

Reprinted from ANNALS OF THE ENTOMOLOGICAL SOCIETY OF AMERICA  
Vol. XXXIX, No. 1, March, 1946

**STUDIES ON THE CRANE-FLIES OF MEXICO**

**PART VIII<sup>1</sup>**

**(Order Diptera, Superfamily Tipuloidea)**

CHARLES P. ALEXANDER

Amherst, Massachusetts

In the present report I am describing various interesting crane-flies from Mexico, almost all received from my long-time friend and colleague, Dr. Alfons M. Dampf. These rich materials were chiefly captured by Dr. Dampf, with the assistance of certain of his co-workers and inspectors, as discussed under the individual species. I am very deeply obliged to Dr. Dampf for the privilege of retaining the type specimens of these novelties in my personal collection.

**Tipula** Linnaeus

**Tipula (Trichotipula) religiosa** sp. n.

General coloration of thorax opaque reddish brown, the praescutal stripes poorly differentiated against the ground; antennae with basal three segments yellow, the outer flagellar segments uniformly dark brown, with poorly defined basal enlargements; knobs of halteres dark brown; femora and tibiae yellow, their tips narrowly darkened; wings brownish yellow, the prearcular and costal fields, with vein *Cu*, light yellow; stigma pale brown; macrotrichia of outer cells of wing sparse; *Sc*<sub>2</sub> ending about opposite midlength of *Rs*, *Sc*<sub>1</sub> weakly preserved; *m* and petiole of cell *M*<sub>1</sub> subequal; abdomen yellow, the tergites with a brown median stripe; subterminal segments darkened; male hypopygium with the beak of the inner dististyle elongate, its apex obliquely truncate; lower beak well developed, separated from the beak by a broad U-shaped emargination.

*Male*.—Length about 14 mm.; wing, 13 mm.; antenna about 2.8 mm.

*Female*.—Length about 16 mm.; wing 14 mm.

Frontal prolongation of head brown to brownish yellow; nasus elongate; palpi brown. Antennae with basal three segments yellow; succeeding two or three segments brown, the outer ones dark brown; flagellar segments with basal enlargements poorly developed; verticils a little shorter than the segments. Head with center of vertex brownish gray, the front and orbits grayish white; vertical tubercle low, entire.

Pronotum brown, sparsely pruinose. Mesonotum opaque reddish brown, the praescutal stripes very poorly differentiated against the ground; intermediate stripes separated by a narrow to capillary darker brown median vitta, longer and heavier in female. Pleura and pleurotergite more testaceous yellow, sparsely pruinose; dorsopleural mem-

<sup>1</sup>The preceding part under this general title appeared in these ANNALS (Vol. XXXIII, 140-161, 1940). Contribution from the Entomological Laboratory, Massachusetts State College.

brane buffy yellow. Halteres with stem brown, narrowly more yellowed at base, knob dark brown. Legs with the coxae testaceous, sparsely pruinose; trochanters yellow; femora and tibiae yellow, the tips narrowly and weakly darkened; tarsi passing into black; claws (male) toothed. Wings with a strong brownish yellow suffusion, the prearcular and costal fields clear light yellow; stigma pale brown, a little darker than the ground; obliterative areas before stigma and across cell *1st M*<sub>2</sub>; veins brown, the veins in the prearcular and costal fields, as well as *Cu*, yellow. Sparse macrotrichia in stigma and in cells *R*<sub>3</sub> to *M*<sub>4</sub>, inclusive, somewhat more abundant in male. Venation: *Sc*<sub>2</sub> ending about opposite midlength of *Rs*, *Sc*<sub>1</sub> weakly preserved; *Rs* relatively long, oblique; *R*<sub>1+2</sub> entire; inner end of cell *1st M*<sub>2</sub> pointed, lying basad of cell *R*<sub>5</sub>; *M*<sub>3+4</sub> short, subequal to *r-m*; *m* and petiole of cell *M*<sub>1</sub> subequal; *m-cu* on *M*<sub>4</sub> shortly beyond the perpendicular origin.

Abdominal tergites yellow, the second and succeeding segments with a brown median stripe, slightly more interrupted on the narrow glabrous basal rings; sternites yellow; subterminal segments more infuscated to form a more or less distinct subterminal ring; hypopygium yellow. Male hypopygium with the caudal margin of tergite with a deep V-shaped notch, the broad lateral lobes obtusely rounded; notch and mesal edge of lobes margined with retrorse blackened spinous setae. Outer dististyle dusky, moderately broad, the tip obtuse. Inner dististyle with the beak elongate, its apex obliquely truncate, the lower angle more acute and blackened; lower beak widely separated from the beak by a broad U-shaped emargination, blackened and continued across the face of style as a narrow flange; face of style near this produced portion with a small darkened lobe; dorsal crest of style with numerous relatively short black spinous setae and abundant erect long yellow bristles.

HABITAT: Mexico D. F., 1921 (received through an exchange with Dr. William G. Dietz). *Holotype* ♂ and *Allotype* ♀.

The only near regional ally is *Tipula* (*Trichotipula*) *aplecta* Alexander, which is entirely different in the coloration of the body and wings, and, especially, in the structure of the male hypopygium, particularly the very reduced inner dististyle.

### **Limonia** Meigen

#### **Limonia** (**Limonia**) **tragica** sp. n.

General coloration black, including most of the thoracic notum and pleura; anterior vertex reduced to a narrow strip; halteres black, the base of stem restrictedly pale; wings with a brownish tinge, conspicuously patterned with dark brown; *Sc*<sub>1</sub> ending about opposite three-fourths the length of *Rs* which is square at origin; cell *1st M*<sub>2</sub> longer than vein *M*<sub>1+2</sub> beyond it; *m-cu* close to fork of *M*, longer than the distal section of *Cu*<sub>1</sub>; abdomen black.

*Female*.—Length about 8 mm.; wing, 8.5 mm.

Rostrum and palpi black. Antennae with scape and pedicel black; flagellum broken. Head black, sparsely pruinose; anterior vertex reduced to a linear strip, at narrowest point only about as wide as two rows of ommatidia.

Pronotum broken. Mesonotal praescutum chiefly blackened, the central portion more reddish or piceous but not forming an evident stripe; lateral pretergites and margin of praescutum conspicuously light yellow; scutal lobes blackened, the centers slightly more grayish; median region of scutum narrowly more yellow pollinose; scutellum dark, brownish yellow pollinose; mediotergite with the central portion gray pruinose, the cephalic lateral angles restrictedly obscure yellow; pleurotergite black, sparsely pruinose. Pleura almost entirely black, with a slightly paler ventral stripe that extends from behind the fore coxae to the pteropleurite. Halteres black, the base of stem restrictedly pale. Legs with the fore and middle coxae darkened basally, the tips reddened, the posterior coxae more uniformly reddened; trochanters reddish yellow; remainder of legs broken. Wings relatively broad, with a brownish tinge, especially in the basal and costal portions; a conspicuous dark brown pattern, as follows: Origin of *Rs*; fork of *Sc*; the short-oval stigma; seams over cord and outer end of cell *1st M*<sub>2</sub>; outer radial field, especially the outer ends of cells *R*<sub>2</sub> and *R*<sub>3</sub>; cells *R*<sub>5</sub> to *M*<sub>3</sub> less evidently darkened before their outer ends, the tips pale; more or less distinct seams to some of the veins, including *Cu*; veins brown, *Sc* and *R* paler. No stigmal trichia. Venation: *Sc*<sub>1</sub> ending about opposite three-fourths *Rs*, *Sc*<sub>2</sub> at tip; *Rs* square at origin; *R*<sub>2</sub> and *R*<sub>1+2</sub> in transverse alignment; inner end of cell *1st M*<sub>2</sub> arcuated; cell *1st M*<sub>2</sub> longer than vein *M*<sub>1+2</sub> beyond it; *m-cu* close to fork of *M*, about one-third longer than the distal section of *Cu*<sub>1</sub>; cell *2nd A* relatively wide.

Abdomen black, the caudal borders of the intermediate sternites narrowly obscure yellow; eighth sternite obscure yellow, more or less darkened medially at base. Genital shield of ovipositor dark brown; cerci slender, upcurved to the acute tips; hypovalvae strong, blackened basally.

HABITAT: Mexico (Chiapas). *Holotype*, ♀, Finca Prusia, altitude 1,250 meters, December 4, 1932 (A. M. Dampf); M. F. 2839.

This very distinct species is readily told from the most similar regional forms, such as *Limonia* (*Limonia*) *caribaea* Alexander, *L. (L.) horrenda* Alexander, and *L. (L.) hyperphallus* Alexander, by the coloration of the body and the pattern and venation of the wings. All of these flies have conspicuously patterned wings but with no dark areas basad of the level of the origin of the cord.

### Dicranota Zetterstedt

#### Dicranota (*Rhaphidolabis*) *mexicana* sp. n.

General coloration gray, the praescutum with three conspicuous dark brown stripes; antennae 13-segmented, black throughout; halteres with knobs dark brown; legs dark brown; wings subhyaline, with a conspicuous dark brown stigma; veins beyond cord of unusual length, the distal section of *R*<sub>5</sub> subequal to or longer than *Sc*<sub>1</sub>; abdominal tergites dark reddish brown, the sternites more pruinose; male hypopygium with the lateral tergal arms appearing as relatively slender glabrous blades; apical lobe of basistyle and the outer dististyle with conspicuous blackened spines; gonapophyses unusually broad and expanded.

*Male*.—Length about 6 mm.; wing, 7 mm.

*Female*.—Length about 6.5 mm.; wing, 7.5 mm.

Rostrum gray; palpi black. Antennae 13-segmented, black throughout; flagellar segments oval, the first about one-third longer than the second. Head brownish gray, clearer gray behind.

Pronotum gray, broadly but weakly infuscated medially. Mesonotal praescutum gray, with three conspicuous dark brown stripes, the median one broad and conspicuous, the laterals narrow and poorly indicated; posterior sclerites of notum gray, the centers of the scutal lobes only slightly darkened; thorax unusually high and gibbous, especially the praescutum. Pleura light gray, variegated with darker gray. Halteres with stem yellow, knob dark brown. Legs with the coxae reddish, gray pruinose; trochanters brownish yellow; remainder of legs dark brown. Wings subhyaline, the extreme base more yellowed; stigma oval, dark brown, conspicuous; veins dark brown, those at wing base more brightened. Venation: *Rs* gently arcuated;  $R_{2+3+4}$  preserved, exceeding *r-m*; veins beyond cord of unusual length, the distal section of  $R_5$  subequal to or longer than  $Sc_1$ ; cell  $M_1$  present.

Abdominal tergites dark reddish brown, unpatterned; sternites and outer tergites more pruinose; cerci elongate, yellowish horn color, restrictedly darkened basally. Male hypopygium with the median tergal lobe entire, moderately broad, its apex obtuse, provided with about a score of strong spinous setae; lateral tergal arms appearing as long, relatively slender, glabrous blades, very gradually narrowed to the stout subacute tips. Interbases appearing as shorter and broader flattened glabrous blades, the apex truncated, the lateral angle produced into a short strong spinous point. Basistyle with a group of long conspicuous setae on mesal face; apical lobe of basistyle relatively short and stout, provided with about a score of blackened spines. Outer dististyle expanded outwardly, the obliquely truncated apex provided with more than 30 blackened spines. Inner dististyle longer than the outer, the basal half broad, the distal portion much narrower, its apex obtuse; surface of style with numerous setae of various lengths. Phallosome with the gonapophyses unusually broad and expanded, the margins rounded, the surface with abundant delicate setulae.

HABITAT: Mexico (Mexico State and Federal District). *Holotype*, ♂, Dos Rios, Mexico State, altitude 2,500 meters, April 20, 1937 (A. M. Dampf); M. B. 222. *Allotype*, ♀, Desierta de los leones, Federal District, March 29, 1925 (A. M. Dampf); M. F. 520.

The closest described relative of the present fly appears to be *Dicranota (Rhaphidolabis) neomexicana* (Aléxander), of the southern and central Rocky Mountains. The present fly has the wings longer and narrower, especially the veins and cells beyond the cord, and with the praescutum conspicuously trivittate with dark brown. The structure of the male hypopygium is entirely different in the two species. This is the first record of occurrence of the subgenus in America south of the Mexican border.

***Dicranota (Rhaphidolabis) rostrifera* sp. n.**

General coloration dark gray; wings subhyaline, the stigma medium brown;  $R_{2+3+4}$  distinct, at least one-half longer than the basal section



of  $R_5$ ; male hypopygium with the lateral tergal arms appearing as glabrous blades that narrow to a terminal spine; interbase appearing as a flattened blade that is expanded outwardly and here produced laterad into a beaklike spine, the apex of the blade with microscopic setulae; gonapophyses narrow, with from six to eight pale oval punctures before apex.

*Male*.—Length about 5.8–6 mm.; wing, 6.5–7 mm.

*Female*.—Length about 6.8–7 mm.; wing, 7.5–7.8 mm.

Rostrum and palpi black. Antennae 12-segmented, black throughout; flagellar segments oval, the terminal one about one-half longer than the penultimate. Head above dark gray.

Thorax light gray, the praescutum with three brown stripes, the median one broad; centers of scutal lobes darkened. Halteres with stem obscure yellow, knob darkened. Legs with the coxae gray; trochanters brown; remainder of legs dark brown, the tarsi a little paler. Wings subhyaline, the stigma medium brown, relatively distinct; veins brown. Venation:  $R_s$  arcuated;  $R_{2+3+4}$  distinct, variable in length but at least one-half longer than basal section of  $R_5$ , in cases up to three times as long;  $R_{1+2}$  and  $R_2$  subequal in length or the latter longer; cell  $M_1$  usually present, lacking in the paratype; *m-cu* from one-third to one-fourth its length beyond the fork of  $M$ .

Abdomen dark brown, the sternites somewhat brightened; hypopygium dark brown. Male hypopygium with the median region of tergite low and obtuse, much lower than in *mexicana*; lateral tergal arms appearing as conspicuous glabrous blades, broad at base, narrowed and strongly curved to a long terminal spine; posterior border of tergite near bases of lateral arms with a group of about a dozen long setae. Interbases of distinctive shape, appearing as flattened blades, expanded at distal end into a subcircular blade, one end of which is produced laterad into a long straight spine, whence the specific name; stem with about four long erect setae from conspicuous punctures; outer portion of expanded blade with microscopic setulae that are directed toward the beak, producing a roughened appearance, in cases these setulae more abundant and conspicuous than in others. Apex of basistyle broadly obtuse, armed with four or five pale spinous points. Outer dististyle relatively narrow, parallel-sided, the apex obtuse, provided with more than a score of spines. Inner dististyle large and conspicuous, expanded outwardly, provided with setae that are longest toward the apex of the beak. Phallosome with the subtending apophyses very narrow, the obtuse tips with microscopic setulae, the outer portion of each blade with about six to eight oval pale punctures.

HABITAT: Mexico (Mexico State and Federal District). *Holotype*, ♂, among aquatic plants from Rio Borja, D. F., February 9, 1932 (A. M. Dampf); No. 62–32. *Allotopotype*, ♀. *Paratopotypes*, 6 ♂ ♀; *paratype*, ♂, Dos Rios, Mexico State, altitude 2,500 meters, April 20, 1937 (A. M. Dampf); M. B. 222. The paratype was associated with *Antocha* (*Antocha*) *monticola* Alexander and *Dicranota* (*Rhaphidolabis*) *mexicana* sp. n.

*Dicranota* (*Rhaphidolabis*) *rostrifera* is quite distinct from all other regional members of the genus, differing especially in the structure of the male hypopygium. The most similar of these species are *D. (R.) mexicana* sp. n. and *D. (R.) neomexicana* (Alexander).

**Oxydiscus** de Meijere**Oxydiscus (Oxydiscus) oaxacensis** sp. n.

General coloration brownish black, only slightly variegated with brighter; halteres dusky, the knob and base of stem obscure yellow; wings relatively broad, grayish yellow, with a restricted but conspicuous dark brown pattern; cell  $M_1$  present; *m-cu* about one-half to two-thirds its own length beyond the fork of  $M$ ; male hypopygium with the marginal spine of the outer dististyle unusually long and slender.

*Male*.—Length about 4 mm.; wing, 5 mm.

*Female*.—Length about 4 mm.; wing, 4 mm.

Rostrum and palpi brownish black. Antennae with basal segments brownish yellow, the flagellar segments subcylindrical, darker brown. Head dark brown.

Prothorax and mesothorax almost uniformly brownish black, the praescutum a little more variegated with paler, especially at and before the suture. Halteres dusky yellow, the base of stem and apex of knob more brightened. Legs with the coxae brownish black; trochanters obscure yellow; remainder of legs broken. Wings relatively broad, widest opposite origin of  $R_s$ ; grayish yellow, the prearcular and costal fields somewhat clearer yellow; a restricted but conspicuous dark brown pattern, including marks at origin of  $R_s$ ,  $R_2$ , cord and outer end of cell 1st  $M_2$ , and fork of  $M_{1+2}$ ; stigma paler brown, confluent with the darkened seam over  $R_2$ ; veins brown. Macrotrichia of cells relatively sparse, in outer ends of cells  $R_3$  to 2nd  $M_2$ , inclusive; stigmal trichia present. Venation:  $Sc_1$  ending just beyond fork of  $R_s$ ,  $Sc_2$  a short distance from its tip,  $Sc_1$  alone about equal to *m-cu*;  $R_s$  strongly arcuated at origin;  $R_2$  close to fork of  $R_{2+3+4}$ ; inner ends of cells  $R_3$ ,  $R_5$  and 1st  $M_2$  in transverse alignment; cell  $M_1$  about two-thirds its petiole; cell 1st  $M_2$  strongly widened outwardly; *m-cu* about one-half to two-thirds its length beyond the fork of  $M$ .

Abdominal tergites brownish black; central portion of sternites somewhat paler brown; hypopygium paler yellow. Male hypopygium with the outer dististyle at apex bearing two conspicuous teeth, with a few microscopic denticles in the axil of the lower or larger spine; a further long straight spine on lower margin at near two-thirds the length. Aedeagus with ventral spines divergent, pale, especially on outer half, slightly bulbous just before the short acute tips.

HABITAT: Mexico (Oaxaca). *Holotype*, ♂, Yotao, Sierra de Juarez, September 15, 1935 (Fr. Reyes); Dampf M. F. 6241. *Allotype*, ♀, Yaxè, Sierra de Juarez, altitude 1,450 meters, August 10, 1935 (A. Tort); Dampf M. F. 6139. *Paratopotype*, 1 ♂, pinned with type.

This fly is readily told from all other described New World species of the genus by the patterned wings.

**Shannonomyia** Alexander**Shannonomyia protuberans** sp. n.

General coloration clear light gray, the praescutum unpatterned; antennae brownish black throughout, flagellar segments suboval, with the lower face slightly more bulging or protuberant than the upper;

wings brownish yellow, stigma oval, very pale brown; cell 1st  $M_2$  small, about two-thirds as long as vein  $M_4$ ; male hypopygium with the outer dististyle slender, the apex blackened, unequally bifid; gonapophyses appearing as relatively long, strongly curved hooks.

*Male*.—Length about 6.5 mm.; wing, 7 mm.; antenna about 2 mm.

Rostrum light gray pruinose; palpi black. Antennae moderately long, brownish black; flagellar segments suboval, with the lower face slightly more bulging or protuberant than the upper one; verticils shorter than the segments; terminal segment a little more than one-half the penultimate and much smaller. Head gray; posterior vertex with a vague capillary darkened line; anterior vertex broad, exceeding four times the diameter of the scape.

Thorax almost uniformly clear light gray, the praescutum without pattern. Halteres with stem pale, knob weakly infuscated. Legs with the coxae and trochanters obscure yellow, the former sparsely pruinose; remainder of legs broken. Wings with a brownish yellow suffusion, the base somewhat clearer yellow; stigma oval, very pale brown, scarcely evident against the ground; veins brown, more yellowed in the brightened portions. Venation:  $Sc_2$  at extreme tip of  $Sc_1$ , the latter ending a short distance before fork of  $Rs$ , this being about one-half longer than  $R_{2+3+4}$ ;  $R_2$  at fork of  $R_{2+3+4}$ , the tip of  $R_{1+2}$  atrophied; cell 1st  $M_2$  unusually small, about two-thirds vein  $M_4$ ;  $m-cu$  about one-half to two-thirds its length beyond the fork of  $M$ .

Abdomen dark gray throughout. Male hypopygium with the outer dististyle slender, the outer third blackened with the apex unequally bifid. Inner dististyle only about three-fifths as long, gradually narrowed outwardly, the outer surface with abundant retrorse setae. Each gonapophysis appearing as a relatively long, strongly curved hook. Aedeagus relatively small.

HABITAT: Mexico (Morelos). *Holotype*, ♂, Lagunas de Zempole, altitude 2,800 meters, September 2, 1937, in open pine forest, swept from grasses and *Alnus* foliage between boulders on rocky hills (A. M. Dampf); M. F. 6189.

*Shannonomyia protuberans* is undoubtedly closely related to *S. ovaliformis* Alexander, from which it differs in the details of structure of the antennae and male hypopygium, particularly the gonapophyses.

#### ***Shannonomyia lenitatis* sp. n.**

General coloration dark gray, the praescutum virtually unpatterned; antennae (male) moderately long, about one-fourth the length of body, the flagellar segments with protuberant lower faces; halteres with infuscated knobs; legs brownish yellow, the tips of femora, tibiae and basitarsi narrowly darkened; wings with costal border weakly infuscated; stigma brown, conspicuous; cell  $M_2$  open by the atrophy of the basal section of  $M_3$ ; male hypopygium with the gonapophyses appearing as long, strongly curved spines.

*Male*.—Length about 6.2–6.3 mm.; wing, 6.8–7 mm.; antenna about 1.6–1.7 mm.

*Female*.—Length about 6.5 mm.; wing, 6.8 mm.

Rostrum gray; palpi black. Antennae brownish black throughout, relatively elongate; flagellar segments (male) suboval, with the ventral

face more bulging, the outer segments longer and more slender; segments with a dense erect pubescence; longest verticils unilaterally distributed, subequal in length to the segments. Head dark gray.

Thorax almost uniformly dark gray, the praescutum virtually unpatterned, pronotal scutellum a little paler brown. Halteres with stem obscure yellow, knob infuscated. Legs with coxae infuscated, pruinose; trochanters obscure yellow; femora brownish yellow, clearer yellow basally, the tips more infuscated; tibiae and basitarsi obscure yellow, the tips darkened; remainder of tarsi black. Wings with the costal border, anterior cord and vein *Cu* weakly darkened; outer cells of wing even less evidently infuscated; stigma darker brown, oval, conspicuous; remainder of wing whitish subhyaline; veins brown. No macrotrichia in cells of wing. Venation:  $Sc_1$  ending about opposite four-fifths  $R_s$ ,  $Sc_2$  near its tip;  $R_s$  rather strongly arcuated at origin;  $R_{2+3+4}$  unusually short, only about one-third to two-thirds longer than the basal section of  $R_s$ ; cell  $M_2$  open by the basal section of  $M_3$  being atrophied; *m-cu* about one-third to one-half its length beyond the fork of  $M$ .

Abdomen, including hypopygium, brownish black. Male hypopygium with the outer dististyle narrowed and heavily blackened on outer third, the tip conspicuously bidentate; outer surface at base with a low cushion that is provided with abundant long setae. Inner dististyle shorter, darkened, gently curved, the outer margin with a row of erect to slightly retrorse setae. Gonapophyses appearing as long, slender, very strongly curved spines, gradually narrowed to the acute tips. Aedeagus relatively small and slender, the base with the enclosed penis sinuous.

HABITAT: Mexico (Chiapas). *Holotype*, ♂, Sierra Madre, altitude 2,000 meters, December 6, 1932 (A. M. Dampf); M. F. 2875. *Allotopotype*, a fragmentary ♀, pinned with type. *Paratype*, 1 ♂, Finca Prusia, altitude 1,440–1,780 meters, December 6, 1932 (A. M. Dampf); M. F. 2872.

Among the various species of the genus that have cell  $M_2$  of the wings open, *Shannonomyia myersiana* Alexander, *S. orophila* Alexander, and *S. triangularis* Alexander have this open by the atrophy of *m* rather than the basal section of  $M_3$ , as in the present fly. The only other described species having the cell open in the latter manner is *S. cerebrea* Alexander, which is readily told by the strongly darkened wings and the presence of numerous macrotrichia in the outer cells.

### Atarba Osten Sacken

#### *Atarba (Atarba) religiosa* sp. n.

Allied to *mexicana*; general coloration of mesonotum brown, more or less pruinose, scutellum more brightened; antennae (male) elongate, more than one-half the length of wing, scape and pedicel yellow, flagellum black; femora infuscated, their bases restrictedly more yellowed; tibiae brownish yellow, the tips narrowly infuscated; wings with a very pale yellowish suffusion, the stigma scarcely indicated; *Sc* long,  $Sc_1$  ending about opposite midlength of the long  $R_s$ ; cell 1st  $M_2$  rectangular, approximately one-half the distal section of vein  $M_3$ ; *m-cu* nearly opposite midlength of cell 1st  $M_2$ ; abdomen brown, with a still darker brown sub-



terminal ring, hypopygium yellow; male hypopygium with the lateral angles of the appendage of the ninth sternite acute; spines of outer dististyle grouped at and near apex; inner dististyle truncated at tip, the upper apical angle more produced; gonapophysis with abundant appressed spines; aedeagus long and sinuous.

*Male*.—Length about 6.5 mm.; wing, 6.8 mm.; antenna about 4 mm.

Rostrum yellow; palpi dark brown. Antennae (male) elongate; scape and pedicel light yellow, flagellum black; flagellar segments long-cylindrical, with scattered elongate verticils on the upper face, the longest less than one-half the segments; an additional erect pale pubescence that is about one-third as long. Head brownish gray.

Pronotum and mesonotum chiefly brown, more or less pruinose, the scutellum more brightened, obscure yellow; lateral borders of praescutum and adjoining portion of the pronotum darker brown. Pleura chiefly reddish brown, more or less pruinose. Halteres with stem obscure yellow, knob infuscated. Legs with the coxae brownish yellow, sparsely pruinose; trochanters yellow; femora infuscated, the bases restrictedly more yellowed; tibiae brownish yellow, the tips narrowly but conspicuously infuscated; proximal tarsal segments obscure yellow, the outer segments more infuscated. Wings with a very pale yellow suffusion, the stigma scarcely indicated; a narrow and vague darkened seam along cord, shown especially by a slight darkening of the pale brown veins; veins of the prearcular field more yellowed. Venation:  $Sc_1$  ending about opposite midlength of  $Rs$ ,  $Sc_2$  some distance from its tip,  $Sc_1$  a little shorter than  $m-cu$ ;  $Rs$  elongate, nearly three times  $m-cu$ ; branches of  $Rs$  diverging very gradually from one another, cell  $R_3$  at margin a trifle wider than at midlength; cell  $1st M_2$  rectangular, approximately one-half the distal section of vein  $M_3$ ;  $m-cu$  nearly opposite midlength of cell  $1st M_2$ .

Abdomen brown, with a still darker brown subterminal ring; hypopygium, excepting the blackened outer dististyle, yellow. Male hypopygium with the appendage of the ninth sternite conspicuously emarginate at apex, each outer lateral angle extended into an acute point. Outer dististyle straight, terminating in a strong spine, with about seven or eight smaller spines on the outer face near apex, the outermost largest; a few smaller spinules on ventral face at base of the terminal spine. Inner dististyle subequal in length, truncated at apex, the upper apical angle somewhat produced into a point, the lower angle less evidently so. Gonapophyses covered with abundant appressed spines, the outer ones larger and more conspicuous. Aedeagus long and sinuous, the extreme apex expanded, the lower margin with pale membrane that is more dilated at near midlength of the organ.

HABITAT: Mexico (Federal District). *Holotype*, ♂, Desierto de los leones, August 24, 1930 (A. M. Dampf); M. F. 1744.

*Atarba (Atarba) religiosa* is readily told from *A. (A.) mexicana* Alexander, the only allied regional species so far described, by the coloration of the body, legs and wings, the details of venation, and the structure of the male hypopygium.

**Teucholabis** Osten Sacken**Teucholabis (Teucholabis) nigroclavaria** sp. n.

Allied to *pabulatoria*; size small (wing, male, less than 3.5 mm.); rostrum reddish, head above gray pruinose; mesonotal praescutum with the disk dark liver brown, the lateral borders light yellow; thoracic pleura with a conspicuous silvery stripe; halteres dark brown; femora yellow, the tips conspicuously blackened; wings whitish subhyaline, the stigma exceedingly reduced;  $Sc_1$  ending just before origin of  $R_s$ ; abdominal tergites bicolored, dark brown, the posterior borders yellow, hypopygium black; male hypopygium with the basistyle produced caudad into a stout lobe but with no spines; outer dististyle a short blackened club, the apex and outer margin with appressed spinules; aedeagus compressed-flattened on outer half.

*Male*.—Length about 3.5 mm.; wing, 3.3 mm.

Rostrum reddish; palpi dark brown. Antennae black throughout, the scape more pruinose; flagellar segments oval. Head dark, heavily gray pruinose, the occipital region restrictedly reddened; eyes large.

Pronotum dark brown; pretergites yellow. Mesonotal praescutum with the disk dark liver brown, the humeral and lateral portions light yellow; scutal lobes similarly liver brown; scutellum and posterior borders of scutal lobes yellow, parascutella darkened; mediotergite with central portion dark brown, the lateral margins and the pleurotergite more reddish brown. Pleura chiefly dark brown, with a diffuse but conspicuous more silvery longitudinal stripe extending from behind the fore coxae to the base of abdomen, passing beneath the root of the halteres. Halteres dark brown. Legs with the coxae reddish brown; trochanters yellow; femora yellow, the tips rather narrowly but conspicuously blackened, subequal on all legs and including the distal seventh or eighth; tibiae and basitarsi yellow, the tips narrowly darkened; remainder of tarsi black. Wings whitish subhyaline, the prearcular field a trifle more yellowed; stigma exceedingly reduced, appearing as a slight seam lying chiefly distad of vein  $R_2$ ; veins brown, the prearcular veins and outer portion of  $C$  more yellowed. Venation:  $Sc$  very short,  $Sc_1$  ending just before the origin of  $R_s$ ,  $Sc_2$  only a short distance from its tip;  $R_s$  longer than its anterior branch, the latter diverging strongly from  $R_s$  so cell  $R_3$  at margin is very extensive, about three times cell  $R_2$ ; vein  $R_2$  just beyond the fork of  $R_s$ ; cell 1st  $M_2$  narrow, subrectangular, only slightly widened outwardly, subequal in length to the distal section of vein  $M_3$ ;  $m-cu$  about one-fourth to one-fifth its length beyond the fork of  $M$ ; cell 2nd  $A$  relatively narrow, the posterior margin of wing inshirred opposite the end of vein 2nd  $A$ .

Abdominal tergites bicolored, chiefly dark brown, the posterior borders yellow, a little more extensive at the outer angles; sternites and subterminal segments more uniformly yellow; hypopygium conspicuously and abruptly blackened. Sternal pocket nearly circular in outline, at the posterior portion of sternite five, comprised of about 75 small tubercles, each tipped with a long black seta. Male hypopygium of unusually simple structure. Basistyle at apex produced into a stout lobe that bears several long setae but no spines; mesal edge of style with a long low blackened flange. Outer dististyle a short, entirely

blackened club, the apex and outer margin almost back to the base with conspicuous appressed spinules. Inner dististyle with the apical portion unusually long and narrow, bladelike, the lower or more basal tooth very obtuse; lobe near base of style with about four strong setae. Aedeagus compressed-flattened, the outer half suboval in outline, produced into a strong subapical spine; surface of blade, and especially the margins, with elongate yellow setae, those of the disk shorter and more sparse.

HABITAT: Mexico (Chiapas). *Holotype*, ♂, Zapote, November 12, 1930 (A. M. Dampf); M. F. 1821.

The most similar described species are *Teucholabis* (*Teucholabis*) *minuta* Alexander and *T. (T.) pabulatoria* Alexander, of Mexico and Guatemala, which are likewise among the smallest known members of the genus. The present fly differs especially in the structure of the male hypopygium, particularly the short blackened outer dististyle and the inner dististyle. The lack of a spine or spinous blade on the basistyle is exceedingly uncommon in this great genus but is a character of all three species here mentioned.

### Gonomyia Meigen

#### *Gonomyia* (*Gonomyia*) *megarhopala* sp. n.

General coloration dark gray, the praescutum with three brown stripes; rostrum and antennae black; halteres elongate, stem yellow, knob infuscated; wings relatively narrow, strongly tinged with brown; *m-cu* close to the fork of *M*; male hypopygium with the outer dististyle a very conspicuous clavate dark-colored structure having a slender pale stem; spines of aedeagus weak, straight.

*Male*.—Length about 6 mm.; wing, 7 mm.

*Female*.—Length about 6.5 mm.; wing, 7 mm.

Rostrum and palpi black. Antennae black throughout, relatively long; flagellar segments elongate-oval, longer than the verticils; a dense pale pubescence on flagellum. Head gray.

Pronotum dark brownish gray, restrictedly obscure yellow on sides; pretergites pale yellow. Mesonotum gray, the praescutum with three brown stripes, the scutal lobes with brownish centers; posterior-lateral portions of scutal lobes yellow; scutellum brownish gray, the posterior border reddish yellow; postnotum gray. Pleura obscure yellow, conspicuously striped with gray, the more dorsal stripe extending from the cervical region across the propleura and anepisternum to the pteropleurite; lower stripe occupying the ventral sternopleurite and meral region; posterior sclerites, including the pteropleurite, metapleura and most of the pleurotergite of the yellow ground. Halteres elongate, stem yellow, knob dark brown. Legs with the coxae gray pruinose, the tips paling to yellow; trochanters obscure brownish yellow; remainder of legs broken. Wings relatively narrow, with a strong brownish tinge, the oval stigma brown; veins dark brown. Venation: *Sc* relatively short, *Sc*<sub>1</sub> ending about opposite one-fifth to one-sixth *Rs*, *Sc*<sub>2</sub> at its extreme tip; vein *R*<sub>4</sub> at apex deflected strongly toward the wing apex, cell *R*<sub>3</sub> at margin correspondingly wide; basal section of *R*<sub>5</sub> reduced; cell 1st *M*<sub>2</sub> shorter than the veins beyond it: *m-cu* close to the fork of *M*.

Abdomen brownish gray, the caudal and lateral borders of the intermediate tergites narrowly yellow; sternites more uniformly dark brown. Male hypopygium with the apical lobe of the basistyle relatively small, subequal in length to the inner dististyle. Outer dististyle a very long slender-stemmed club, nearly three times as long as the lobe of the basistyle, the expanded portion darkened, the stem pale; club more or less truncated at apex, provided with conspicuous setae except along the outer border. Inner dististyle with a slender curved blackened spine and a shorter, more fleshy body that bears the usual fasciculate setae, these separate at origins, the outermost from a tuberculate base. Aedeagus a simple darkened blade, its apex a decurved point; subtending spines unusually small and weak, straight, slightly unequal in size.

HABITAT: Mexico (Morelos and Mexico State). *Holotype*, ♂, Lagunas de Zempole, Morelos, altitude 2,800 meters, September 2, 1937, in open pine forest, swept from grasses and *Alnus* foliage between boulders on rocky hills (A. M. Dampf); M. F. 6189. *Paratype*, a broken ♀, Ajusco, Mexico State, altitude 3,500 meters, May 10, 1925 (A. M. Dampf); M. F. 549.

*Gonomyia (Gonomyia) megarhopala* is very distinct from other regional species, especially in the structure of the male hypopygium. In the latter regard, it somewhat suggests the more northern *G. (G.) filicauda* Alexander but is entirely distinct.

#### ***Gonomyia (Gonomyia) bifurcula* sp. n.**

Allied to *bifurcifer*; general coloration of mesonotum dark brown, the scutellum obscure yellow; pleura and pleurotergite brownish yellow or light brown; wings with a weak brownish tinge, stigma scarcely indicated;  $R_{2+3+4}$  a little longer than  $R_s$ , the latter in longitudinal alignment with  $R_5$ ; *m-cu* at near one-third the length of cell 1st  $M_2$ ; male hypopygium with the two dististyles terminal in position, the inner style profoundly bifid; outer dististyle slender, microscopically denticulate on outer face at near midlength; phallosome terminating in two blackened, unequal spines.

*Male*.—Length about 4.5 mm.; wing, 5 mm.

Head broken. Pronotum infuscated; pretergites obscure brownish yellow. Mesonotal praescutum and scutum very dark brown, the surface sparsely pruinose; praescutal borders paler brown; scutellum chiefly obscure yellow, the base restrictedly darkened; mediotergite dark brown, sparsely pruinose; pleurotergite brownish yellow. Pleura light brown, the dorsopleural membrane more yellowed. Halteres relatively long, brownish black, the base of stem narrowly yellow. Legs with the coxae yellowish brown, trochanters darker; remainder of legs broken. Wings with a weak brownish tinge, the prearcular field paler; stigma scarcely indicated; veins brown. Venation:  $Sc_1$  ending opposite origin of  $R_s$ , the latter shorter than  $R_{2+3+4}$  which is strongly arcuated at origin;  $R_s$  in alignment with  $R_5$ ;  $R_4$  about three times  $R_3$ ; cell 1st  $M_2$  long, slightly widened outwardly, subequal in length to vein  $M_4$  beyond it; *m-cu* about its own length beyond the fork of  $M$  or at near one-third the length of cell 1st  $M_2$ .

Abdomen brown, the hypopygium more yellowish brown. Male



hypopygium with the two dististyles terminal in position, the outer style a long sinuous blackened blade, its central third somewhat more dilated and with microscopic appressed denticles on the outer margin; outer third or more narrowed into a flattened blade, its tip acute. Inner dististyle bifid, the shorter arm blackened, expanded at tip into a scabrous head, including one larger denticle; inner arm elongate, terminating in two fasciculate setae of unusual length, approximately as long as the arm itself, terminal in position. Phallosome consisting of a blackened central structure, forking into two unequal blackened spines, the shorter one about one-half as long as the other, at apex bent at a right angle into a long spinous point.

HABITAT: Mexico (Chiapas). *Holotype*, ♂, San Antonio Nexapa, November 20, 1932 (Parra); through Dampf, M. F. 2220. *Paratopotypes*, ♂♂.

This fly is most similar to the Costa Rican *Gonomyia* (*Gonomyia*) *bifurcifer* Alexander, which has the hypopygium of the same general structure but differs in certain important details, particularly the outer dististyle and the phallosome. This latter structure has the two subequal arms very long and slender, quite different from the present fly.

#### *Gonomyia* (*Gonomyia*) *juarezi* sp. n.

Allied to *aequalis*; general coloration of mesonotum grayish brown, variegated with yellow, the latter including the broad anterior central portion of the scutum and all but the base of the scutellum; halteres elongate, stem pale, knob darkened; male hypopygium with the outer lobe of basistyle unusually short and stout, dark-colored, pointed at apex; outer dististyle a small pale setuliferous cushion; inner dististyle truncated at apex, bearing a strongly curved blackened spine; phallosome complex, bearing three spines or spine-tipped arms.

*Male*.—Length about 5.5 mm.; wing, 6 mm.

Rostrum obscure brownish yellow; palpi black. Antennae with basal segments brownish black, outer segments broken. Head gray; eyes large.

Pronotum and pretergites yellow. Mesonotum with disk of praescutum almost covered by a dark grayish brown shield, the lateral borders yellow; scutal lobes chiefly grayish brown, extended posteriorly onto the base of the scutellum, leaving conspicuous yellow areas on the anterior median region of the scutum, posterior portions of scutal lobes and the broad scutellum; mediotergite chiefly darkened, the lateral border and the pleurotergite paler, pruinose. Pleura reddish brown, very vaguely patterned. Halteres elongate, stem pale, knob darkened. Legs with the coxae reddish yellow; trochanters obscure yellow; remainder of legs dark brown. Wings with a weak grayish tinge, the prearcular and costal fields somewhat more whitened; stigma very pale brown; veins brown, somewhat lighter in the paler areas. Venation:  $Sc_1$  ending immediately before the origin of  $Rs$ ,  $Sc_2$  near its tip;  $Rs$  and  $R_{2+3+4}$  subequal in length; cell *1st*  $M_2$  rectangular, shorter than the distal section of  $M_3$ ; *m-cu* a short distance beyond the fork of  $M$ .

Abdominal tergites dark brown; sternites more yellowed; hypopygium brownish yellow, the dististyles darker. Male hypopygium with the outer lobe of basistyle relatively short and very stout, only

about two-thirds as long as the remainder of the basistyle and approximately equal to the total length of the dististyle; lobe dark-colored, pointed at apex, with setae on outer face. Outer dististyle a small oval setuliferous cushion. Inner dististyle larger, truncated at apex and here bearing the usual two fasciculate setae; on outer margin, close to apex, with a powerful, very strongly curved black spine. Phallosome complex, bearing various spinous points, including a major recurved blackened rod a short distance back from tip, this terminating in a long acute spinous point; more basad, a somewhat similar but paler blade, its apical point directed caudad; margin of phallosome near base with a still smaller blackened point.

HABITAT: Mexico (Oaxaca). *Holotype*, ♂, Yotao, Sierra de Juarez, at light, 6–8 P. M., September 15, 1935 (Fr. Reyes); Dampf M. F. 6241.

This fly is allied to various other species in Mexico and Guatemala, including *Gonomyia* (*Gonomyia*) *aequalis* Alexander, *G. (G.) chiapasensis* Alexander, and *G. (G.) guerreroensis* Alexander, differing from all in the structure of the male hypopygium, particularly the outer lobe of the basistyle, inner dististyle and phallosome.

#### *Gonomyia* (*Lipophleps*) *impedita* sp. n.

Belongs to the *manca* group; size relatively large (wing, male, over 4 mm.); general coloration of mesonotum dark brownish gray, the scutellum chiefly light yellow; thoracic pleura grayish brown, with a yellowish white longitudinal stripe; legs brownish black; wings with a brownish tinge, the oval stigma a little darker than the ground;  $Sc_1$  ending before origin of *Rs* a distance about equal to one-half the length of the latter; male hypopygium with the outer angle of the basistyle produced into a strong blade that terminates in a blackened spine; dististyle elongate, subequal in length and shape to the blade of the basistyle; phallosome terminating in two long slender unequal spines.

*Male*.—Length about 4.5 mm.; wing, 4.3 mm.

Rostrum and palpi black. Antennae black throughout. Head light gray behind, the center of vertex with a more brownish spot.

Pronotum and pretergites clear light yellow. Mesonotal praescutum and scutum dark brown, heavily gray pruinose; scutellum behind broadly light yellow, narrowly darkened medially at base, parascutella dark; mediotergite dark brown, heavily pruinose; pleurotergite chiefly yellow, sparsely pruinose. Pleura grayish brown, with a conspicuous yellowish white longitudinal stripe across the central pleurites, beginning behind the fore coxae and involving the dorsal sternopleurite, ventral pteropleurite and metapleura. Halteres with stem obscure yellow, knob infuscated. Legs with the coxae and trochanters yellow; remainder of legs dark brown to brownish black. Wings with a brownish tinge, the prearcular and costal fields more whitened; stigma oval, very pale brown, only a trifle darker than the ground; veins brown, those in the prearcular field paler. Venation:  $Sc_1$  ending before the origin of *Rs* a distance about equal to one-half the length of the latter; *m-cu* immediately before the fork of *M*.

Abdominal tergites dark brown, sternites paler; hypopygium yellow. Male hypopygium with the basistyle small, oval in outline, the outer portion produced into a powerful sclerotized blade that is longer than

the style itself, the basal two-thirds glabrous, the distal portion narrowed to an acute blackened spine, the margin back from the tip more or less concave and provided with microscopic setulae, these latter continued down the margin of the blade to opposite the point of insertion of the dististyle. Dististyle elongate, nearly as long as the blade of the basistyle and having nearly the same general outline, narrowed to the apex which bears a single seta, with other scattered setae on the distal four-fifths; fasciculate bristles on margin of outer third, their length exceeding the width of the style opposite their point of origin. Phallosome terminating in two long spinous points, the shorter one almost straight, very acute, its surface with scattered microscopic setulae; longer spine from a dilated base, gently curved, very gradually narrowed to the acute tip, the surface glabrous.

HABITAT: Mexico (Oaxaca). *Holotype*, ♂, Cacalotepec, Sierra de Juarez, November 14, 1935 (Fr. Reyes); Dampf M. F. 6239.

In the *manca* group of the subgenus, among those forms having the dististyle of the male hypopygium subterminal in position, numerous species have the outer projecting lobe of the basistyle fleshy and setiferous while fewer species have this lobe more or less modified into a sclerotized spine or blade. Such species in the Neotropical fauna include *Gonomyia* (*Lipophleps*) *bispinosa* Alexander, *G. (L.) borburatana* Alexander, *G. (L.) diacanthophora* Alexander, *G. (L.) macintyreii* Alexander, *G. (L.) misera* Alexander, *G. (L.) orthomera* Alexander, *G. (L.) orthomeroides* Alexander, *G. (L.) reyesi* sp. n., and *G. (L.) senaria* Alexander. Among these species, the present fly is most similar to *macintyreii* (Ecuador) and *senaria* (Peru), differing conspicuously from both in the structure of the basistyle and, especially, of the phallosome.

#### ***Gonomyia* (*Lipophleps*) *reyesi* sp. n.**

Belongs to the *manca* group; size small (wing, male, under 3.5 mm.); general coloration of thorax pale to medium brown, without pattern; legs pale brown, the outer tarsal segments darker; wings with a brownish tinge; *Sc* short; male hypopygium with the outer lobe of basistyle a slender black rod, terminating in a short acute spine, back from the tip with numerous delicate setulae; dististyle relatively long, the two fasciculate setae unequal in size, terminal in position; phallosome consisting of a very long and powerful median rod, strongly sinuous, its tip prolonged into a straight blackened spine.

*Male*.—Length about 3 mm.; wing, 3.2–3.3 mm.

Rostrum and palpi black. Antennae black, the verticils of male very long. Head with the anterior vertex and broad orbits obscure yellow, the central region of vertex pale brown.

Pronotum and pretergites yellow. Mesonotum almost uniformly pale to medium brown, the posterior border of scutellum narrowly obscure yellow. Pleura medium brown, with no clearly indicated pattern. Halteres weakly infuscated. Legs with the coxae and trochanters pale yellow; remainder of legs very pale brown, the outer tarsal segments darker. Wings with a brownish tinge, the prearcular and costal fields pale yellow; stigma very pale brown, barely indicated against the ground; veins brown, those at the wing base a little paler. Venation:  $Sc_1$  ending before origin of *Rs* a distance about equal to two-

thirds to three-fourths the length of the latter; *m-cu* shortly before the fork of *M*.

Abdomen brown, the hypopygium yellow. Male hypopygium with the outer lobe of basistyle a slender black rod, slightly sinuous at base, the outer two-thirds straight, terminating in a short acute spine; before the spine and for a distance back from tip with abundant microscopic setulae that become more sparse toward midlength of the lobe. Dististyle about three-fifths as long as the spine of basistyle and more than twice as broad; fasciculate setae unequal in size, one about twice as stout as the other, both placed at apex of style. Phallosome entirely glabrous, consisting essentially of a very long and powerful median rod, flattened and strongly sinuous, the tip produced into a long straight blackened spine; at base of the major rod with a small oval pale blade.

HABITAT: Mexico (Oaxaca). *Holotype*, ♂, San Cristobal, altitude 150 meters, December 13, 1937 (A. M. Dampf); M. F. 6362. *Paratopotypes*, 4 ♂♂, December 13–19, 1937; M. F. 6362, 6435.

I am pleased to name this distinct fly for Mr. Francisco Reyes, one of Doctor Dampf's most efficient inspectors. Like the preceding species, the present fly belongs to the aggregation of forms that have the dististyle of the male hypopygium subterminal in position and with the outer lobe of the basistyle prolonged into a spinous rod or blade. It is entirely distinct from all those forms listed under the preceding species, differing particularly in the lobe of the basistyle and the powerful central rod of the phallosome. As in the case in various other species of *Lipophleps*, the suture of the dististyle is poorly developed, indicating a partial fusion with the basistyle.

### **Gnophomyia** Osten Sacken

#### **Gnophomyia (Gnophomyia) monophaea** sp. n.

General coloration dull black, the anterior pretergites conspicuously yellow; head pruinose in front, with a small, simple vertical tubercle; knobs of halteres brownish black; wings with a weak brownish tinge, variegated by a conspicuous darker brown cloud over the anterior cord; *Rs* short and straight, subequal to  $R_{2+3+4}$ ; branches of *Rs* long, extending generally parallel to one another; cell *1st M*<sub>2</sub> elongate-rectangular, with *m-cu* at midlength.

*Female*.—Length about 7.5 mm.; wing, 7.3 mm.; antenna about 2.9 mm.

Rostrum and palpi brownish black. Antennae with scape and pedicel dark brown, flagellum brownish black; scape relatively short, subequal to the first flagellar segment; flagellar segments elongate, subcylindrical or slightly swollen before midlength; longest verticils exceeding the segments in length; terminal segment about four-fifths the length of the penultimate. Head dull black, the front pruinose; a small simple vertical tubercle; anterior vertex broad, about three times the diameter of the scape.

Pronotum darkened above; pretergites conspicuously light yellow. Mesonotal praescutum dull black medially, the humeral region more reddened; posterior sclerites of notum dull black, the posterior border of the praescutum more reddened. Pleura with a broad black dorsal



stripe extending from the cervical region across the dorsal propleura to the pteropleurite, the latter paler; beneath the dorsal stripe with a conspicuous brownish yellow longitudinal stripe extending from behind the fore coxae to the meron and metapleura, the surface sparsely pruinose; ventral sternopleurite black, pruinose. Halteres with stem obscure yellow, knob brownish black. Legs with coxae and trochanters yellow; femora brown; tibiae and tarsi passing into black. Wings with a weak brownish tinge, variegated by a conspicuous darker brown cloud over the anterior cord, involving the bases of the outer radial cells; stigma long and narrow, brown, not connected with the discal darkening; veins brownish black. Venation:  $Sc$  long,  $Sc_1$  ending just beyond the fork of  $R_{2+3+4}$ ,  $Sc_2$  some distance from the tip of  $Sc_1$ , the latter being about four-fifths  $Rs$ ;  $Rs$  short and straight, subequal to or a trifle longer than  $R_{2+3+4}$ ; cord at near midlength of wing, the branches of  $Rs$  long, extending generally parallel to one another throughout their lengths; cell *1st M* elongate rectangular, only slightly wider at outer end, subequal in length to vein  $M_4$  beyond it; *m-cu* at midlength of cell *1st M*<sub>2</sub>.

Abdomen dark brown, the caudal borders of the intermediate tergites narrowly paler; genital segment brownish black; cerci long and conspicuous, compressed-flattened; hypovalvae very short.

HABITAT: Mexico (Chiapas). *Holotype*, ♀, Nueva America, February 22, 1931; no Dampf M. F. number.

This fly is readily distinguished from all other regional species by the pattern and venation of the wings, especially the short straight  $Rs$ , unusually long radial branches, and long-rectangular cell *1st M*<sub>2</sub>, with *m-cu* at midlength. It appears to be closest to various species centering around *Gnophomyia* (*Gnophomyia*) *maestitia* Alexander but is very distinct.

## Erioptera Meigen

### Erioptera (*Empedomorpha*) *apacheana* sp. n.

General coloration yellow, the notum variegated with brownish gray, including three nearly confluent praescutal stripes; pleura yellow, striped longitudinally with brownish gray; halteres yellow; legs yellow, the tips of the more proximal segments tipped with darker; wings pale yellow, stigmal region in male greatly dilated and hairy; male hypopygium with the outer dististyle simple, its tip acute, phallosome with four apophyses, the lateral pair shorter, slightly bidentate at tips; inner apophyses appearing as slender yellow rods that bear conspicuous black lateral spines.

*Male*.—Length about 4.5–6 mm.; wing, 4.8–8 mm.

*Female*.—Length about 4.5 mm.; wing, 4.5 mm.

Rostrum brownish yellow; palpi pale brown. Antennae brown, in cases the flagellum paler; flagellar segments long-oval, with elongate verticils. Head pale yellow.

Pronotum yellow medially, restrictedly patterned with brown. Mesonotal praescutum with the ground light yellow, almost covered by three broad brownish gray stripes that tend to become entirely confluent; in cases, the central stripe with a further delicate median

brown vitta; scutal lobes darkened; central portion of scutum yellow, with a further weak median darkening; scutellum pale brown; postnotum pale brownish gray. Pleura yellow, striped longitudinally with brownish gray. Halteres yellow. Legs long and hairy, as in the subgenus; coxae yellow, the fore pair more darkened; trochanters obscure yellow; femora, tibiae and proximal two tarsal segments yellow, the tips narrowly infuscated; outer tarsal segments darkened; claws simple. Wings with a pale yellowish or whitish tinge, the veins brown, paler in the prearcular and costal fields. Stigmal region in male greatly expanded and dilated, provided with abundant trichia; in female, this field less dilated but with the venation approximately the same. Venation:  $R_s$  long and straight, with  $R_2$ ,  $R_{3+4}$  and  $R_5$  all arising from its end;  $R_2$  long and oblique, exceeding  $R_{1+2}$ ; cell  $R_3$  shallow, about one-half its petiole; cell *1st*  $M_2$  closed; *m-cu* at the fork of  $M$ ; vein *2nd*  $A$  straight or virtually so.

Abdomen dark brown, the hypopygium a little paler. Male hypopygium with the outer dististyle a simple flattened blade, dilated just before the acutely pointed apex, without armature, as has *empedoides*. Inner dististyle subequal in length, a little wider on distal two-thirds, the tip obtuse; at and near apex with a few setigerous punctures. Phallosome consisting of four slender blades, the lateral pair shorter, blackened at tips which are weakly bifid; inner apophyses appearing as longer yellow spinous points, each bearing an acute blackened lateral spine.

HABITAT: Mexico (Nuevo Leon). *Holotype*, ♂, Granja Rodriguez, altitude 195 meters, June 6, 1931 (A. M. Dampf); M. F. 2046. *Allotopotype*, ♀, pinned with type. *Paratopotypes*, 8 ♂♂, June 5-6, 1931; M. F. 2029, 2046.

The only other described species of *Empedomorpha* Alexander is the subgenotype, *empedoides* (Alexander) of the central and southwestern United States. This latter has the same peculiar sexual dimorphism and shows the great range in size in the male sex that is found in the present fly. The two species differ evidently in the structure of the male hypopygium, especially the dististyles.

#### **Erioptera (Mesocyphona) leonensis** sp. n.

Allied to *modica*; general coloration of mesonotum dark gray, the praescutum with two brown stripes; legs light brown or yellowish brown, unpatterned; wings with a pale brownish tinge, unpatterned; male hypopygium with the dististyle three-branched on two principal stems, the outer branch a long powerful black spine that is weakly forked near apex; lower stem dividing into two branches at near mid-length, the outer branch with a long comb of darkened teeth along outer margin; gonapophysis of either side single, appearing as a long curved black glabrous spine.

*Male*.—Length about 2.5 mm.; wing, 3 mm.

*Female*.—Length about 3 mm.; wing, 3.5 mm.

Rostrum and palpi brownish black. Antennae with scape and pedicel brownish black; flagellum much paler, brownish yellow. Head above dark brown, more yellowed in front.

Pronotum dark brownish gray, the lateral borders narrowly yellow;

pronotal scutellum and the pretergite less evidently brightened. Mesonotum dark gray, the praescutum with two brown stripes that converge behind, leaving a broad median ground area; scutellum yellowish testaceous, postnotum dark brown, gray pruinose. Pleura dark brownish gray, with a poorly delimited, clearer gray longitudinal stripe; dorsopleural region dusky. Halteres with stem yellow, knob weakly darkened. Legs with the fore coxae brownish black, remaining coxae obscure yellow; trochanters yellow; remainder of legs light brown or yellowish brown, unpatterned. Wings with a pale brownish tinge, the prearcular and costal regions a little more yellowed; stigmal area very vaguely and diffusely darker; veins pale brown; macrotrichia darker. Venation: Cell  $M_2$  open by the atrophy of the basal section of  $M_3$ ; vein *2nd A* with the distal third gently sinuous.

Abdomen dark brown, the sternites a trifle paler; hypopygium dark brown to brownish black. Male hypopygium with the dististyle three-branched, including two main stems; outer stem a long powerful black spine, gently sinuous, gradually narrowed to the acute spinous tip, before the latter with a smaller lateral point; inner stem of about the same diameter, at near midlength forking into two branches, a long-triangular outer blade that narrows to the subacute point, the outer margin with a long comb of darkened teeth; inner arm a little shorter, appearing as a slender rod, the apex obtuse. Gonapophyses single on either side, each appearing as a long, gently curved, black rod that narrows gradually to the acute tip, the surface glabrous.

HABITAT: Mexico (Nuevo Leon). *Holotype*, ♂, Montemorelos, June 3, 1931 (A. M. Dampf); M. F. 2023. *Allotopotype*, ♀. *Paratopotypes*, several ♂ ♀.

The most similar described species is *Erioptera (Mesocyphona) modica* Alexander, of southern Mexico, which differs especially in the structure of the male hypopygium, particularly the peculiarly modified outer stem of the dististyle.

### Cryptolabis Osten Sacken

#### *Cryptolabis (Cryptolabis) luteola* sp. n.

General coloration of entire body and appendages pale yellow; macrotrichia of wings relatively numerous in all cells beyond the cord,  $R_s$  relatively long and sinuous; *m-cu* shortly before the fork of  $M_{3+4}$ , cell  $M_3$  deep; male hypopygium with the slender dististyle terminal in position, arcuated, the tip produced into an acute spine; aedeagus stout, its distal portion weakly convoluted.

*Male*.—Length about 4 mm.; wing, 3.9 mm.

Rostrum and palpi light yellow. Antennae with the scape and pedicel yellow; flagellum broken. Head uniformly pale yellow.

Thorax yellow, the notum a little more obscure than the pleura. Halteres yellow. Legs yellow. Wings yellow, the veins a little darker but well-delimited by conspicuous black macrotrichia. Macrotrichia in all cells beyond cord, chiefly occurring as linear series in the centers of the cells. Venation:  $R_s$  relatively long and sinuous;  $R_{2+3+4}$  suberect;  $R_2$  oblique; outer radial branches gently upcurved at margin; *m-cu* shortly before fork of  $M_{3+4}$ ; cell  $M_3$  deep.

Abdomen obscure yellow. Male hypopygium with the dististyle terminal, arcuated and unusually slender, especially the darkened apical spine; outer surface of style immediately back from apex with two microscopic points; still further back from apex with two conspicuous erect setae. Aedeagus stout, particularly at base, the outer portion weakly convoluted but not bent back upon itself.

HABITAT: Mexico (Chiapas). *Holotype*, ♂, Huehuetan, altitude 40 meters, November 9, 1942 (A. M. Dampf); M. F. 2743.

*Cryptolabis (Cryptolabis) luteola* is readily told from related species by the uniformly pale yellow coloration of the body, and by the structure of the male hypopygium, especially the dististyle. The pale color is not due to a teneral condition since all structures are evidently fully colored.

#### ***Cryptolabis (Cryptolabis) parrai* sp. n.**

General coloration of thorax yellow, variegated with dark brown, including three praescutal stripes; head pale yellow; halteres with stem dusky, knob obscure yellow; wings whitish subhyaline, the outer cells with macrotrichia; *Rs* short and nearly straight, oblique; cell *R*<sub>1</sub> triangular in outline; *m-cu* about one-third its length before the fork of *M*<sub>3+4</sub>; male hypopygium with the dististyle a paddle-like arcuated blade, before its apex with five or six powerful darkened spines; aedeagus straight, unusually slender on more than the outer half.

*Male*.—Length about 3.5 mm.; wing, 3.9 mm.

Rostrum brownish yellow; palpi brownish black. Antennae with scape black; remainder of organ broken. Head pale yellow.

Pronotum above testaceous yellow, darker on sides. Mesonotum obscure testaceous yellow, variegated with dark brown, including three praescutal stripes and the scutal lobes; posterior sclerites of notum somewhat paler brown. Pleura dark brown, restrictedly patterned with paler, including the dorsopleural membrane and the dorsal portion of the sternopleurite. Halteres with stem dusky, yellow basally, knob obscure yellow. Legs with the coxae and trochanters yellow; femora and tibiae brownish yellow, the tips narrowly more darkened; tarsi broken. Wings whitish subhyaline; veins brown. Macrotrichia of outer wing cells numerous, occurring in cells *R*<sub>2</sub> to *Cu*, inclusive. Venation: *Rs* short and nearly straight, oblique; cell *R*<sub>1</sub> triangular in outline; *m-cu* about one-third its length before the fork of *M*<sub>3+4</sub>.

Abdomen brown, the hypopygium a little more brownish yellow. Male hypopygium with the dististyle terminal in position, unusually conspicuous, appearing as a flattened paddle-shaped blade, arcuated, the tip obtuse; before apex with five or six powerful darkened spinous points that are directed outwardly. Aedeagus straight, uncoiled, stout on basal fourth, thence narrowed gradually to the tip, for most of the length unusually slender.

HABITAT: Mexico (Chiapas). *Holotype*, ♂, San Antonio Nexapa, November 20, 1932 (Parra); M. F. 2220.

I take great pleasure in naming this very distinct fly for the collector, Inspector José Parra. It differs from other generally similar regional members of the subgenus, as *Cryptolabis (Cryptolabis) luteiceps* Alexander, in the structure of the male hypopygium, particularly the spinous points on the dististyle and the conformation of the aedeagus.



**Molophilus Curtis****Molophilus (Molophilus) pustulatus** sp. n.

Belongs to the *plagiatus* group; size relatively large (wing, male, 6 mm.); general coloration brownish black; antennae short; knobs of halteres very weakly darkened; wings with a brownish suffusion, darker in the stigmal area; male hypopygium with the basal dististyle an elongate rod, narrowed gradually to the acute spinous point, the apical fifth bent at virtually a right angle to the remainder; surface of style with abundant microscopic spinulae over most of the length.

*Male*.—Length about 5.5 mm.; wing, 6 mm.

Rostrum light brown; palpi black. Antennae dark brown, broken beyond the fourth segment; basal flagellar segments short-cylindrical, the entire organ evidently short. Head light gray; anterior vertex and orbits darker gray; center of vertex dark brown.

Pronotum above obscure yellow, darker on sides; pretergites clear light yellow. Mesonotal praescutum almost entirely and uniformly dark brown, the interspaces more reddened; humeral triangle yellow; scutum chiefly dark brown, the lobes more reddened behind; posterior sclerites of notum dark brown. Pleura almost uniformly dark reddish brown, including the dorsopleural membrane. Halteres with stem yellow, knob very weakly darkened. Legs with coxae clear light yellow; trochanters yellow; femora and tibiae obscure yellow, the tips narrowly darkened; proximal tarsal segments obscure brownish yellow, the outer ones darker. Wings with a relatively strong brownish suffusion, the stigmal region and a seam along *Cu* a little more darkened; prearcular field light yellow; veins brown, brighter in the prearcular area. Venation:  $R_2$  lying just beyond the level of *r-m*; petiole of cell  $M_3$  approximately twice the gently sinuous *m-cu*; vein *2nd A* long, ending about opposite midlength of the petiole of cell  $M_3$ .

Abdomen, including hypopygium, brownish black. Male hypopygium with the beak of the basistyle slender. Outer dististyle a gently curved rod, the apical arms very unequal in size and shape, the outer long and slender, the shorter lower arm more sheathing. Basal dististyle an elongate rod, straight for most of the length, the apical fifth bent at virtually a right angle to the remainder; basal fourth of style more swollen, provided both above and beneath with small spinous points; the organ thence very gradually narrowed to the acute tip, the surface with the small spinous points virtually to the apex. Phallosomic plate with the outer portion suboval, rounded, the margin smooth. Aedeagus elongate, slender.

HABITAT: Mexico (Chiapas). *Holotype*, ♂, Nueva America, February 22, 1931; no Dampf M. F. number.

This very distinct species requires little comparison with other regional forms. In its general appearance it somewhat resembles various species, such as *Molophilus (Molophilus) falx* Alexander, with elongate antennae in the male sex but such similarity is entirely superficial. The structure of the male hypopygium, particularly the basal dististyle, of the present fly is entirely distinctive.