordered both above and below by dark brown; dorsad to the upper dark stripe a less distinct grayish white line; dorsopleural membrane and sternum paler. Halteres with stem obscure yellow, knob brownish black. Legs with the fore coxae whitened, narrowly dark at base, remaining coxae yellow; trochanters pale yellow; fore femora blackened on more than the proximal third, the remainder paling to obscure yellow; fore tibiae and basitarsi white, their tips narrowly infuscated; remainder of leg black; middle and hind femora obscure yellow with a narrow, pale brown ring before the narrower pale tips; tibiae and basitarsi white, the tips very narrowly darkened, remainder of tarsi black. Wings tinged with brown, more deeply so at base; anterior prearcular field and the costal border light yellow; stigma oval, darker brown; veins pale brown, those of the cord darker brown, of the yellow costal border more flavous. Venation: Sc_1 ending a distance before origin of R_s about equal to the latter; cell $1st M_2$ closed; $m-cu$ a short distance before fork of M .

Abdomen dark brown, the caudal borders of the segments narrowly pale; hypopygium more brownish yellow; genital shield (female) more yellowish. Male hypopygium (Fig. 18) with three dististyles; outer style, od , a long narrow parallel-sided darkened blade, the tip obtuse, margins smooth, inner margin near base with a single small black spine directed outwardly; outer blade a trifle dilated immediately beyond the spine; intermediate style, md , a long slender pale rod, nearly equal in length to the outer style, gra-

dually narrowed to an acute blackened spine, the outer portion before the apex with microscopic setulae; inner dististyle, *id*, a small oval pale structure, terminating in two elongate but not greatly enlarged setae, with about eight smaller ones over the surface. Phallosome, *p*, a broad pale structure, near apex produced laterad into pale horns, the surface with abundant but very delicate setulae.

HOLOTYPE, ♂, Serra da Cantareira, altitude about 900 meters, December 1940 (GUIMARÃES & TRAVASSOS). ALLOTOPOTYPE, ♀, pinned with type. PARATOPOTYPE, 1 ♀, with type; PARATYPES, 2 ♀ ♀, Juquiá, altitude 400 meters, November 1940 (TRAVASSOS).

Readily distinguished by the pattern of the fore legs and the structure of the male hypopygium. The character of a closed cell 1st M_2 is shared with *Gonomyia (Lipophleps) condensa* ALEXANDER, 1938 of southeastern Brazil, an otherwise entirely different fly.

75. *Gonomyia (Lipophleps) juquiana*, sp. n.

Belongs to the *manca* group; rostrum yellowish brown to pale brown; antennal verticils (male) unusually long; yellow pleural stripe ill-defined; legs brownish black; wings with a strong grayish tinge, the prearcular and costal portions a trifle more whitish; male hypopygium with the dististyle single, terminal in position, appearing as an oval flattened disk that bears a single strong curved spine; phallosome consisting of a flattened basal plate that bears a slender elongate rod interpreted as being the aedeagus and two smaller, more blackened arms.

♂. — Length, about 3.4 — 3.5 mm.; wing, 3.8 — 4 mm.

Rostrum yellowish brown to pale brown; palpi black. Antennae black; basal segments swollen; outer flagellar segments long-cylindrical, with unusually long and conspicuous verticils, the longest more than one-third the entire antenna. Head dark; eyes (male) very large.

Pronotum dark; anterior pretergites restrictedly pale. Mesonotal praescutum and scutal lobes dark brown, sparsely gray pruinose; median area of scutum obscure yellow; scutellum somewhat brighter yellow, with a darkened median spot at base; postnotal mediotergite gray, the pleurotergite paler, brownish yellow, sparsely pruinose. Pleura brown, sparsely gray pruinose, with a broad but ill-defined yellow longitudinal stripe from the anepisternum to the base of abdomen, passing beneath the root of halteres. Halteres uniformly darkened. Legs with the fore coxae brown, posterior pair yellow, the middle coxae more brownish yellow; trochanters yellow; remainder of legs brownish black. Wings (Fig. 15) with a strong

grayish tinge, the base and costal region a trifle more whitened; stigma not or scarcely indicated; veins pale brown. Venation: Sc_1 ending a short distance before origin of Rs , Sc_2 shortly removed from its tip; Rs about one-half as long as its anterior branch; $m-cu$ at or close to fork of M .

Abdominal tergites dark brown, the sternites a little paler, especially the basal ones; hypopygium more brightened. Male hypopygium (Fig. 20) with the tergite, $9t$, provided with lateral groups of spinous setae that become more delicate and setulose on the mesal portions of the group. Basistyle, b , simple; dististyle, d , single, apical in position, appearing as an irregular oval flattened disk that bears a single strong curved spine, the base of latter with numerous very delicate setulae; a single fasciculate seta. Phallosome, p , complex, consisting of an extensive flattened basal plate that narrows abruptly into a slender apical rod that is presumed to represent the aedeagus; two blackened arms at base of this rod, one a slender curved spine; second arm subequal in length but stout, its surface with abundant spiculose points; in the paratype this later arm is less spiculose than in the type.

HOLOTYPE, ♂, Juquiá, altitude 400 meters, November 1940 (TRAVASSOS). PARATOPOTYPE, ♂.

Gonomyia (Lipophleps) juquiana is most similar to *G. (L.) crepuscula* ALEXANDER, 1921 (Peru - Paraguay), differing in the structure of the male hypopygium, especially of the dististyle and phallosome.

76. *Gonomyia (Lipophleps) micromera*, sp. n.

Belongs to the *pleuralis* group; male hypopygium with the blackened apical lobes of the basistyle very small, the longest shorter than the dististyle; outer fleshy lobe of basistyle with very long setae; phallosome with four blackened spinous points, the outer pair similar to one another in shape.

♂. — Length, about 3 mm.; wing, 3.2 mm.

Coloration as in the *pleuralis* group. Antennal verticils (male) greatly lengthened. Legs black, the femora-tibial incisure very restrictedly whitened. Wings with the ground color yellow, the prearcular and costal fields clearer yellow; stigma oval, dark brown; restricted but conspicuous paler brown clouds along cord, over outer end of cell $1st M_2$ and at origin of Rs ; distal section of vein M_3 seamed with brown; distal ends of outer radial and medial cells more weakly infuscated; veins yellow, brown in the patterned fields. Venation: Sc_1 ending about opposite origin of Rs , Sc_1 alone about

one-third R_s ; distal section of R_5 bent very strongly caudad, ending just beyond the wing-tip and narrowing cell R_5 to an unusually short space.

Abdomen chiefly dark brown, the central portion of the segments vaguely paler; hypopygium brownish yellow, the face of the basistyle lined with brown. Male hypopygium (Fig. 19) with the blackened apical lobes of basistyle very small, the longest shorter than the dististyle; the smaller lobe rather suddenly narrowed to a subacute point; larger lobe broadly flattened, very gradually narrowed into a long slender apical spine; outer fleshy lobe with very long setae. Dististyle, d , flattened, provided with numerous setae, including the usual two longer apical ones. Phallosome, p , complex, as shown, consisting of four blackened spinous points, the outer pair similar to one another in shape, broadly flattened, narrowed to a slender spine.

HOLOTYPE, ♂, Juquiá, altitude 400 meters, November 1940 (TRAVASSOS); through CARRERA.

In its general appearance, *Gonomyia (Lipophleps) micromera* is very similar to the other members of the group but differs conspicuously in the structure of the male hypopygium, as described.

77. *Gonomyia (Lipophleps) schadeana* Alexander 1935

São Paulo, March 1941 (JOHN LANE); ALEXANDER Collection. Serra da Cantareira, altitude about 900 meters, December (1940 (GUIMARÃES & TRAVASSOS)).

78. *Cryptolabis (Cryptolabis) travassosi*, sp. n.

General coloration black, the pronotum and pretergites whitened; rostrum and antennae black; knobs of halteres conspicuously whitened; femora and tibiae obscure yellow, the tips narrowly but conspicuously brownish black; wings with a strong brownish tinge, the prearcular field whitened; macrotrichia o_1 cells beyond cord abundant; R_s long and sinuous, with $r-m$ before the fork; male hypopygium with the dististyle large, terminal, complex in structure; aedeagus relatively slender, strongly convoluted.

♂. — Length, about 4 mm.; wing, 4.5 mm.

Rostrum and palpi black. Antennae black throughout; flagellar segments oval, with long conspicuous verticils. Head dull black.

Pronotum and pretergites conspicuously whitened. Mesonotum uniform black, the surface subnitidous. Pleura brownish black, the dorsopleural membrane broadly white. Halteres with stem dusky, the knob whitened. Legs with the coxae yellow, the fore pair somewhat darker; trochanters yellow; femora and tibiae obscure

yellow, the tips narrowly but conspicuously brownish black; basitarsi obscure yellow, their tips and the remainder of tarsi more infuscated. Wings (Fig. 16) with a strong blackish tinge, the very narrow stigma, a seam along vein *Cu*, and the axillary angle still darker; prearcular field and extreme basal portion of costal area more whitened; veins dark brown. Macrotrichia of cells abundant, especially beyond cord, restricted to the central portions of the cells. Venation: *Sc* long, *Sc*₁ ending about opposite fork of *Rs*, *Sc*₁ alone a little longer than *R*₂₊₃₊₄; *Rs* long and sinuous, *r-m* placed before its fork; *R*₂₊₃₊₄ unusually erect, subequal in length to *r-m*; a short spur at point of angulation of vein *M*₃.

Abdomen black, including hypopygium; surface of abdomen conspicuously hairy. Male hypopygium (Fig. 22) with the dististyle, *d*, large, terminal, complex in structure; basal portion narrow, thence widened, the entire outer surface with long coarse setae; apex of style a short obtuse flattened blade provided with smaller setae; on face of style before apex with a large flattened glabrous plate or flange (shown in two aspects in the figure). Aedeagus, *a*, relatively slender but elongate and strongly convoluted, its basal plate relatively small.

HOLOTYPE, ♂, Serra da Cantareira, altitude about 900 meters, December 1940 (GUIMARÃES & TRAVASSOS).

I am very pleased to name this interesting crane-fly in honor of Mr. LAURO TRAVASSOS FILHO, to whom we are much indebted for invaluable aid in collecting the Tipulidae in many parts of São Paulo. From other regional species with strongly blackened wings, including *Cryptolabis (Cryptolabis) sepulchralis* ALEXANDER, 1922, of Paraguay, and *C. (C.) umbrosa* ALEXANDER 1938, of southeastern Brazil, the present fly differs conspicuously in the venation and in the structure of the male hypopygium.

79. *Molophilus (Molophilus) lanei*, sp. n.

Belongs to the *plagiatus* group; general coloration of thorax brownish gray; antennae black, of moderate length; longest verticils occurring on the more basal segments, fully twice the length of the segment; knobs of halteres brownish black; legs chiefly dark-colored, the color in part produced by dense black setae; wings yellowish brown, the prearcular and costal fields brighter; abdomen including hypopygium, black; male hypopygium with the basal dististyle a long, nearly straight rod that narrows gradually, its tip a long black spine; surface of style with very abundant, long and conspicuous setae, their punctures not conspicuous; lower surface

of style with numerous blackened short spines or tubercles; phallosomic plate glabrous.

♂. — Length, about 4 — 4.2 mm.; wing, 4.4 — 4.5 mm.; antenna, about 1.3 mm.

Rostrum and palpi black. Antennae black throughout, of moderate length; flagellar segments elongate, their lower faces slightly more protuberant than the upper sides; longest verticils on basal segments, fully twice the length of the segment itself. Head dark gray.

Pronotum brownish gray. Mesonotum almost uniform dark plumbeous gray, the humeral region of praescutum restrictedly obscure yellow. Halteres with stem yellow, knob brownish black. Legs with coxae dark brown; trochanters obscure brownish yellow; femora and tibiae yellow, this color virtually hidden by dark-colored setae; tarsi black; fore legs (male) with a modified area near base of tibia. Wings yellowish brown, the prearcular and costal fields slightly more yellowed; veins pale brown, more brownish yellow in the brightened fields; macrotrichia black. Venation: R_2 lying slightly distad of $r-m$; $m-cu$ about one-half the petiole of cell M_3 ; vein 2nd A relatively long, ending shortly beyond the level of cephalic end of $m-cu$.

Abdomen black, the hypopygium scarcely brightened. Male hypopygium (Fig. 21) with the beak of basistyle, b , slender, blackened, at its base on outer margin with a more or less developed tooth. Outer dististyle with its inner arm slender. Basal dististyle, bd , distinctive of the species, appearing as a long, nearly straight rod that narrows gradually outwardly, terminating in a long straight spine; surface of style except at its base and on the terminal spine with very abundant long erect setae, these much exceeding the transverse diameter of the style, each arising from an inconspicuous puncture; lower surface of style with small blackened erect or recurved points or tubercles that involve most of the length of style. Phallosomic plate oval, vaguely more pointed at its tip, the surface glabrous. Aedeagus, a , long and conspicuous, sinuous.

HOLOTYPE, ♂, Amparo, Fazenda São Bento, March 8, 1943 (FREDERICO LANE). PARATYPE, ♂, Serra da Cantareira, altitude about 900 meters, December 1940 (GUIMARÃES & TRAVASSOS).

This very interesting crane-fly is named in honor of Mr. FREDERICO LANE, to whom I express my indebtedness for many appreciated favors. The species is very distinct in the structure and vestiture of the basal dististyle of the male hypopygium. Among the regional species it is perhaps most similar in hypopygial structure to *Molophil-*

lus (Molophilus) reminger ALEXANDER, 1922 from an unknown locality in Brazil (from the old Winthem Collection in the Vienna Museum, presumably from southeastern Brazil). The relationship between the two flies is not particularly close.

80. *Toxorhina (Ceratocheilus) maculipennis* Alexander 1936
Juquiá, altitude 400 meters, November 1940 (TRAVASSOS).

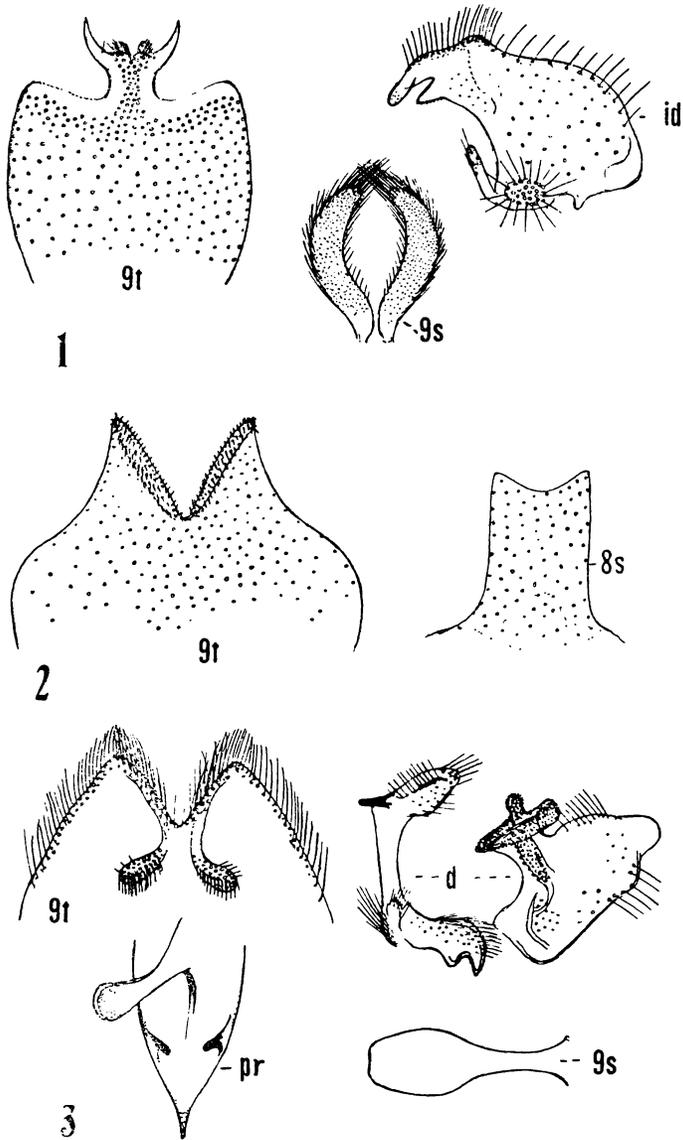
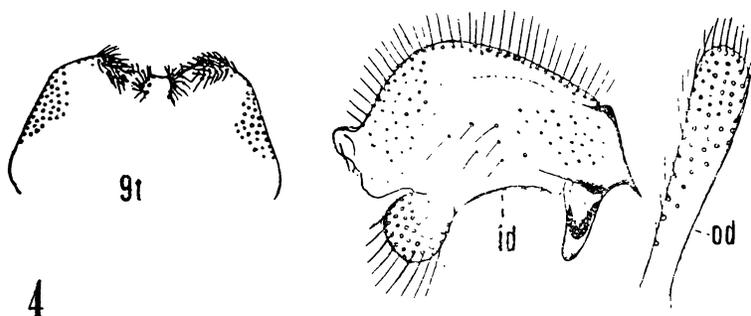
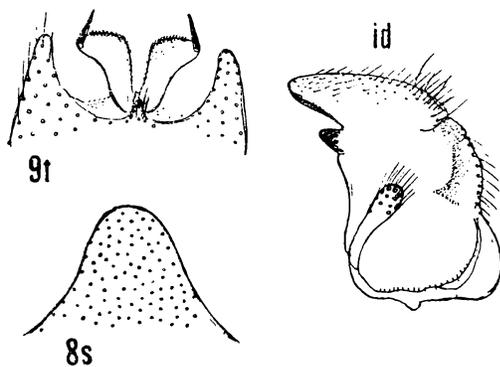


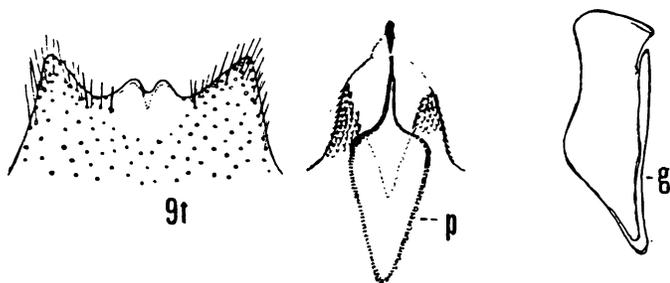
Fig. 1. *Tipula (Microtipula) affabilis* sp. n.; male hypopygium.
 Fig. 2. *Tipula (Microtipula) efferox* sp. n.; male hypopygium.
 Fig. 3. *Tipula (Microtipula) eurymera* sp. n.; male hypopygium.
 Symbols: *d*, dististyles; *id*, inner dististyle; *pr*, proctiger; *s*, sternite; *t*, tergite.



4



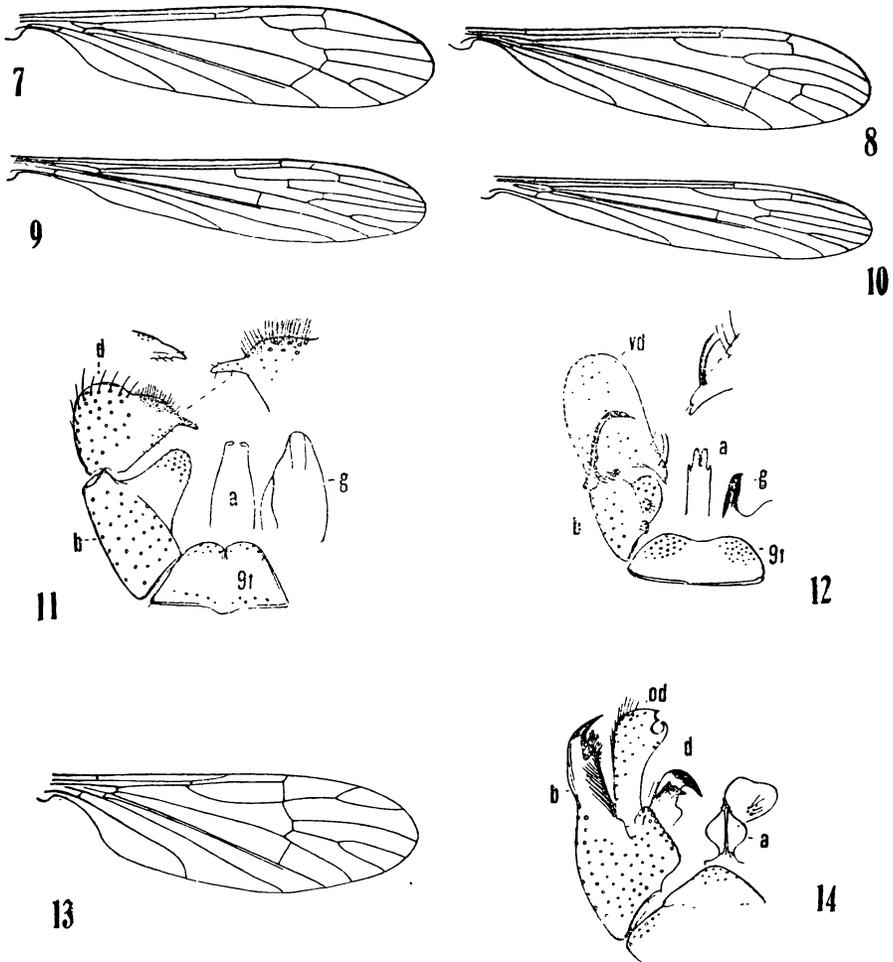
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6

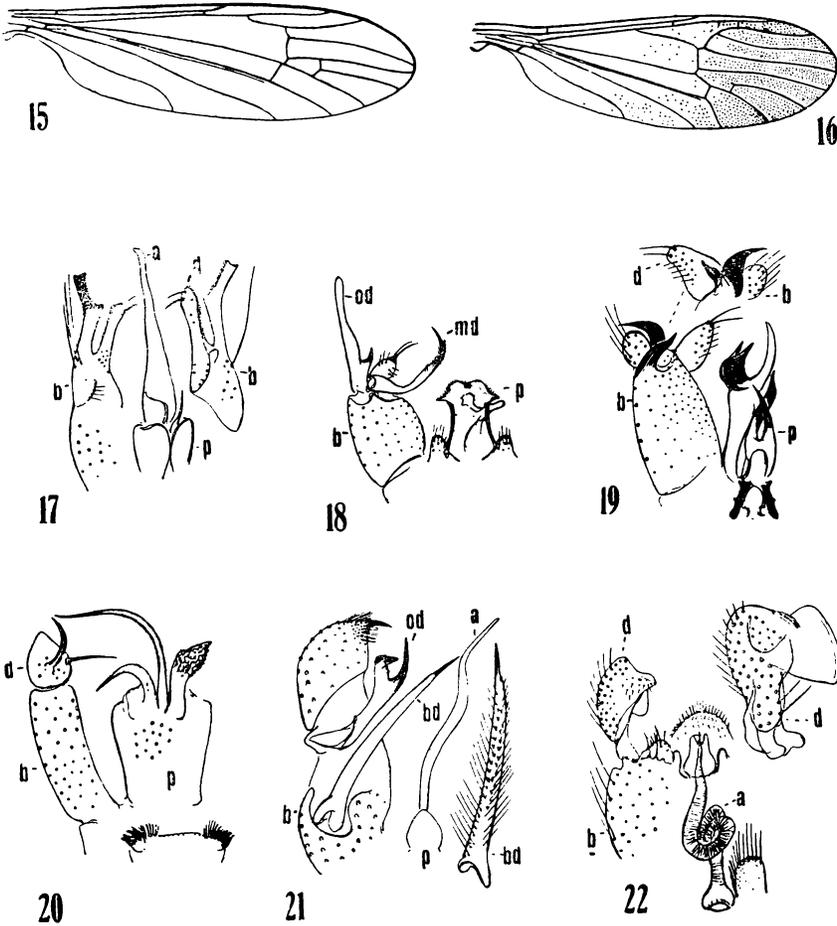
Fig. 4. *Tipula (Microtipula) feliciana* sp. n.; male hypopygium.
 Fig. 5. *Tipula (Microtipula) juquiella* sp. n.; male hypopygium.
 Fig. 6. *Tipula (Eumicrotipula) mordax* sp. n.; male hypopygium.

Symbols: *d*, dististyles; *g*, gonapophysis; *id*, inner dististyle;
od, outer dististyle; *p*, phallosome; *s*, sternite; *t*, tergite.



- Fig. 7. *Limonia (Dicranomyia) miseranda* sp. n.; venation.
 Fig. 8. *Limonia (Limonia) capitonius* sp. n.; venation.
 Fig. 9. *Orimarga (Orimarga) chionomera* sp. n.; venation.
 Fig. 10. *Orimarga (Orimarga) neogaudens* sp. n.; venation.
 Fig. 11. *Limonia (Limonia) capitonius* sp. n.; male hypopygium.
 Fig. 12. *Limonia (Rhipidia) cassandra* sp. n.; male hypopygium.
 Fig. 13. *Teucholabis (Paratropesa) amatrix* sp. n.; venation.
 Fig. 14. *Teucholabis (Paratropesa) amatrix* sp. n.; male hypopygium.

Symbols: a, aedeagus; b, basistyle; d, dististyle; g, gonapophysis; t, tergite; vd, ventral dististyle.



- Fig. 15. *Gonomyia (Lipophleps) juquiana* sp. n.; venation.
 Fig. 16. *Cryptolabis (Cryptolabis) travassosi* sp. n.; venation.
 Fig. 17. *Gonomyia (Lipophleps) cantareirae* sp. n.; male hypopygium.
 Fig. 18. *Gonomyia (Lipophleps) extenuata* sp. n.; male hypopygium.
 Fig. 19. *Gonomyia (Lipophleps) micromera* sp. n.; male hypopygium.
 Fig. 20. *Gonomyia (Lipophleps) juquiana* sp. n.; male hypopygium.
 Fig. 21. *Molophilus (Molophilus) lanei* sp. n.; male hypopygium.
 Fig. 22. *Cryptolabis (Cryptolabis) travassosi* sp. n.; male hypopygium.

Symbols: *a*, aedeagus; *b*, basistyle; *bd*, basal dististyle; *d*, dististyle; *md*, intermediate dististyle; *od*, outer dististyle; *p*, phallosome.