

STUDIES ON THE CRANE-FLIES OF MEXICO

PART IX

(Order Diptera, Superfamily Tipuloidea)

By

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Reprinted from the

ANNALS OF THE ENTOMOLOGICAL SOCIETY OF AMERICA

Vol. XXXIX, No. 3, September, 1946

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(Order Diptera, Superfamily Tipuloidea)

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The Tipulidae discussed in this report were received from Mr. Noel L. H. Krauss, collected in Morelos, chiefly in the vicinity of Cuernavaca, and from Dr. Alfons M. Dampf, collected by himself and by Mr. C. C. Plummer. I am very deeply indebted to these entomologists for allowing me to retain the types of the novelties in my personal series of these flies.

Tipula Linnaeus

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

Thorax almost uniformly polished reddish brown, abdomen entirely polished black; antennae elongate, bicolored; halteres and legs uniformly black; wings with a very strong blackish tinge; petiole of cell M_1 short to virtually lacking; male hypopygium with the posterior border of tergite very gently and broadly emarginate; inner dististyle broad.

Male.—Length about 10.5–11 mm.; wing, 11–12 mm.; antenna about 7 mm.

Frontal prolongation of head dark chestnut brown, polished; nasus elongate, black; palpi black. Antennae (male) elongate, more than one-half the wing; basal three segments obscure yellow, succeeding ones bicolored, the basal enlargement black, the stems abruptly yellow, the bicolored nature persisting to the terminal segment; basal enlargements oval, relatively abrupt; verticils shorter than the segments, the latter with a dense erect white pubescence. Head dark polished reddish chestnut; vertical tubercle very low.

Thorax almost uniformly polished reddish brown, the dorsopleural membrane darker brown; vestiture of the praescutal interspaces weak and sparse. Halteres black throughout. Legs with the coxae dark reddish, the posterior and middle pairs even more blackened, this color likewise involving the meral region; apex of middle coxae reddish; fore trochanter dark reddish, the remaining pairs even darker; remainder of legs uniformly blackened; claws (male) very small, simple. Wings with a very strong blackish tinge, the prearcular and costal fields even more saturated; cells *R*, *M*, *Cu* and *1st A* with paler central streaks and, in cases, the outer medial cells somewhat paler; stigma scarcely darker than the ground; obliterative areas before stigma and across base of cell *1st M*₂ very restricted; no post-stigmal brightening; veins brown, those of the outer medial field more delicate. No squamal setae but the

¹The preceding part under this general title appeared in these Annals (Vol. XXXIX, 119–139, 1946). Contribution from the Entomological Laboratory, Massachusetts State College.

margin distad of the squama with several setae of unusual length; outer veins of radial and medial fields with trichia. Venation: *Rs* about one-third to one-fourth longer than *m-cu*; *R*₁₊₂ entire or with the extreme tip atrophied; petiole of cell *M*₁ very short to virtually lacking, not exceeding *m* in length; cell 2nd *A* wide.

Abdomen, including hypopygium, polished black. Male hypopygium with the tergite transverse, the caudal margin very broadly and gently emarginate, at the midregion beneath with a rounded lobe; lateral lobes very low, with abundant short setae and a few longer ones. Outer dististyle a small dusky cylindrical lobe, with long black setae. Inner dististyle broad, the beak stout; lower beak more slender, separated from the beak by a broad notch; outer basal lobe small, triangular in outline. Appendage of ninth sternite appearing as an oval darkened lobe on either side, tipped with a few very long black setae. Aedeagus small; gonapophyses apparently lacking or reduced to microscopic rudiments. Eighth sternite narrowed posteriorly, the caudal border broadly pale and membranous, with dense elongate setae, the edge gently emarginate.

HABITAT: Mexico (Morelos). *Holotype*, ♂, Cuernavaca, altitude 5000 feet, August 3, 1944 (Krauss). *Paratopotype*, 1 ♂.

I am pleased to name this interesting fly for the collector, Mr. Noel L. H. Krauss, to whom I am indebted for several interesting Tipulidae from Mexico and Hawaii. It is entirely different from all other regional members of the genus, in its general appearance suggesting certain members of the subgenus *Microtipula* Alexander. I feel that the present reference to the subgenus *Trichotipula* Alexander is correct but the species must be held to be somewhat aberrant. It may be noted that in the Nearctic fauna there are several members of the subgenus that lack macrotrichia in the wing cells, as in the present fly. In its general appearance the species somewhat suggests members of the genus *Nephrotoma* Meigen.

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

General coloration of body polished orange-yellow; anterior vertex with a darkened central line; femora yellow, the tips narrowly blackened, claws of male toothed; wings with a strong brownish yellow tinge, the veins dark and conspicuous; relatively numerous macrotrichia in cells *R*₃ to 2nd *M*₂, inclusive, more abundant in the radial cells; intermediate abdominal tergites trilineate with black, the median stripe broad and conspicuous, the lateral pair narrower; male hypopygium with the outer dististyle narrow, approximately four times as long as broad across base; rostral prolongation of inner dististyle with abundant pale setae.

Male.—Length about 13 mm.; wing, 13 mm.; antennae about 4 mm.

Frontal prolongation of head relatively short, less than the remainder of head, yellow with a black line on either side; nasus slender; palpi with basal three segments brown, the terminal one more yellowed. Antenna (male) moderately long; scape and pedicel yellow, basal two flagellar segments obscure yellow, the succeeding ones weakly bicolored, the brown basal enlargements slightly darker than the more brownish

yellow stems; longest verticils exceeding the segments in length. Head orange-yellow, polished; anterior vertex broad, with a brown median stripe; vertical tubercle low and simple.

Pronotum orange-yellow. Mesonotum almost uniformly orange-yellow or fulvous, the surface polished, the lateral borders of praescutum restrictedly yellow; a very small brown marginal spot at the humeral region; setae of notum pale, sparse and inconspicuous. Pleura fulvous yellow, the dorsopleural region and pleurotergite paler. Halteres with stem obscure yellow, brighter at base, knob somewhat more darkened. Legs with the coxae fulvous yellow; trochanters testaceous yellow; femora yellow, the tips rather narrowly but conspicuously blackened, the amount subequal on all legs; tibiae obscure yellow, the tips narrowly darkened; tarsi black; claws (male) toothed. Wings with a strong brownish yellow tinge, the restricted prearcular field, costal border and outer radial field more infuscated; stigma scarcely differentiated from the ground; veins dark brown, conspicuous, those in the prearcular and costal fields more brownish yellow. Sparse macrotrichia in outer ends of cells R_3 to 2nd M_2 , inclusive, fewest in the last-named cell, much more numerous in the radial cells where they occupy more than the outer third of the cells; stigmal trichia very sparse, only two or three. Venation: R_s shorter than $m-cu$ and about one-fourth longer than R_{2+3} ; R_{1+2} preserved; petiole of cell M_1 short, a trifle longer than m ; basal section of vein M_4 perpendicular, more than one-half as long as vein M_{3+4} ; cell 2nd A relatively broad.

Abdomen yellow, tergites two to six with a very conspicuous black central stripe or area, narrowly broken at the posterior margin, becoming more expanded on the outer segments; lateral borders of the same segments with narrower lines, the corresponding dorsal edge of the sternites less conspicuously blackened; remainder of abdomen, including hypopygium, yellow. Male hypopygium with the caudal margin of the ninth tergite with a deep V-shaped notch, the lobes obtuse, with the usual erect spinous setae, the retrorse group at the apex of lobe unusually numerous and having the same general appearance as the marginal series. Outer dististyle narrow, a little expanded on proximal half, at this point about one-fourth the length; setae long and numerous, reddish brown. Inner dististyle with the rostral portion elongate, about as long as the basal enlarged part of style, the apex suddenly narrowed; prolongation provided with abundant long pale delicate setae; setae of body of style back from the rostrum shorter and stouter, black; on posterior portion of style, in the region of the usual outer basal lobe, with a dense grouping of reddish bristles; what appears to represent the lower beak lies unusually basad, appearing as a blackened toothlike structure, with several setae on its basal half. Ninth sternite not produced. Eighth sternite with the pale membranous posterior margin gently convex in outline.

HABITAT: Mexico (Morelos). *Holotype*, ♂, Cuernavaca, altitude 5000 feet, September 5, 1944 (Krauss).

The most similar species include *Tipula* (*Trichotipula*) *aplecta* Alexander and *T. (T.) religiosa* Alexander, which have the hypopygial characters quite distinct, including the tergite, both dististyles, and the eighth sternite. Comparison with the species next described, *T. (T.) uxoria* sp. n., should be noted.

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

Allied to *vultuosa*; general coloration polished light castaneous, the praescutum variegated with darker, including very conspicuous blackened lateral spots in the humeral region and at the lateral ends of the transverse suture; fore femora with more than the outer half blackened; wings with a strong brownish yellow suffusion, cell *C* more infuscated; stigma short-oval, brown; restricted macrotrichia in outer ends of cells *R*_s and *M*₁; abdomen orange, tergites with broken black areas on the intermediate segments.

Female.—Length about 9.5–11 mm.; wing, 11–12 mm.

Frontal prolongation of head polished yellow, narrowly darkened medially above, including the conspicuous nasus; palpi with first segment obscure brownish yellow, succeeding two segments a trifle darker; terminal segment obscure orange. Antennae with scape and pedicel light yellow; remainder of organ broken. Head with the vertical tubercle orange, high, conspicuously emarginate medially; posterior portion of vertex more infuscated, sending a darkened extension onto the vertical tubercle; occiput and genae somewhat paler.

Pronotum very pale yellow. Mesonotal praescutum polished light castaneous, variegated with darker, including four spots on the cephalic portion, representing the anterior ends of the usual four stripes; in addition, an even more conspicuous blackened spot in the humeral region at the margin, with a somewhat similar one at the end of the transverse suture; lateral praescutal border elsewhere more yellowed; remainder of notum similarly light castaneous or reddish orange, unpatterned. Pleura polished yellow, the dorsopleural membrane even paler. Halteres yellow. Legs with the coxae and trochanters yellow; fore femora yellow basally, with more than the outer half blackened; remaining femora yellow, the tips narrowly but conspicuously blackened; all tibiae obscure yellow, the tips narrowly blackened; tarsi black, the proximal ends of the basitarsi vaguely more brightened. Wings with a strong brownish yellow suffusion, cell *C* more infuscated, cell *Sc* light yellow; prearcular field brownish yellow; stigma small, short-oval, brown; wing-tip narrowly and vaguely infuscated; cord and outer portion of vein *Cu* narrowly seamed with brown, more evident on *m-cu* and *Cu*; Anal cells in large part slightly more infuscated, cell *1st A* with a yellowish streak adjoining vein *2nd A*; veins dark brown or brownish black, yellow in the more brightened fields. Sparse macrotrichia in outer ends of cells *R*_s and *M*₁, especially the former. Venation: *Rs* shorter than *m-cu*; petiole of cell *M*₁ very variable in length, in the type about two and one-half times as long as *m*, in the paratype much shorter than *m*.

Abdomen orange yellow, the tergites with three interrupted black or brownish black stripes, the middorsal series larger but broken into oval spots, becoming obsolete on segments six or seven.

HABITAT: Mexico (Morelos). *Holotype*, ♀, Cuernavaca, altitude 5000 feet, August 14, 1944 (Krauss). *Paratopotype*, 1 ♀, August 24, 1944.

Generally similar to *Tipula (Trichotipula) vultuosa* sp. n., differing in important details of body-coloration and trichiation of the wings, especially the pattern of the thorax and the extensively blackened fore

femora, together with the restricted macrotrichia in the wing cells. Most of the described Mexican species of the subgenus bear a superficial resemblance to species of *Nephrotoma* Meigen.

***Tipula (Lunatipula) dampfiana* sp. n.**

General coloration of mesonotal praescutum gray with four slightly differentiated darker gray stripes; posterior sclerites of notum and the pleura pale; wings with a brownish yellow tinge, the oblitative band before cord relatively inconspicuous; abdomen yellow, the tergites with very broad brownish black, nearly lateral stripes; male hypopygium with the tergal lobes narrow; inner dististyle with the posterior crest short and obtuse; outer basal lobe short and stout.

Male.—Length about 14 mm.; wing, 14.5 mm.; antenna about 4.5 mm.

Frontal prolongation of head buffy; nasus short and stout; first segment of palpus obscure yellow, the remainder brownish black. Antennae of moderate length, outer segments broken; first three segments yellow, the succeeding ones bicolored, the basal enlargement darker, stem yellow; on about the fourth and succeeding segments the stems more brownish yellow, outer segments uniformly blackened; flagellar segments moderately incised, longer than the verticils. Front and extreme anterior vertex pale, remainder of dorsum dark brownish gray throughout.

Pronotum infuscated. Mesonotal praescutum gray with four slightly differentiated darker gray stripes, the lateral praescutal borders broadly paler gray; scutal lobes dark gray, the median region very restrictedly obscure yellow; scutellum and mediotergite pale, pruinose. Pleura and pleurotergite chiefly pale yellow pollinose (the more cephalic pleurites destroyed by pinning). Halteres with stem obscure yellow, knob infuscated. Legs with the coxae yellow pollinose; trochanters yellow; femora obscure yellow, the tips rather narrowly dark brown; tibiae and basitarsi obscure yellow, the tips even more restrictedly darkened; outer tarsal segments more infuscated; claws (male) simple. Wings with a strong brownish yellow tinge, cell *Sc* clearer yellow; stigma pale brown, relatively inconspicuous, its proximal end paler; oblitative area before cord restricted and inconspicuous, appearing as an isolated prestigmal spot and a larger area that centers at cell *1st M*₂, more or less interrupted by darkened seams to the medial veins; veins brown, yellow in the brighter areas. Squama with relatively few bristles. Venation: *Rs* slightly less than twice *m-cu*; *R*₁₊₂ entire but with its distal half paler and without trichia; petiole of cell *M*₁ longer than *m*; basal section of *M*₃₊₄ subequal in length to *m*.

Abdomen yellow, the tergites with very broad and conspicuous brownish black stripes that are almost lateral in position, the pale borders being very narrow; basal sternites yellow; subterminal segments blackened, forming a broad ring; hypopygium more brownish yellow. Male hypopygium much as in *abscissa*; tergite with lateral lobes narrow but stouter than in *abscissa*, separated by a broad, gently convex median area. Inner dististyle with the posterior crest short and obtuse, not long-produced backward, as in *abscissa*; beak very short and blunt; outer basal lobe much shorter and stouter than in *abscissa*.

HABITAT: Mexico (Mexico). *Holotype*, ♂, Slopes of Mount Telapón, Valle de Mexico, altitude 2100–3500 meters, October 2, 1938 (Dampf); M. F. 7112.

I take particular pleasure in naming this species for my long-time friend and co-worker, Dr. Alfons M. Dampf. The fly is closely related to *Tipula* (*Lunatipula*) *abscissa* sp. n., differing in the pattern of the body and wings and, especially, in the structure of the male hypopygium, particularly the tergite and inner dististyle.

***Tipula* (*Lunatipula*) *abscissa* sp. n.**

General coloration of mesonotum obscure yellow with brown markings; praescutal stripes four, entire; antennae strongly bicolored; thoracic pleura unpatterned; femora yellow, the tips narrowly brownish black; wings with a strong brownish tinge, with a continuous, very conspicuous oblitative area before the cord; abdominal tergites yellow, with very conspicuous sublateral black stripes that become more extensive and finally confluent on the outer segments; male hypopygium with the ninth tergite having the caudal border produced into a ventral polished plate, the lateral lobes terminating in small compressed blades; eighth sternite with conspicuous pencils and groups of setae.

Male.—Length about 13–14 mm.; wing, 15.5–16 mm.; antenna about 5 mm.

Frontal prolongation of head above yellow, slightly infuscated on sides; nasus distinct; palpi with proximal three segments obscure yellow, the terminal one brownish black. Antennae with basal three segments yellow, succeeding segments strongly bicolored, yellow, with black basal swellings, only the outer two or three segments uniformly darkened; basal swellings very small to scarcely thicker than the outer portion of segment; longest verticils somewhat exceeding the segments. Head with anterior portion buffy yellow, the posterior portion, including a central prolongation on anterior vertex, more grayish brown; orbits narrowly light gray; anterior vertex relatively narrow, about twice the diameter of scape; vertical tubercle not developed.

Pronotum obscure yellow, variegated with more brownish spots. Mesonotal praescutum obscure yellow, with four entire brown stripes, the intermediate pair more divergent at their anterior ends, leaving an extensive area of the ground, this pale stripe broad and conspicuous throughout its length; scutum with lobes light gray, extensively marked with brown, median area lighter brown; posterior sclerites of notum lighter gray, the scutellum with a vague darker area; mediotergite with an extensive sublateral brown area on either side, not reaching the sides of the sclerite; dorsal portion of pleurotergite infuscated. Pleura grayish yellow, unpatterned; dorsopleural membrane weakly infuscated. Halteres with stem obscure yellow, knob infuscated. Legs with the coxae and trochanters yellow; femora and tibiae yellow, the tips narrowly brownish black, the amount subequal on all legs; tarsi with basal two segments obscure yellow, the tips more darkened; outer tarsal segments brownish black; claws (male) simple. Wings with a strong brownish tinge, the prearcular and costal fields slightly more yellowed;

stigma relatively small, brown, the proximal end more yellowed; a continuous conspicuous whitish obliterative area extending from before the stigma across outer end of cell *R*, basal half of 1st *M*₂ and into cell *M*₃; no post-stigmal brightening; veins brownish yellow, still brighter in the more yellowed areas. Venation: *Rs* about one-fourth longer than *m-cu*; *R*₁₊₂ entire; petiole of cell *M*₁ and *m* subequal; *m-cu* on *M*₄ close to fork of *M*₃₊₄; cell 2nd *A* broad.

Abdominal tergites reddish yellow with a very conspicuous sublateral black longitudinal stripe beginning near base of tergite two, narrowly interrupted at posterior borders of segments, becoming even more extensive on outer segments; lateral tergal borders very narrowly pale; basal sternites yellow, outer segments more infuscated and finally dark brown, including the hypopygium. Male hypopygium with the ninth tergite having a broad and deep dorsal furrow, the caudal border shallowly emarginate but with a more ventral shiny portion whose margin is convexly rounded; lateral lobes terminating in small compressed-flattened blades or points. Ninth sternite with the appendage low, simple, with long yellow setae. Outer dististyle dusky, slightly widened at near midlength. Inner dististyle with beak compressed-flattened; dorsal crest arising abruptly above the beak, setae sparse; posterior crest produced backward into a long pale blade, its margin microscopically erose; lower beak blackened, subtriangular; outer basal lobe relatively small, erect, provided with numerous long yellow setae. Aedeagus not much expanded at apex, produced into a small spinous point on either side. Eighth sternite with the lateral lobes low, tipped with compact pencils of long reddish setae that are directed inward and become decussate, at bases of lobes with more abundant smaller setae; lying more ventrad and nearer the midline on either side with a transverse row or brush of long golden setae, the outer portions bent inward to the midline.

HABITAT: Mexico (Morelos). *Holotype*, ♂, Tepoztlan, September 4, 1944 (Krauss). *Paratopotype*, ♂.

The present fly is most nearly allied to *Tipula* (*Lunatipula*) *dampfiana* sp. n. and comparisons have been given under the account of that species. In the structure of the male hypopygium, especially of the tergite, these two species suggest forms such as *T. (L.) incisa* Doane but the relationship is not close.

Limonia Meigen

Limonia (*Dicranomyia*) *perserena* sp. n.

General coloration of the entire body pale greenish yellow or white; halteres entirely pale; legs whitened; wings hyaline, the stigma very pale brown; a vague darkening over the cord; cell *M*₂ open by the atrophy of the basal section of *M*₃, cell 2nd *M*₂ subequal in length to or shorter than its petiole; *m-cu* at fork of *M*; cell 2nd *A* wide; male hypopygium with the rostral prolongation of ventral dististyle short, the two spines stout and spikelike.

Male.—Length about 5–6 mm.; wing, 6–7.5 mm.

Rostrum moderately long, testaceous yellow; palpi pale. Antennae with scape yellow, pedicel brown, flagellum somewhat paler brown;

flagellar segments oval. Head above yellow, even more orange on central part of vertex; anterior vertex broad, nearly two and one-half times the diameter of scape.

Pronotum yellow. Mesonotum pale greenish white on anterior portion of praescutum, the posterior two-thirds of the latter and the remainder of notum a very little darker, unpatterned. Pleura yellow. Halteres entirely pale. Legs whitened, only the outer tarsal segments a trifle darker. Wings hyaline, the prearcular and costal regions a trifle more yellowed; stigma short-oval, very pale brown; a similarly vague darkening over the cord; veins yellow, the cord a trifle more darkened. Venation: Sc short, Sc_1 ending a distance before origin of R_s about equal to from one-fourth to one-sixth the length of the latter, Sc_2 apparently atrophied; free tip of Sc_2 and R_2 in transverse alignment; cell M_2 open by the atrophy of basal section of M_3 ; cell 2nd M_2 subequal in length to or shorter than its petiole; $m-cu$ at fork of M ; cell 2nd A wide.

Abdomen obscure yellow, including the hypopygium. Male hypopygium with the posterior border of tergite emarginate, the lobes broad, with strong setae. Basistyle with the ventromesal lobe large, simple. Dorsal dististyle a strongly curved hook, the outer third rather strongly narrowed. Ventral dististyle large and fleshy, its area at least three times that of the basistyle; rostral prolongation short and stout, at apex even further produced into a more flattened dark-colored flange; the two rostral spines are placed close together near the base of prolongation; stout and spikelike, their tips obliquely acute. Gonapophysis with mesal-apical lobe erect, the apex bent slightly laterad.

HABITAT: Mexico (Morelos). *Holotype*, ♂, Tepoztlan, September 4, 1944 (Krauss). *Paratypes*, 2 ♂♂, Cuernavaca, October, 1944, March, 1945 (Krauss).

Limonia (Dicranomyia) perserena is readily distinguished from all other regional members of the subgenus by the venation, especially the cell M_2 open by the atrophy of the basal section of M_3 , a very rare condition in the subgenus.

Limonia (Geranomyia) disparilis sp. n.

General coloration of mesonotum dull black, the praescutum almost covered by blackened stripes; rostrum relatively short, black throughout; wings with a strong dusky tinge, unmarked except for the oval, darker brown stigma; Sc short; abdomen, including hypopygium, brownish black; male hypopygium with two rostral spines on ventral dististyle, these very unequal in size, the more basal one largest, placed at the base of prolongation on the face of the style itself; second spine reduced to a seta, lying more distad at the base of the major spine; apex of prolongation obtusely rounded.

Male.—Length, excluding rostrum, about 4.5 mm.; wing, 5 mm.; rostrum about 1.8 mm.

Rostrum relatively short, black throughout; palpi black. Antennae black throughout; flagellar segments oval, the outer ones gradually decreasing in size; verticils short. Head black.

Mesonotum chiefly dull black, the praescutum almost covered by blackened stripes, reducing the paler ground to humeral areas. Pleura

black, slightly plumbeous. Halteres black, the base of stem yellow. Legs with coxae brownish black, the posterior pair paler; trochanters obscure yellow; remainder of legs broken. Wings with a strong dusky tinge, cell *Sc* even darker; stigma oval, darker brown; veins brown. Venation: *Sc* short, *Sc*₁ ending just beyond the origin of *Rs*, *Sc*₂ at its tip; *m-cu* just before the fork of *M*; cell 2nd *A* of moderate width.

Abdomen, including hypopygium, brownish black. Male hypopygium with the tergite transverse, the caudal margin gently emarginate. Ventral dististyle relatively small, the rostral prolongation moderately long, its apex obtusely rounded; two rostral spines of very different sizes, the more basal one largest, placed on the face of style at base of prolongation, arising from a conspicuous cylindrical tubercle, the spine short and straight; second spine reduced to a slender seta, from a correspondingly tiny globular tubercle, placed close to the base of the outer face of the major tubercle; prolongation beyond the outer spine exceeding in length the spine itself. Gonapophysis with mesal-apical lobe relatively broad, narrowed to a spinous apical point, the lateral margin vaguely toothed.

HABITAT: Mexico (Chiapas). *Holotype*, ♂, Finca Victoria, altitude 900 meters, June 29, 1935 (Dampf); M. F. 4709.

The present fly is readily told by the structure of the male hypopygium. In this latter respect it is most similar to *Limonia* (*Geranomyia*) *versuta* Alexander, ranging from southern Mexico to Colombia, but differs in all details. The general appearance of the two flies is quite dissimilar and it does not appear that they are closely allied.

Orimarga Osten Sacken

Orimarga (*Orimarga*) *tartarus* sp. n.

General coloration of thorax brownish gray, the praescutal stripes ill-delimited; antennae and legs blackened; wings with a strong blackish tinge, the prearcular and costal fields whitened; vein *R*₁₊₂ elongate, nearly three times *R*₂₊₃; *R*₁ beyond the free tip of *Sc*₂ about one-half longer than *R*₂₊₃; cell *M*₃ longer than its petiole; *m-cu* about twice its length before the fork of *M*; cell 2nd *A* greatly widened on its basal portion; male hypopygium with the gonapophyses appearing as short straight spikes.

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

Female.—Length about 5.5–6.5 mm.; wing, 6–7 mm.

Rostrum and palpi black. Antennae black throughout; flagellar segments short-oval. Head above brownish gray, the front light silvery gray; anterior vertex relatively broad, about three times the diameter of scape.

Pronotum dark brown, sparsely pruinose. Mesonotal praescutum brownish gray with four ill-delimited darker brown stripes, the interspaces very obscured, the lateral praescutal borders broadly light gray; posterior sclerites of notum gray, the scutal lobes darkened. Pleura gray, the ventral sternopleurite more blackened; a more or less evident blackened stripe lying more dorsally. Halteres with stem brown, narrowly yellow at base, knob blackened. Legs with the fore and middle coxae darkened, pruinose, posterior coxae conspicuously yellow; tro-

chanters darkened; remainder of legs dark brown or brownish black. Wings with a strong blackish tinge, the prearcular and costal fields whitish; outer end of cell R_1 slightly whitened; veins dark brown. Outer veins of wing, including both radial and medial fields, with relatively abundant macrotrichia. Venation: Sc_1 ending about opposite two-fifths the length of Rs , Sc_2 a short distance from its tip; R_{1+2} elongate, nearly three times R_{2+3} ; free tip of Sc_2 preserved; R_1 about one-half longer than R_{2+3} ; inner end of cell R_3 only slightly arcuated, about on a level with cell M_2 ; cell M_3 longer than its petiole; $m-cu$ oblique, about twice its length before the fork of M ; cell 2nd A greatly widened on its basal portion.

Abdomen, including hypopygium, brownish black to black. Male hypopygium with the basistyle unmodified, the setae simple, much more numerous on mesal face. Outer dististyle long and slender, gradually narrowed to the acute tip. Inner dististyle about as long, with a single row of strong setae down the face, near base of style with a stout lobe bearing six to eight strong setae. Gonapophysis a short straight spike, the tip blunt.

HABITAT: Mexico (Morelos). *Holotype*, ♂, Cuernavaca, altitude 5000 feet, May 1945 (Krauss). *Allotopotype*, ♀, pinned with type. *Paratopotypes*, numerous ♂ ♀, August 1944–May 1945 (Krauss).

In its somewhat peculiar venation, the present fly suggests species such as *Orimarga* (*Orimarga*) *excessiva* Alexander and *O. (O.) saturnina* Alexander, yet differs in the proportions of the radial elements, as described. It further differs from all other generally similar regional forms by the very strongly darkened wings.

***Orimarga* (*Orimarga*) *subtartarus* sp. n.**

Male.—Length about 5 mm.; wing, 4.5–5.5 mm.

Female.—Length about 6 mm.; wing, 5.2 mm.

Very similar to *tartarus*, differing especially in color and in the venational details. Legs paler, the femoral tips narrowly more darkened. Wings brownish gray, not conspicuously blackened, as in *tartarus*. Venation: R_{1+2} shorter, less than twice R_{2+3} ; free tip of Sc_2 opposite the fork of Rs ; $m-cu$ only a little more than its own length before the fork of M .

HABITAT: Mexico (Jalisco). *Holotype*, ♂, Tequila, altitude 3900 feet, along an irrigation canal, July 28, 1934 (Dampf); M. F. 3568. *Allotopotype*, ♀, pinned with type. *Paratopotype*, 1 ♂.

***Oxydiscus* de Meijere**

***Oxydiscus* (*Oxydiscus*) *morelosensis* sp. n.**

Dark chestnut brown; halteres whitened; wings with a weak brownish tinge, restrictedly patterned with darker brown; macrotrichia of wing cells relatively numerous.

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

Rostrum and palpi black. Antennae black throughout; outer flagellar segments oval. Head dark brown.

Thoracic dorsum almost uniformly dark chestnut brown, without

pattern; scutellum a little darker behind. Pleura somewhat darker brown, especially on the ventral portion. Halteres whitened. Legs with the coxae yellow, the fore pair somewhat darker; trochanters obscure yellow; remainder of legs broken. Wings with a weak brownish tinge, the prearcular and costal fields a little paler; a restricted brown pattern, including very narrow seams at origin of R_s , Sc_2 , cord, outer end of cell $1st\ M_2$ and over R_2 , the remainder of the stigmal area paler brown but extensive; veins pale brown, a little darker in the clouded portions. Macrotrichia in outer wing cells, including several in cell R_2 beyond the stigma, extending to cell $1st\ A$, becoming more sparse in the posterior cells. Venation: Sc_1 ending a short distance beyond the fork of R_s , Sc_2 some distance from its tip; R_s obliquely angulated at origin; cell R_3 deeper than in *oaxacensis*; cell M_1 shorter and with the enclosing branches more divergent; *m-cu* more than its own length beyond the fork of M .

Abdominal tergites brown, the posterior borders of the outer segments narrowly paler; sternites obscure brownish yellow.

HABITAT: Mexico (Morelos). *Holotype*, ♀, Cuernavaca, altitude 5000 feet, August 14, 1944 (Krauss).

The most similar species and the only other described regional one having patterned wings is *Oxydiscus* (*Oxydiscus*) *oaxacensis* Alexander, which has the wing pattern heavier and shows slight venational differences, as indicated above. In this latter fly, the macrotrichia of the cells are somewhat less numerous, as shown by the lack of poststigmal setae in cell R_2 .

Gnophomyia Osten Sacken

Gnophomyia (**Gnophomyia**) *subobliterata* sp. n.

Size medium (wing 6 mm. or less); general coloration of mesonotal praescutum and scutal lobes blackened, the surface sparsely pruinose, the humeral and lateral portions of praescutum yellow; thoracic pleura with a more or less entire brown longitudinal stripe; legs brownish yellow, outer tarsal segments blackened; wings with a weak brownish tinge, stigma lacking; outer radial veins strongly decurved at tip, cell R_2 at margin very extensive; vein R_2 atrophied or its position barely indicated; *m-cu* at about two-thirds its own length beyond the fork of M ; male hypopygium with the inner dististyle black, its lower margin with three or four very long and powerful setae; phallosome with the upper plate conspicuously emarginate to produce two blackened lobes.

Male.—Length about 5.5 mm.; wing, 5.8 mm.; antenna about 1.5 mm.

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

Rostrum obscure yellow; palpi brown. Antennae with scape and pedicel light brown to brown, flagellum black; flagellar segments elongate, the longest verticils exceeding the segments. Head gray.

Pronotum light yellow above, more darkened on sides. Mesonotal praescutum and scutum blackened, the surface sparsely pruinose, the humeral and lateral portions obscure yellow; vicinity of the suture more or less reddened; scutellum yellow, weakly darkened basally; mediotergite brownish black, the cephalic portion vaguely more brightened. Pleura and pleurotergite obscure yellow, with a more or less distinct dark brown dorsal stripe, more nearly complete in female, in male more

broken behind by the pale pleurotergite. Halteres blackened, base of stem yellow. Legs with the coxae and trochanters yellow, fore coxae weakly more darkened; remainder of legs obscure brownish yellow, outer tarsal segments blackened. Wings with a weak brownish tinge, the extreme base more yellowed; stigma lacking; veins brown, the prearcular ones brighter. Venation: Outer branches of R_s strongly decurved, cell R_2 at margin thus being very extensive; vein R_2 atrophied or barely indicated, placed just beyond the fork of R_{2+3+4} ; $r-m$ at fork of M ; cell $1st\ M_2$ elongate, a little longer than vein M_4 ; $m-cu$ about two-thirds its own length beyond the fork of M .

Abdominal tergites dark brown, the pleural membrane and hypopygium more yellowed; ovipositor with cerci compressed, yellow, the tips narrowed and slightly more darkened; cerci hairy to the tips. Male hypopygium having the basistyle with a small pale subglobular lobule on mesal face at base. Outer dististyle glabrous, relatively slender, gradually narrowed outwardly, the tip narrowly obtuse, both base and apex narrowly infuscated, the intermediate portion pale. Inner dististyle much shorter, the base enlarged, the free outer portion relatively slender, the tip very obtuse to slightly dilated; lower or ventral margin of style near base of free portion with three or four setae of unusual length, the longest only a little shorter than the free portion alone. Phallosome with the upper plate conspicuously emarginate to produce two blackened lobes; the lower plate with a few microscopic blackened points that show in the emargination.

HABITAT: Mexico (Morelos). *Holotype*, ♂, Tepoztlan, September 4, 1944 (Krauss). *Allotopotype*, ♀, pinned with the type.

From other generally similar regional species that have the venation of the radial field somewhat as in the present fly, especially *Gnophomyia* (*Gnophomyia*) *acricula* Alexander, this insect is most readily separated by the distinctive hypopygium, including both dististyles and the phallosome.

***Gnophomyia* (*Gnophomyia*) *subarcuata* sp. n.**

Allied to *arcuata*; general coloration of head and thorax dark plumbeous gray; antennae black throughout; halteres brownish black, the apex of knob very slightly reddened; wings hyaline, stigma very slightly indicated; vein R_{2+3+4} moderately arcuated, R_2 subequal to or somewhat longer than R_{3+4} ; cerci elongate, with scattered coarse setae.

Female.—Length about 7 mm.; wing, 5.8 mm.

Rostrum and palpi black. Antennae black throughout; flagellar segments oval; verticils relatively inconspicuous. Head plumbeous gray.

Pronotum dark gray, the lateral portions of praescutum restrictedly obscure yellow. Mesonotum dark plumbeous gray, the posterior sclerites and the pleura clearer gray. Halteres brownish black, the apex of knob very slightly reddened. Legs with coxae gray pruinose; remainder of legs black. Wings hyaline, stigma barely darkened; veins dark brown. Venation: Sc_1 ending about opposite five-sixths R_s ; R_{2+3+4} moderately arcuated, conspicuously less so than in *arcuata*; R_2 subequal to or a little longer than R_{3+4} ; vein R_3 shorter than in *arcuata*; cell $1st\ M_2$ strongly narrowed at proximal end; $m-cu$ close to the fork of M .

Abdomen brownish black. Cerci elongate, fleshy, the tips notched; surface with scattered coarse setae, including some of large size. The emarginate tips of the cerci appear to represent a normal condition.

HABITAT: Mexico (Chiapas). *Holotype*, ♀, Finca Vergel, altitude 800 meters, May 23, 1935 (Dampf); M. F. 4268.

Gnophomyia (*Gnophomyia*) *subarcuata* is allied to species such as *G. (G.) arcuata* Alexander or *G. (G.) diazi* Alexander, differing especially in details of venation and in the structure of the ovipositor.

Gonomyia Meigen

Gonomyia (Lipophleps) rastriformis sp. n.

Belongs to the *cinerea* group; all femora differently patterned; wings with cell M_2 open by the atrophy of basal section of M_3 ; male hypopygium with the outer dististyle an unusually stout simple rod; intermediate style widely dilated beyond midlength, the margin of the flange darkened and microscopically serrulate; inner style a clavate pale lobe, its lower edge remote from the apex bearing a small mace-like structure that terminates in several small points.

Male.—Length about 4 mm.; wing, 4.2 mm.

Rostrum dark brown; palpi black. Antennae with the basal segments yellow above, more infuscated beneath; basal flagellar segments pale, the outer ones passing into brown. Head with the center of vertex brownish gray, the remainder conspicuously yellow.

Pronotum and pretergites yellow, the scutum slightly darker medially. Mesonotum brownish gray, the central region of scutum more orange, with a narrow darker median line; posterior border of scutellum, broad lateral borders of mediotergite and the anapleurotergite yellow, the katapleurotergite infuscated; humeral and lateral portions of praescutum obscure yellow. Pleura obscure brownish yellow dorsally, the ventral half striped longitudinally with darker brown and yellow, including a very narrow longitudinally more dorsal stripe, extending from behind the fore coxae to the base of abdomen, passing through the root of the halteres; ventral sternopleurite and meral region broadly paler brown. Halteres yellow, the knob weakly darkened. Legs with the coxae yellow, the bases of the fore and middle pairs narrowly infuscated; trochanters yellow; all legs differently patterned; fore femora black, the extreme bases paler; tibiae white, the bases narrowly, the tips a little more extensively blackened; tarsi brownish black, the basitarsi immediately beyond origin obscure yellow; middle femora yellow, the tips rather narrowly blackened, including about the distal seventh; remainder of middle legs about as on fore pair; posterior femora obscure yellow, with a narrow subterminal pale brown ring, preceded by a vaguely brighter yellow area; tibiae white, with an exceedingly narrow subterminal brown ring, the extreme base vaguely darkened; basitarsi with about the proximal two-thirds yellow, the remainder of tarsi black. Wings with a brownish gray ground, the costal border more whitened, expanded in the vicinity of the darker brown stigma to form conspicuous prestigmal and poststigmal brightenings; a vague darkening along cord, indicated by a deepening in color of the veins; remaining veins paler brown, those in the whitened

fields white or pale yellow. Venation: Sc_1 ending a distance before origin of R_s nearly as long as this latter vein alone, Sc_2 a short distance from the tip; cell M_2 open by the atrophy of basal section of M_3 ; $m-cu$ close to the fork of M .

Abdomen brown, the posterior borders of the segments pale, including two pale spots, narrowly separated from one another by a median dark projection; hypopygium chiefly darkened. Male hypopygium with the outer dististyle an unusually long and strong slender rod, approximately four-fifths as long as the major second style, the tip acute and narrowly blackened, microscopically roughened; intermediate style largest, appearing as a flattened blade, bearing on inner edge a blackened microscopic scabrous spine or arm; beyond this arm the style is widely dilated, the flange narrowly darkened and microscopically serrulate on margin; inner style or branch a chiefly pale clavate lobe, provided with numerous long strong setae; on lower edge, remote from the apex, with a blackened mace-like structure that terminates in several small points.

HABITAT: Mexico (Morelos). *Holotype*, ♂, Cuernavaca, altitude 5000 feet, August 24, 1944 (Krauss).

The most similar described species are *Gonomyia* (*Lipophleps*) *helophila* Alexander and *G. (L.) monacantha* Alexander, which differ very conspicuously in the structure of the male hypopygium.

Gonomyia (*Gonomyia*) *stellata* sp. n.

Allied to *mexicana*: general coloration of mesonotum dark brown, the pleura but slightly patterned; wings with a weak dusky tinge, the prearcular and costal fields more whitened; R_s a little shorter than R_{2+3+4} ; $m-cu$ at near two-fifths the length of cell 1st M_2 ; male hypopygium with the outer blade of dististyle blackened, the outer margin with about four strong spines, additional to the longer terminal one, with a longer blackened rod in the axil of the pale inner lobe; apophyses paired, elongate, slender, each bearing a long branch at near two-thirds the length, the tips of all branches terminating in an acute spinous point.

Male.—Length about 5 mm.; wing, 5.5 mm.

Head broken.

Pronotum brown medially, pale on sides; pretergites restrictedly pale yellow. Mesonotal praescutum and scutal lobes chiefly covered by a dark brown discal area, the surface sparsely pruinose; lateral praescutal borders restrictedly obscure yellow; median region of scutum vaguely brightened; scutellum and mediotergite dark brown, the posterior border of the former obscure yellow. Pleura and pleurotergite almost uniformly yellow or testaceous yellow, the mesepisternum vaguely patterned with darker, especially on the ventral sternopleurite. Halteres with stem dirty white, the extreme base brighter; knobs of halteres infuscated. Legs with coxae and trochanters yellow, the fore coxae weakly infuscated; remainder of legs dark brown, the femoral bases restrictedly brightened. Wings with a weak dusky tinge, the prearcular and costal fields more whitened; stigmal area diffuse, more darkened; veins brown, paler in the whitened areas. Costal fringe moderately long and dense. Venation: Sc_1 ending opposite the origin of R_s , Sc_2

a short distance from its tip; R_s a little shorter than R_{2+3+4} , the latter gently arcuated on proximal half; vein R_3 long and only slightly oblique; cell 1st M_2 gently widened outwardly, nearly as long as vein M_4 ; $m-cu$ approximately its own length beyond the fork of M or at near two-fifths the length of cell 1st M_2 .

Abdominal tergites dark brown, sternites paler; hypopygium chiefly pale brown. Male hypopygium with the apical lobe of basistyle small, oval. Dististyle distinctive; outer blade blackened, flat, terminating in a sharp spine, the outer margin with about four other smaller spines, producing a more or less distinct stellate appearance; at base of this blade and in its axil with a longer blackened rod or spine; inner lobe pale, terminating in the usual two fasciculate setae and with several other smaller bristles. Phallosome distinctive; gonapophyses paired, elongate, very slender, at near two-thirds the length each forked into a slender branch that is slightly longer than the axial one, this more glabrous, all branches terminating in subequal acute spinous points; surface of stem and the axial branch with microscopic scabrous points. Aedeagus stout, gently arcuated, at apex with a deep and narrow split; both apical points with coarse spines or fimbriations.

HABITAT: Mexico (Morelos). *Holotype*, ♂, Cuernavaca, altitude 5000 feet, August 25, 1944 (Krauss).

Gonomyia (*Gonomyia*) *stellata* is entirely distinct from the other regional species of the subgenus, especially in the structure of the male hypopygium. The dististyle and phallosome, particularly the elongate, profoundly branched gonapophyses, are noteworthy. In the nature of the phallosome the fly is closest to species such as *G. (G.) mexicana* Alexander but the relationship is not particularly close.

***Gonomyia* (*Gonomyia*) *remigera* sp. n.**

Allied to *flavibasis*; mesonotum chiefly dark brown, sparsely pruinose; scutellum chiefly dark brown; pleura yellow with a narrow dark brown dorsal stripe; halteres infuscated; wings with cell M_2 open by the atrophy of the basal section of M_3 ; male hypopygium with the outer dististyle on outer margin nearing a blackened triangular lobe or flange; inner dististyle with the outer arm a flattened elongate pale blade; phallosome with a single strongly curved black spine, beyond which point the entire phallosome is pale, not terminating in a spine.

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

Rostrum and palpi black. Antennae with the scape and pedicel yellow, flagellum dark brown; flagellar segments oval. Head above obscure yellow, the central portion of vertex more infuscated.

Pronotum and pretergites light yellow. Mesonotum almost uniformly dark brown, sparsely pruinose; humeral region and lateral borders of praescutum light yellow, more reddened at and near the suture; central region of scutum obscure yellow; scutellum chiefly dark brown, paler posteriorly; mediotergite yellow, more infuscated medially and especially behind. Pleura yellow, with a narrow dark brown dorsal stripe extending from the cervical region to the base of abdomen, passing beneath the root of the halteres; ventral pleurites a little more yellowed than the broad pleural stripe. Halteres infuscated. Legs

with the coxae and trochanters yellow; remainder of legs dark brown, the femoral bases somewhat paler. Wings with a grayish tinge, the prearcular and costal fields more yellowed; stigma oval, medium brown; veins pale brown, more yellowed in the brightened fields. Venation: Sc_1 ending far before the origin of Rs , the distance being only a little shorter than Rs alone; Rs and R_{2+3+4} strongly arcuated, the latter a little shorter; cell M_2 open by the atrophy of basal section of M_3 ; $m-cu$ close to the fork of M .

Abdominal tergites dark brown, the incisures paler; sternites and hypopygium yellow. Male hypopygium with the outer dististyle elongate, on outer margin with a strong blackened triangular lobe that is not produced into a spine. Inner dististyle distinctive, the outer arm a flattened elongate pale blade; main body of style subequal in length but stouter. Phallosome with a single strongly curved black spine; beyond this point the phallosome entirely pale, its tip irregularly truncate, not produced into a spine; some distance before tip with a long-oval pale flange or lobe.

HABITAT: Mexico (Morelos). *Holotype*, ♂, Cuernavaca, altitude 5000 feet, August 14, 1944 (Krauss).

Gonomyia (*Gonomyia*) *remigera* is most similar to species such as *G. (G.) flavibasis* Alexander (*tuberculata* Alexander), differing especially in the structure of the male hypopygium, particularly of the dististyles and phallosome.

***Gonomyia* (*Gonomyia*) *ostentator* sp. n.**

Allied to *expansa*; size large (wing, male, 5.5 mm.); rostrum black; antennae with scape and pedicel yellow; thoracic pleura yellow, with a broad dorsal dark brown stripe and a shorter and narrower ventral one; knobs of halteres darkened; wings with a grayish tinge, the stigma and a vague seam over the cord darker; cell 1st M_2 closed; male hypopygium with the outer dististyle an elongate flattened blade, not provided with a lateral spine; inner dististyle with the outer margin of the main body elevated into a glabrous darkened flange, subequal in area to the dusky outer blade of the style; phallosome with a single well-developed spine, the apex beyond this large, complicated by outgrowths, the actual tip pale and truncated.

Male.—Length about 5 mm.; wing, 5.5 mm.

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

Rostrum and palpi black. Antennae with scape and pedicel light yellow, flagellum dark brown; basal flagellar segments long-oval. Head above orange, the center of vertex more or less infuscated.

Pronotum and pretergites light yellow. Mesonotal praescutum and scutum chiefly dark brown, the median region of the latter, and the scutellum, obscure brownish yellow; lateral praescutal borders yellow; mediotergite yellow, the posterior border broadly dark brown, the basal portion with a more or less developed central spot. Pleura and pleurotergite yellow, with a conspicuous dorsal dark brown stripe extending from the cervical sclerites to the mediotergite, as described; a second narrower dark stripe on the ventral sternopleurite, crossing the bases of the mid-coxae onto the meron; the broad pale stripe between these

darkened lines more whitened than the remainder of pleura. Halteres with stem pale brown, darker at extreme base, knob dark brown. Legs with the coxae yellow, the middle pair restrictedly darkened, as described; trochanters yellow; remainder of legs brownish black to black. Wings with a grayish tinge, the prearcular and costal fields somewhat more yellowed; stigma small, oval, brown; a vaguely indicated darkened cloud over the cord; veins brown, more yellowed in the brightened fields. Venation: *Sc* short, *Sc*₁ ending a distance before origin of *Rs* that is about two-fifths the length of the latter, *Sc*₂ near its tip; *r-m* arcuated, at or close to the fork of *Rs*, the basal section of *Rs* short to lacking; vein *R*₄ elongate, decurved toward wing tip, more than three times vein *R*₃; cell *1st M*₂ closed; *m-cu* at or close to fork of *M*.

Abdominal tergites dark brown, the posterior angles or even the entire border yellow; sternites and hypopygium yellow. Male hypopygium with the basistyle not produced apically. Outer dististyle an elongate flattened blade, the outer surface with very long conspicuous setae; face of style with a long oblique darkened flange extending over about one-half the length of the organ. Inner dististyle shorter, the main body stout, its outer margin elevated into a glabrous darkened flange, subequal in area to the flattened dusky outer blade of the style, the latter with the seta placed far basad; fasciculate seta at apex of a small lobe. Phallosome very large and complex, with a single developed, very powerful blackened spine near base, the second spine very small and weak; beyond the spines the phallosome is greatly expanded and complex in structure, bearing an outer pale blade-like appendage, the actual tip arising from the face of the expanded body, strongly curved, truncated and pale at tip.

HABITAT: Mexico (Morelos). *Holotype*, ♂, Cuernavaca, altitude 5000 feet, March, 1945 (Krauss). *Allotopotype*, ♀, August 25, 1944 (Krauss).

Although similar and related to species such as *Gonomyia* (*Gonomyia*) *expansa* Alexander and *G. (G.) remota* Alexander, the present fly is quite distinct in many details of structure of the male hypopygium, especially both dististyles and the phallosome.

Molophilus Curtis

Molophilus (Molophilus) procax sp. n.

Belongs to the *gracilis* group and subgroup; general coloration black, evidently pruinose; antennae short; knobs of halteres obscure yellow; fore legs blackened, middle and posterior femora with bases broadly yellowish; wings with a strong brownish tinge; basal section of *R*₄₊₅ relatively short, only about one-third *R*₂₊₃; male hypopygium with the two dististyles subequal in length, of distinctive conformation.

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

Rostrum and palpi black. Antennae short, black throughout; flagellar segments cylindrical, with long coarse verticils that exceed the segments in length. Head black, pruinose.

Pronotum black, the scutellum and pretergites yellow. Mesonotum chiefly black, evidently pruinose, the surface of the unique type badly discolored; humeral region of praescutum restrictedly light yellow;

scutellum behind vaguely more reddened; mediotergite behind and the pleurotergite reddish brown. Pleura blackened, presumably pruinose in fresh specimens. Halteres with stem dusky, knob obscure yellow. Legs with fore coxae infuscated; remaining coxae yellow; trochanters yellow; fore legs blackened; middle and posterior femora with the bases broadly yellowish, the remainder blackened. Wings with a strong brownish tinge, vaguely more suffused in cell *M* adjoining vein *Cu*; prearcular field yellow; veins brown. Venation: Sc_1 ending about opposite R_2 ; basal section of R_{4+5} relatively short, only about one-third R_{2+3} ; petiole of cell M_3 about one-half longer than the gently sinuous *m-cu*; vein 2nd *A* ending nearly opposite the posterior end of *m-cu*.

Abdomen, including hypopygium, black. Male hypopygium distinctive; ventral lobe of basistyle slender, clavate; mesal lobe broader and slightly shorter, near apex with the margin produced laterad into a small blackened tooth. Both dististyles arising close together in the notch of the basistyle. Outer dististyle stouter, on outer half strongly sinuous, the apex produced into a slender upcurved spine; outer margin with a few coarse retrorse spinulae, the more basal ones larger; inner margin at beginning of the sinuous outer portion with numerous microscopic spinulae. Inner dististyle a slender simple rod, narrowed very gradually into a long straight spine, the outer surface of style for most of its length with appressed spinulae, the surface with further abundant setulae and a few long scattered setae. Phallosomic structure terminating in a small obtuse point; surface of plate with abundant setulae. Aedeagus elongate.

HABITAT: Mexico (Morelos). *Holotype*, ♂, Cuernavaca, altitude 5000 feet, June, 1945 (Krauss).

The only described species with which the present fly requires comparison is *Molophilus* (*Molophilus*) *retrorsus* Alexander, which has the male hypopygium entirely different in structure.

***Molophilus* (*Molophilus*) *bellona* sp. n.**

Belongs to the *plagiatus* group; size relatively large (wing, male, about 5 mm. or more); antennae of male elongate, the flagellar segments fusiform, with long outspreading verticils; general coloration of body almost uniformly dark brown; halteres obscure yellow; wings subhyaline, the color almost concealed by the unusually long and conspicuous trichia of the veins, these concentrated into patches along the cord; *m-cu* sinuous; male hypopygium with the basistyle an unusually long and slender, nearly straight rod, its apex slightly curved.

Male.—Length about 4–4.3 mm.; wing, 4.8–5.4 mm.; antenna, about 2–2.1 mm.

Rostrum and palpi dark brown. Antennae brownish black throughout, elongate in male, nearly one-half as long as body; flagellar segments elongate-fusiform, with whorls of long outspreading verticils at the thickest portion. Head dark gray.

Thorax almost uniformly dark brown, sparsely pruinose, especially on notum. Halteres obscure yellow. Legs with the coxae and trochanters testaceous yellow; remainder of legs chiefly dark brown to almost black. Wings with the ground subhyaline, almost concealed

by the unusually long conspicuous trichia on the veins, more concentrated on the cord to produce a vague spotted appearance; prearcular field a trifle paler. Venation: R_2 lying shortly beyond the level of $r-m$; petiole of cell M_3 about twice as long as the obliquely sinuous $m-cu$; vein $2nd\ A$ long and sinuous, ending about opposite one-fourth the length of the petiole of cell M_3 .

Abdomen, including hypopygium, brownish black to black. Male hypopygium with the beak of the basistyle acute. Outer dististyle unequally bifid at apex, the inner arm longer. Basal dististyle an unusually long slender rod, nearly straight, its apex slightly curved, the extreme base constricted.

HABITAT: Mexico (Morelos). *Holotype*, ♂, Harmsen's Place, Cuernavaca, altitude 5000 feet, July 16, 1930 (Dampf); M. F. 1689. *Paratopotypes*, 2 ♂♂, September 24, 1928; M. F. 1416; *paratype*, 1 ♂, Parque de Revolucion, in the bishop's garden, March 3, 1938; M. F. 1325.

This fly is allied to species such as *Molophilus* (*Molophilus*) *falx* Alexander, *M. (M.) subsagax* Alexander, and others, differing especially in the structure of the male hypopygium, particularly the basal dististyle.

***Molophilus* (*Molophilus*) *incognitus* sp. n.**

Belongs to the *plagiatus* group; general coloration light brown, sparsely pruinose; antennae (male) short, brown throughout; femora and tibiae obscure yellow, infuscated at tips; wings yellowish subhyaline, veins and trichia infuscated; male hypopygium with the arms of the outer dististyle unequal, the lower one stouter, strongly upturned at apex; basal dististyle a long gently curved blackened rod, narrowed to the acute tip.

Male.—Length about 4–4.5 mm.; wing, 4.5–5 mm.

Rostrum and palpi black. Antennae short, if bent backward scarcely reaching the wing root, brown throughout; flagellar segments oval, with long verticils. Head dark gray.

Pronotum yellowish brown; pretergites light yellow. Mesonotum almost uniformly light brown, sparsely pruinose; humeral region of praescutum obscure yellow; in cases, the scutellum vaguely brightened; suture between mediotergite and pleurotergite yellow. Pleura infuscated. Halteres weakly darkened, base of stem restrictedly yellow. Legs with the coxae and trochanters obscure yellow; femora and tibiae obscure yellow, broadly infuscated at tips; tarsi brownish black. Wings yellowish subhyaline, the ground much hidden by long brown macrotrichia; veins and trichia infuscated, the latter more or less concentrated along the cord. Venation: R_2 lying a short distance beyond the level of $r-m$; $m-cu$ oblique, about one-half the petiole of cell M_3 ; vein $2nd\ A$ relatively long and sinuous, ending about opposite the base of the petiole of cell M_3 .

Abdomen dark brown, including hypopygium. Male hypopygium with the beak of basistyle very slender, blackened. Outer dististyle with the arms unequal, the lower stouter, strongly upturned at apex. Basal dististyle a long simple gently curved blackened rod, enlarged at

base, very gradually narrowed to the acute tip. Aedeagus relatively short and slender.

HABITAT: Mexico (Morelos). *Holotype*, ♂, Cuernavaca, altitude 5000 feet, July 16, 1930 (Dampf); M. F. 1689. *Paratopotypes*, ♂♂, February 13-27, 1932 (C. C. Plummer); Dampf M. F. 2480, 2482, 2483, 2491; *paratypes*, ♂♂, Yautepec, altitude 3900 feet, July 17, 1930 (Dampf); M. F. 1697.

Most similar to *Molophilus (Molophilus) severus* Alexander, differing in all details of structure of the male hypopygium, including both dististyles and the aedeagus.

***Molophilus (Molophilus) telerhabda* sp. n.**

Belongs to the *plagiatus* group; size small (wing, male, 4.5 mm.); antennae short; mesonotum and pleura brownish gray; legs dark brown to black; wings with a weak brownish tinge; male hypopygium with the basal dististyle a very long delicate simple rod that terminates in about a dozen small acute spinules, arranged in a compact group at apex.

Male.—Length about 4 mm.; wing, 4.5 mm.; antenna about 1.1 mm.

Rostrum brownish gray, conspicuously hairy; palpi dark brown. Antennae short, dark brown throughout; flagellar segments subcylindrical, the ends truncated; longest verticils of more basal segments very long, fully three times the segments, those of outer segments shorter. Head light gray.

Pronotum brown; pretergites light yellow. Mesonotum chiefly dark brown, pruinose with gray; humeral region of praescutum more obscure yellow. Pleura dark plumbeous gray; dorsopleural region dusky. Halteres pale yellow. Legs with the coxae dark brown; trochanters obscure brownish yellow; femora brown, paler basally; remainder of legs passing through dark brown to black; a modified region at base of fore tibia. Wings with a weak brownish tinge, the prearcular and costal fields light yellow; veins pale brown, the trichia a little darker. Venation: R_2 lying a short distance beyond level of $r-m$; $m-cu$ straight, a little less than one-half the petiole of cell M_3 ; vein 2nd A relatively long, ending just beyond $m-cu$.

Abdomen, including hypopygium, dark brown. Male hypopygium with the beak of basistyle slender. Outer dististyle with the stem long and slender, arms unequal, the inner one slender and sinuous. Basal dististyle distinctive, appearing as a very long delicate simple rod that juts caudad beyond the level of the basistyle; outer half of approximately uniform diameter or beoming even thicker toward the tip, the apex terminating in about a dozen small acute spinules, their points directed straight outward; a few small setigerous punctures along style, chiefly on outer portion. Phallosome a small oval glabrous plate. Aedeagus elongate, slender, subequal in length to the basal dististyle.

HABITAT: Mexico (Guanajuato). *Holotype*, ♂, Irapuato, altitude 5820 feet, November 11, 1927 (Dampf); M. F. 1311.

Molophilus (Molophilus) telerhabda is very different from all other regional species of the genus, being most similar to species such as *M. (M.) ductilis* Alexander, yet quite distinct in the structure of the male hypopygium, especially the basal dististyle.