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# NEW SPECIES OF CRANE-FLIES FROM SOUTH AMERICA. PART XIV<sup>1</sup>

(Diptera: Tipulidae)

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Most of the species considered herewith are from Ecuador, Peru and Bolivia, with a few further forms from Guatemala and Paraguay. Individual acknowledgements are provided under the various species.

## Genus Austrolimnophila Alexander

#### Austrolimnophila (Mediophragma) paraguayana sp. n.

Mesonotal praescutum grayish yellow behind, the anterior half brown; femora yellow, the tips dark brown; wings whitish subhyaline, heavily patterned with brown; male hypopygium with the posterior border of the ninth tergite truncate or virtually so; outer dististyle bulbous on proximal half, the apex narrowed to a slender curved spine.

Male.—Length, about 12 mm.; wing, 11 mm.; antenna, about 2.2 mm.

Rostrum and palpi black. Antennae with the scape black, grayish pruinose; pedicel brownish black; flagellum much paler, brownish yellow; flagellar segments subcylindrical, with long conspicuous verticils, the longest about one-half longer than the segments. Head dark gray, the orbits narrowly clearer gray; anterior vertex narrow, less than one-half the diameter of scape; setae of head unusually long and conspicuous.

Pronotum broadly dark brown medially, the sides narrowly testaceous yellow. Mesonotal praescutum obscure grayish yellow behind, the anterior half brown, including also a clearly defined median stripe and vague indications of the anterior ends of the lateral pair; scutal lobes extensively infuscated, the median region somewhat paler; scutellum and a conspicuous triangular area on the mediotergite obscure yellow, the sides and posterior border of the latter broadly brown; pleurotergite extensively pale. Pleura chiefly brown, the propleura, dorsopleural membrane, meral region and adjoining part of the sternopleurite yellowed. Halteres elongate, pale yellow, the knob weakly Legs with the coxae and trochanters yellow, the fore infuscated. coxae somewhat darker; femora yellow, the tips rather broadly and conspicuously dark brown; remainder of legs pale yellow; claws simple. Wings whitish subhyaline, heavily patterned with brown, the areas in outer radial field, along cord and at origin of Rs larger and more solid; elsewhere the cells with abundant spots and dots, in places so dense as to become confluent; outer medial field more nearly free from darkening;

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veins brown, yellow in the restricted ground areas. Venation: Sc long,  $Sc_1$  ending a short distance beyond the fork of  $R_{2+3+4}$ ,  $Sc_2$  near its tip; Rs long, square at origin;  $R_2$  only about one-sixth as long as  $R_{1+2}$ ; cord oblique; supernumerary crossvein in cell  $M_1$  at near two-thirds the cell; petiole of cell  $M_1$  shorter than m; m-cu at near two-fifths the length of

cell 1st  $M_2$ .

Abdominal tergites dark brown, the posterior margins narrowly pale; sternites more brownish yellow, vaguely patterned with darker, especially at base and subterminally; hypopygium brownish black. Male hypopygium with the ninth tergite large, slightly narrowed posteriorly, the border truncate or virtually so, the margin thickened and darker in color. Outer dististyle bulbous on proximal half beyond the narrowed base, provided with numerous setae; apex of style narrowed into a slender curved black spine. Inner dististyle about equal in length, appearing as a sinuously twisted yellow blade, the apex obtuse. Each gonapophysis bent at a strong angle beyond midlength, the tip acute.

Habitat.—Central Paraguay. Holotype, &, Carlos Pfannel, October

20, 1919 (Ex Juan Foerster).

The other described members of the subgenus Mediophragma Alexander include Austrolimnophila (Mediophragma) bifidaria Alexander, A. (M.) caparaoensis Alexander, A. (M.) delectissima Alexander (subgenotype), and A. (M.) microspilota Alexander, all of southeastern Brazil. All species differ from one another in the coloration and especially in the pattern of the wings. The species that is most like the present fly is microspilota, differing in relatively slight features of coloration of the body, antennae and wings. The male sex of the latter fly is still unknown.

# Genus Hexatoma Latreille

## Hexatoma (Eriocera) esmeralda sp. n.

Size medium (wing, male, 9.5 mm.); head fiery orange; vertical tubercle very large; mesonotum chiefly dark brown, the center of the disk yellowish orange, this including the posterior part of the praescutum, center of the scutum and the scutellum; halteres and legs chiefly brownish black; wings broad, brown, the costal border and a major confluent area before cord yellow; veins unusually glabrous; cell  $1st\ M_2$  rectangular, basal section of  $M_3$  greatly reduced, m correspondingly long; basal abdominal segments obscure orange, the subterminal four segments brownish black; hypopygium orange.

Male.—Length, about 10 mm.; wing, 9.5 mm.; antenna, about

1.8 mm.

Rostrum brown; palpi black. Antennae (male) seven-segmented; scape fiery orange, pedicel obscure yellow, basal two flagellar segments obscure yellow, the outer ones infuscated; terminal segment about one-half the penultimate and a little longer than flagellar segments two or three. Head fiery orange; vertical tubercle very large, in part projecting cephalad over the antennal bases.

Pronotum dark brown. Mesonotal praescutum and scutum with the lateral portions extensively dark brown, the disk yellowish orange, including the posterior part of the praescutum, most of the scutum,

and the scutellum, parascutella dark; mediotergite brownish yellow, darker laterally. Pleura and pleurotergite brownish black; pteropleurite vaguely obscure yellow on ventral portion; dorsopleural membrane brownish black. Halteres brownish black. Legs with the coxae and trochanters brownish black; femora brown at either end, the intermediate portion vaguely paler; tibiae and tarsi brownish black. Wings broad, brown, conspicuously patterned with yellow, the latter including the costal border and a confluent quadrate yellow area before the cord, this extending caudad almost to vein Cu in cells  $R_1$ , R and M; veins brown, pale in the brightened areas, particularly in the costal field. Veins unusually glabrous, with a few scattered trichia on veins  $R_4$  and the distal section of  $R_5$ . Venation: Vein  $R_2$  subobsolete, shorter than  $R_{2+3}$ ; cell 1st  $M_2$  rectangular; basal section of  $M_3$  greatly reduced, m correspondingly long; m-cu about one-third its length beyond the fork of M.

Basal abdominal segments obscure orange, the first tergite more chestnut; segments five to eight brownish black; hypopygium orange.

Habitat.—Ecuador (Esmeraldas). Holotype, J., Rio Salimas, at

sea-level, February 15, 1950 (William Clarke-Macintyre).

Readily told from other regional members of the subgenus by the coloration, especially of the thorax and wings. It is closest to species such as Hexatoma (Eriocera) laticostata Alexander and H. (E.) magistra Alexander, yet quite distinct.

#### Genus Atarba Osten Sacken

## Atarba (Atarba) subdentata sp. n.

General coloration medium brown, the head darker; antennae (male) elongate, the flagellar segments with long outspreading verticils; legs yellow; wings brownish yellow, vaguely patterned with brown clouds and seams; Sc long, m-cu about two-thirds its own length beyond the fork of M; abdominal tergites dark brown, hypopygium yellow; male hypopygium with the outer dististyle blackened at tip, the usual spines of the outer surface much reduced, pale, the style merely scabrous; inner dististyle conspicuously dilated on outer end, the swollen part with a concentration of setae; aedeagus large, darkened, forming an obtuse mass.

Male.—Length, about 7 mm.; wing, 6 mm.; antenna, about 3.8 mm. Female.—Length, about 7 mm.; wing, 6 mm.

Rostrum brownish black; palpi black. Antennae (male) elongate, exceeding one-half the body; scape and pedicel testaceous yellow; basal flagellar segments dark brown, the outer ones paling to obscure yellow; segments elongate-cylindrical, with very long outspreading verticils scattered over the entire segment. Head brownish black.

Pronotum concealed. Mesonotum almost uniformly medium brown. Pleura infuscated dorsally, the ventral portion yellow. Halteres pale yellow. Legs with the coxae and trochanters yellow; remainder of legs yellow, the outermost tarsal segments vaguely more darkened; claws small, simple. Wings brownish yellow, vaguely washed with darker clouds, the most distinct being in the axillary region, at midlength of cells R and M, and somewhat darker areas at origin of Rs, cord and

outer end of cell 1st  $M_2$ ; prearcular and costal fields somewhat clearer yellow; veins yellow, infuscated in the patterned areas. Venation: Sc long,  $Sc_1$  ending about opposite four-fifths Rs,  $Sc_2$  weak to subevanescent, placed a short distance from tip of  $Sc_1$ ; Rs long, weakly angulated at origin, about two and one-half times m-cu; branches of Rs elongate, very gradually diverging at outer ends; cell 1st  $M_2$  small, subequal to vein  $M_4$ ; m-cu about two-thirds its own length beyond the fork of M.

Abdominal tergites dark brown, the sternites vaguely more yellowed; hypopygium yellow. Male hypopygium with the basistyles slender, not produced into lobes, with some of the outer setae very stout. Outer dististyle slender, widest at near midlength, the apex a curved blackened spine, with two or three small black spines on outer face back from the tip, the remaining outer surface with very weak pale roughenings only. Inner dististyle with the outer margin of distal end dilated, provided with abundant pale setae, the apex virtually glabrous. Gonapophyses obtuse, with smooth margins. Aedeagus a very large darkened mass, its outer end enlarged and more or less curved, the parts difficult to homologize. An appendage to the ninth sternite cannot be noted in the unique type male.

Habitat.—Bolivia. Holotype, ♂, Cristal Mayu, Chapare, altitude 1200 meters, October 15, 1949 (Luis E. Peña). Allotopotype, ♀, in

copula with the type.

Atarba (Atarba) subdentata is entirely distinct from all other species that have vein Sc elongate and with long outspreading verticils on the male antennae, including A. (A.) dasycera Alexander and A. (A.) religiosa Alexander. The patterned wings and structure of the male hypopygium, especially the dististyles and aedeagus, are quite distinct from all other regional species.

## Genus Elephantomyia Osten Sacken

## Elephantomyia distinction sp. n.

Size small (wing, male, 5 mm.); rostrum exceeding one-half the body, black throughout; thorax black, the pleura with a broad pale longitudinal stripe; antennae and legs black; tibial spurs lacking; wings grayish, conspicuously patterned with brown, including a partially complete marginal seam; *r-m* some distance before the fork of *Rs*; abdominal tergites brownish black, basal sternites weakly bicolored; male hypopygium with the aedeagus relatively stout, moderately sinuous, not forming a hairlike penefilum.

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

rostrum alone, about 3 mm.

Rostrum exceeding one-half the length of body, black throughout, including palpi. Antennae (male) about two-fifths the length of rostrum, black throughout; verticils long and conspicuous, even on the fusion-segment, the latter exceeding the next two segments combined. Head dark gray; anterior vertex narrow, about one-half the diameter of scape.

Thorax above almost uniformly blackened, sparsely pruinose, more so behind. Pleura black, with a narrow pale line across the dorsal

propleura and a broad conspicuous one on the sternopleura, reaching the halteres. Halteres with base of stem yellow, the outer half, with the knobs, brownish black. Legs with the coxae light brown; trochanters brownish yellow; legs black, the femoral bases narrowly more yellowed; tibial spurs lacking; claws small, simple. Wings gray, conspicuously patterned with brown, including the narrow costal border, involving cells C and Sc, continued as a marginal seam virtually around the wing, widest in the outer radial field, broken in cells Cu and 1st A and again in the axillary region; other dark seams at origin of Rs, cord and outer end of cell 1st  $M_2$ ; a less evident seam along vein Cu; veins brown. Venation:  $Sc_1$  ending just beyond r-m,  $Sc_2$  near its tip; r-m nearly its own length before the fork of Rs, the branches of the latter virtually parallel to one another throughout their lengths; cell 1st  $M_2$  rectangular, with m-cu shortly before midlength, subequal in length to the distal section of  $Cu_1$ ; cell 2nd A narrow.

Abdominal tergites brownish black; basal sternites weakly bicolored, pale brown basally, the apices broadly yellow, the latter color becoming more obscure outwardly; outer segments uniformly darkened. Male hypopygium with the outer dististyle a slender blackened glabrous rod, gently curved and unequally bidentate at tip, the lower or axial tooth stouter; inner dististyle a little longer, narrowed to the obtuse tip. Gonapophyses appearing as narrow flattened blades. Aedeagus relatively stout and only moderately sinuous, not forming a hairlike

penefilum, as in some species.

Habitat.—Bolivia. Holotype, &, Cristal Mayu, Chapare, altitude

1200 meters, September 26, 1949 (Luis E. Peña).

In its conspicuous wing pattern and the venation, as the position of r-m some distance before the fork of Rs, the present fly is more like the only described species of the subgenus Elephantomyina Alexander, supernumeraria Alexander, which differs in the subgeneric character of a supernumerary crossvein in cell R, and in all details of wing pattern. The species is entirely distinct from all other Neotropical members of the genus that have lost the tibial spurs.

#### Genus Teucholabis Osten Sacken

# Teucholabis (Paratropesa) fumidapicalis laetabilis subsp. n.

Male.—Length, about 7 mm.; wing, 6.6 mm.

Rostrum orange; palpi black. Antennae with the scape orange-yellow, the remainder brown; flagellar segments oval. Head orange.

Pronotum uniformly orange. Mesonotal praescutum orange, with a complete transverse black saddle shortly before the suture, the cephalic third of the sclerite similarly polished black; scutum orange, each lobe polished black; scutellum black, parascutella obscure orange; postnotum, including both the mediotergite and pleurotergite, black, only the ventral edge of the latter restrictedly orange. Pleura orange, the dorsal pteropleurite black, confluent with the major mass on the pleurotergite. Halteres with stem brown, knob light yellow. Legs with the coxae and trochanters orange; fore legs black, the femoral bases narrowly yellow; middle and posterior femora yellow, the tips narrowly brownish black, including about the distal sixth; tibiae darkened at base and tip,

the central portion broadly obscure yellow; tarsi black, the middle basitarsi vaguely more brightened; posterior basitarsi with about the proximal third moderately dilated. Wings with the ground subhyaline, patterned with dark and paler brown; the darkest color includes the arculus and origin of Rs, with most of the intervening cells C and Sc; a narrow seam over the cord, ending at Cu, in alignment with a much paler cloud at end of vein 2nd A; a second more broken band at level of origin of Rs, ending at vein 2nd A, a trifle more expanded in cell Cu; wing tip broadly paler brown, the inner margin almost at the fork of vein  $M_{1+2}$ ; veins pale brown, darker in the patterned areas, C, Sc and Rs before the stigma and the subbasal portions of veins Cu, 1st A and 2nd A clear light yellow. Venation: Rs ending about opposite two-fifths the length of Rs;  $R_2$  immediately beyond the fork of Rs,  $R_{2+3+4}$  thus extremely short or lacking.

Abdominal tergites black; sternites yellow, the extensive but illdelimited pocket of the fifth segment weakly darkened; ninth segment yellow, the styli abruptly black. Male hypopygium with the outer appendage of the basistyle longer and narrower than in lindneri. Inner dististyle with the outer lobe unusually slender, terminating in an acute

blackened spine.

Habitat.—Bolivia. Holotype, &, Cristal Mayu, Chapare, altitude

1200 meters, October 4, 1949 (Luis E. Peña).

Close to the typical form (from Amazonian Peru) which is still known only from the female sex. The two races are separated by the details of color.

## Teucholabis (Teucholabis) egens sp. n.

Belongs to the *melanocephala* group; mesonotal praescutum with the disk polished black, the humeral, posterior lateral and posterior median areas yellow; posterior sclerites of notum with a broad yellow central area; halteres infuscated; femora black, with an obscure yellow ring at near two-thirds the length, the fore pair brightened basally; wings whitish subhyaline, unpatterned except for the small brown stigma; abdomen of male with the sternal pocket of segment five with six rows of sensory pits; male hypopygium with the basistyle narrowed outwardly, the appendage placed at or before midlength of the mesal face; outer dististyle a straight rod, its apex vaguely bidentate; lower surface of aedeagus with a group of about sixteen setae.

Male.—Length, about 8.5 mm.; wing, 7.5 mm.

Rostrum moderately long, black; palpi black. Antennae black throughout; flagellar segments oval, shorter than the longest verticils.

Eyes very large; head above reddish brown.

Pronotum brown. Mesonotal praescutum with the humeral region and a spot on either side before the suture polished yellow, the remainder chiefly occupied by a polished black shield that reaches the lateral margin, the median area before the suture broadly yellow; posterior sclerites of notum broadly yellow, including the wide central region of scutum, the outer parts black; parascutella darkened; mediotergite yellow on cephalic half, darkened behind. Pleura and pleurotergite chiefly blackened, the pteropleurite and a ventral longitudinal stripe more silvery pruinose, the color produced by microscopic scales.

Halteres infuscated. Legs with the coxae reddish brown to brown; trochanters brownish yellow; femora black, with very vague indications of a yellow ring at near two-thirds the length, least distinct on the posterior legs; fore femora yellowed basally and with the ring more distinct; remainder of legs brownish black; posterior basitarsi dilated on about the proximal third. Wings whitish subhyaline, unpatterned except for the small brown stigma; veins brown, more brownish yellow in the prearcular and costal areas. Venation:  $Sc_1$  ending about opposite midlength of Rs,  $Sc_2$  at near one-fourth this length; branches of Rs generally parallel to one another for virtually their entire lengths; m-cu about one-third its length beyond the fork of M.

Abdomen dark brown, the sternites and hypopygium somewhat more brightened. Sternal pockets generally as in the *melanocephala* group, with a conspicuous pocket on sternite five, including six longitudinal rows of sensory pits, and a longitudinal row of about six setae on either side of the midline of sternite six. Male hypopygium with the basistyle narrowed apically, the tip more obtuse; appendage at or before midlength of the mesal face of style, relatively narrow, curved into the long black apical spine, the concave margin with a fringe of long yellow setae; mesal flange of style darkened, its margin coarsely crenate. Outer dististyle a straight rod, the apex vaguely notched or bidentate. Inner dististyle irregular in outline, its outer blade simple. Aedeagus with two setae on upper surface and a group of some 16 to 18 on the lower portion.

Habitat.—Bolivia. Holotype, &, Cristal Mayu, Chapare, altitude

1200 meters, September 24, 1949 (Luis E. Peña).

The only other allied species having unpatterned wings is *Teucholabis* (*Teucholabis*) *jivaro* Alexander, which has the coloration, sternal pockets, and the male hypopygium quite distinct.

# Teucholabis (Teucholabis) volentis sp. n.

General coloration of thorax black, the praescutum with three black stripes; head black; rostrum relatively long; halteres infuscated, the knob yellow; femora brownish yellow, the tips brownish black; posterior tibiae with the basal fourth moderately dilated; wings whitish, vaguely patterned, including the narrow tip and a narrow but more evident seam over the anterior cord; Sc long; male hypopygium with the appendage of the basistyle a flattened yellow blade, at apex bent at a right angle into a long black spine; outer dististyle bearing an acute lateral spine; lower lobe of inner dististyle extended into a point; aedeagus terminating in a sinuous reddish spine.

Male.—Length, about 6.5 mm.; wing, 5.8 mm.

Rostrum relatively long, nearly equal to the remainder of head, black throughout; palpi black. Antennae black; flagellar segments oval, shorter than the verticils. Head black, narrowed behind.

Pronotum above obscure yellow, narrowly darkened laterally. Mesonotal praescutum with the ground light brown, with three black stripes, the lateral pair crossing the suture onto the scutal lobes; posterior sclerites of notum chiefly black, the parascutella and suture between the mediotergite and pleurotergite pale. Pleura chiefly blackened, the ventral pteropleurite and meral region paler but scarcely

pruinose; dorsopleural region restrictedly pale. Halteres with stem infuscated, knob yellow. Legs with the coxae infuscated, restrictedly pruinose; trochanters brownish yellow; femora brownish yellow, the tips brownish black; tibiae yellowish brown, the tips and the tarsi darker brown; posterior tibiae with more than the basal fourth moderately dilated. Wings whitish, clearer in the basal and costal portions; a narrow and very poorly indicated dark seam over the cord, darker on the anterior cord, paler and more diffuse at end of vein 1st A; wing tip somewhat narrowly and poorly darkened; veins brownish black. Costal fringe (male) relatively conspicuous. Venation: Sc long, Sc1 ending about opposite three-fourths Rs, Sc2 far from its tip, at near one-third the length of Rs;  $R_2$  about one-half longer than  $R_{2+3+4}$ ; branches of Rs generally parallel for most of their length, Rs on outer fourth deflected strongly caudad, terminating at the wing tip; m-cu about twofifths to one-half its length beyond the fork of M.

Abdomen dark brown to brownish black, the posterior and lateral borders darker; hypopygium black. Pocket of sternite five of male including relatively few and scattered setae, these directed caudad. Male hypopygium with the appendage of the basistyle subterminal, appearing as a flattened yellow blade, narrowed at apex and bent at a right angle into a strong black spine; inner margin fringed with long yellow setae; marginal flange blackened, its edge coarsely lobed or toothed. Outer dististyle a powerful arm, at beyond midlength narrowed into a strong curved rod that terminates in an acute black spine, at point of narrowing with a small slender acute black spine; surface of style with abundant long coarse setae; near base of lateral spine with a concentration of setulae. Inner dististyle with the outer or principal blade bidentate; lower lobe blackened, extended into an acute point, the surface with about five strong setae. Aedeagus terminating in a sinuous reddish spinous point, before the spine with a pair of long setae above and a single one on lower edge.

Habitat.—Bolivia. Holotype, ♂, Cristal Mayu, Chapare, altitude 1200 meters, August 16, 1949 (Luis E. Peña).

The most similar regional species appears to be Teucholabis (Teucholabis) denuda Alexander, which differs conspicuously in the structure of the male hypopygium.

# Teucholabis (Teucholabis) rectangularis sp. n.

Mesonotum black, the lateral and humeral margins of the praescutum dull reddish; pleura black, striped longitudinally with silvery; knobs of halteres yellow; femora yellow, the tips abruptly blackened; wings subhyaline, unmarked except for the stigma and a paler brown seam on the anterior cord; sternal pocket of fifth abdominal segment of male large and conspicuous, consisting of abundant spinous points surrounding a central area; male hypopygium with the spine of the appendage of the basistyle strong, at a right angle to the axis; outer dististyle with a strong lateral spine; inner dististyle with a single developed apical spine.

Male.—Length, about 5 mm.; wing, 5.2 mm. Rostrum relatively long, slightly less than the remainder of head, black; palpi black. Antennae black throughout; flagellar segments oval,

shorter than the verticils. Eyes large; head black.

Pronotum above dark reddish brown, blackened on sides. notum black, the humeral and lateral margins of the praescutum dull reddish. Pleura black, with a broad silvery longitudinal stripe, more expanded on the posterior sclerites. Halteres with stem black, restrictedly obscure yellow at base, knob obscure yellow. Legs with the fore coxae darkened, the remaining coxae obscure yellow; trochanters yellow; femora yellow, the tips rather narrowly but abruptly blackened, including about the distal sixth or seventh; tibiae obscure yellow, the tips narrowly darkened; tarsi passing into black; posterior basitarsi narrowly dilated at proximal end. Wings subhyaline, very restrictedly patterned with darker, including the oval dark brown stigma and a vague paler brown seam over the anterior cord; prearcular field yellow; veins brown, the basal ones more yellowed. Venation: Sc long,  $Sc_1$  ending approximately opposite midlength of Rs,  $Sc_2$  about opposite one-fourth this length; branches of Rs generally parallel to one another,  $R_5$  near apex bent caudad to the wing tip, cell  $R_4$  being approximately four times as wide at margin as cell  $R_5$ ; m-cu about one-fourth its length beyond the fork of M.

Abdomen, including hypopygium, black. Sternal pocket of segment five large and conspicuous, including an extensive area of blackened spinous points directed chiefly mesad, the center of the area an elongate patch of microscopic scalelike points. Male hypopygium with the apex of the basistyle broken; appendage on mesal face remote from tip, stout, at apex bent into a right angle into a long straight spine, the inner edge of the rod with a fringe of long yellow setae. Outer dististyle stout on proximal two-thirds, thence narrowed into a more slender arm, at point of narrowing with a powerful erect spine; outer margin and the narrowed arm microscopically scabrous; setae of style relatively sparse. Inner dististyle with a single developed apical spine. Aedeagus with a pair of strong setae on upper surface and about three on the lower; apex of aedeagus narrowed into a slender spinous portion (the tip apparently broken).

Habitat.—Bolivia. Holotype, &, Cristal Mayu, Chapare, altitude

1200 meters, December 9, 1949 (Luis E. Peña).

The male hypopygium is generally similar to that of *Teucholabis* (*Teucholabis*) volentis sp. n., but all colorational features and the abdominal sternal pockets of the male are entirely different in the two flies.

# Teucholabis (Teucholabis) tactilis sp. n.

Head black; general coloration of mesonotum reddish yellow, the praescutum with three major black areas, the scutal lobes blackened; pleura obscure yellow, with a broad black longitudinal stripe; knobs of halteres light yellow; femora yellow, the tips blackened; wings with a vague yellow tinge, the tip narrowly infuscated, stigma oval, dark brown; abdomen black, the posterior borders of the segments restrictedly obscure yellow; male hypopygium with the outer dististyle a simple rod, narrowed into a spine at apex; inner dististyle with its outer blade terminating in two widely separated teeth; aedeagus terminating in a strong black spine.

Male.—Length, about 6.5 mm.; wing, 6.5 mm.

Rostrum black, about two-thirds as long as remainder of head; palpi black. Antennae black throughout; flagellar segments oval, well constricted, with a dense dark pubescence additional to the long

verticils. Head black, more pruinose behind.

Pronotum obscure yellow, blackened laterally. Mesonotum polished reddish yellow, with three major black areas, including the cephalic third of the usual median stripe and conspicuous lateral marks that virtually reach the lateral border; posterior sclerites of notum reddish yellow, each scutal lobe with a large polished black spot. Pleura obscure yellow, with a broad black longitudinal stripe over the dorsal sclerites, extending from the propleura onto the pleurotergite, passing above the root of the halteres; ventrad of this stripe an extensive silvery longitudinal area; ventral sternopleurite weakly darkened. Halteres brownish black, the apex of knob light yellow. Legs with the fore coxae weakly darkened, the middle and hind coxae, with all trochanters, yellow; a single (detached) leg remains, femora yellow, with about the outer fifth blackened; tibiae and tarsi black; since there is no modification of the basitarsus and from its relative length, it is presumed that this is a fore leg. Wings with a vague yellowish tinge, the prearcular and costal fields somewhat clearer yellow; stigma oval, dark brown; wing tip narrowly and vaguely infuscated; veins dark brown, brightened in the yellow fields. Venation:  $Sc_1$  ending about opposite midlength of Rs, Sc2 just before one-third this length; branches of Rs slightly divergent at outer ends; m-cu shortly beyond the fork of M.

Abdomen black, the posterior borders of the third and succeeding segments very narrowly and inconspicuously obscure yellow, more extensive on the sternites, the proximal two sternites yellow; segment nine yellow, the styli black. Male hypopygium with the basistyle blunt at tip, the appendage slightly subterminal in position, narrowed into a long terminal spine, fringed with long setae; mesal flange of style black, irregularly and coarsely toothed. Outer dististyle a simple rod, at apex narrowed into a spine. Inner dististyle with the outer blade very broad, flattened, terminating in two widely separated teeth; lobe of style relatively small and inconspicuous, terminating in a curved black spine, with about four long setae. Aedeagus terminating in a

strong black spinous lobe, its tip acute.

Habitat.—Guatemala. Holotype, &, Chicacao, El Naranjo, altitude

3800 feet, July 12, 1949 (T. H. Farr).

This fly is most similar to species such as *Teucholabis* (*Teucholabis*) furva Alexander, differing in all details of structure of the male hypopygium.

## Teucholabis (Teucholabis) podagra sp. n.

Head behind the antennal bases black, front and rostrum yellow; mesonotum polished black, covering virtually the whole praescutum; postnotum and pleura black, the latter with conspicuous silvery white areas above the middle and hind coxae; knobs of halteres light yellow; legs chiefly darkened; posterior tibia of male with a swollen area at near two-thirds the length; wings whitish subhyaline, patterned with brown; abdomen black, the incisures yellow; male hypopygium with the outer

dististyle bearing an acute spine before midlength; teeth of outer blade of inner dististive unequal.

Male.—Length, about 7.5 mm.; wing, 6.8 mm.

Rostrum short and stout, yellow; palpi brownish black. Antennae black; flagellar segments well constricted, especially the enlarged basal ones; verticils longer than the segments. Head brownish yellow

surrounding the antennal bases, the remainder black.

Pronotum light yellow. Mesonotal praescutum black, the extreme posterior border adjoining the suture reddish; scutum and scutellum with the ground reddish, the scutal lobes and basal part of scutellum blackened; postnotum and pleura black, the latter with conspicuous silvery white pubescent areas above the middle and hind coxae; dorsopleural membrane and region of the wing-root yellow. Halteres with stem black, knob conspicuously light yellow. Legs with all coxae and trochanters yellow; fore femora obscure yellow basally, the outer half more infuscated, the tip brownish black, tibiae and tarsi black; middle and hind femora yellow, tibiae brownish yellow, tarsi brownish black; posterior tibiae (male) at about two-thirds the length conspicuously swollen and provided with dense black setae, additional to the stronger ones that cover the segment; posterior basitarsi with the proximal third strongly dilated. Wings whitish subhyaline, patterned with brown; stigma oval, darker brown, confluent with a seam over the cord, reaching the margin at end of vein 1st A but paler; wing tip similarly pale brown, the inner edge virtually at the level of m; basad of cord with a darkened cloud at near midlength of veins Cu, 1st A and 2nd A; veins brown, those at extreme base more yellowed. Venation: Sc moderately long,  $Sc_1$  ending just before midlength of Rs,  $Sc_2$  nearly opposite one-fifth this length;  $R_{2+3+4}$  about one-third  $R_2$ ; cell  $R_4$  gently widened before midlength and strongly so at apex by the downward deflection of vein  $R_5$ ; cell 1st  $M_2$  narrow, gently widened outwardly; distal section of  $M_{1+2}$  arched; m-cu at the fork of M.

Abdomen black, the incisures yellow, very narrowly so on the outer segments, the pale color finally obliterated outwardly; eighth segment yellow; hypopygium black. Sternal pocket of segment five triangular in outline, the point directed cephalad, the center of the area very densely set with small sensory points, the margin with inwardly directed bristles; sternite six with a group of six to eight strong bristles on either side of the midline, directed mesad. Male hypopygium with the appendage of the basistyle subterminal in position, flattened and setiferous, at apex narrowed into a slender spine; flange of mesal face of style compact, the margin vaguely crenulate or erose. dististyle a slender rod, at apex abruptly narrowed into a spine, on lower margin before midlength with a longer slender spine. Inner dististyle with the apex unequally bidentate, the outer spine long and slender, gently curved, the inner spine shorter; basal lobe of style produced into a blackened spinelike beak, the surface with more than a dozen stout Aedeagus with the apical spine slender, only gently curved.

Habitat.—Guatemala. Holotype, J, Chicacao, El Naranjo, altitude

5100 feet, July 11, 1949 (T. H. Farr).

Readily distinguished from the other members of the subgenus that have a modified area on the posterior tibia of the male by the

coloration, wing pattern, venation, and structure of the male hypopygium. Such other species include Teucholabis (Teucholabis) elissa Alexander, T. (T.) stadelmanni Alexander, T. (T.) wighti Alexander, and some others, all being further differentiated among themselves in the details of structure of the dilated tibial area.

## Genus Gnophomyia Osten Sacken

## Gnophomyia (Gnophomyia) certa sp. n.

Belongs to the *tristissima* group; general coloration black, including the antennae, halteres and legs; thoracic pleura heavily pruinose; wings with a strong blackish tinge, more suffused along vein Cu and above the anterior cord; male hypopygium with the ninth tergite nearly square, the outer angles produced into stout lobes, the entire caudal border provided with abundant short black spines; mesal face of basistyle with two unequal rods, the basal one stout, terminating in an acute spinous point; outer spine small, its base narrowed and encircled by hyaline collarlike membrane; outer dististyle a long blackened glabrous rod; inner dististyle small, the apex shaped like a birds head and beak.

Male.—Length, about 5.5 mm.; wing, 5.7 mm.; antenna about 2.3 mm. Rostrum and palpi black. Antennae black throughout, relatively elongate, as shown by the measurements; flagellar segments long-subcylindrical, more narrowed outwardly, shorter than the longest

verticils. Head black, sparsely pruinose.

Thorax black, the notum sparsely pruinose, the pleura heavily so, particularly behind. Halteres and legs black, the coxae sparsely pruinose. Wings with a strong blackish tinge, more suffused along vein Cu in cell M and in cell  $R_1$ ; stigma long and narrow, darker brown; veins brownish black. Venation: Rs virtually straight, r-m at its fork; veins  $R_3$  and  $R_4$  virtually parallel to one another, a little more separated

at outer end; m-cu at near midlength of cell 1st  $M_2$ .

Abdomen, including hypopygium, black. Male hypopygium with the ninth tergite nearly square in outline, the caudal margin broadly emarginate, with the outer lateral angles produced; the entire margin is provided with abundant short black spines. Basistyle with the mesal face produced into two very unequal spines, the larger one basal, at apex narrowed into a strong spinous point, the surface of outer half with at least two powerful setae; second spine just before midlength of mesal face of style, its base abruptly narrowed and encircled by hyaline membrane. Outer dististyle a long blackened glabrous rod, gradually narrowed to the blunt tip. Inner dististyle small, narrowed at apex into a structure that is shaped like a bird's head and beak, the style with several coarse setae. Phallosome with a deep U-shaped central emargination.

Habitat.—Peru (Junin). Holotype, &, Chanchamayo, altitude

1100 meters, January 27, 1949 (J. M. Schunke).

The closest allies include Gnophomyia (Gnophomyia) permagica Alexander, G. (G.) petentis Alexander, and G. (G.) podacantha Alexander, all readily distinguished by the structure of the male hypopygium.

# Genus **Neognophomyia** Alexander Neognophomyia obtusilamina sp. n.

Mesonotum reddish brown, the postnotum dark brown; pleura yellow with a broad dorsal dark brown stripe; femora brownish yellow; wings subhyaline, very slightly patterned along the cord; male hypopygium with the tergal spines very strong and powerful, blackened; phallosome consisting of two large blackened obtuse plates that are not produced into spinous points.

Male.—Length, about 5.5 mm.; wing, 5.8 mm. Female.—Length, about 7.5 mm.; wing, 7 mm.

Rostrum yellow; palpi brown. Antennae dark brown; flagellar

segments oval, a little shorter than the verticils. Head yellow.

Pronotum infuscated medially, light yellow on the sides and on Mesonotal praescutum chiefly reddish brown, darker brown in front, the humeral region more yellowed; a vaguely indicated obscure yellow median vitta; scutal lobes and scutellum medium brown, parascutella paler; mediotergite and dorsal pleurotergite dark brown, this being the posterior extension of a nearly unbroken broad dorsopleural stripe; remainder of pleura yellow. Halteres with stem yellow, knob infuscated. Legs with the coxae and trochanters light yellow; femora brownish yellow, tibiae and tarsi a trifle darker; outer tarsal segments brown. Wings subhyaline, very slightly patterned, the only indication of darker color being a weak suffusion along cord and a deepening in color of the veins, at the cephalic part including the vague stigmal darkening; veins brownish yellow, darker in the clouded portions. Venation:  $Sc_1$  ending about opposite the slightly oblique  $R_2$ , long, being more than one-third Rs; vein  $R_4$  very decurved, ending just before the wing tip; m-cu nearly its own length beyond the fork of M.

Abdominal tergites dark brown; basal sternites yellow, the outer ones more infuscated; hypopygium brownish black. Male hypopygium with the tergal spines very strong and powerful, blackened. dististyle darkened, provided with about five strong setae, the outermost terminal in position. Inner dististyle a blackened flat plate. Phallosome consisting of two large obtuse blackened plates, not produced into

spinous points as in related forms.

Habitat.—Peru (Huanuco). Holotype, ♂, Fundo Sinchono, Cordillera Azul, altitude 1500 meters, August 23, 1947 (Schunke).

The closest allies of the present fly include Neognophomyia adara Alexander, N. cochlearis Alexander, N. consociata Alexander, and N. schildi Alexander, all of which differ from it and among themselves in the structure of the male hypopygium.

## Neognophomyia scaphoides sp. n.

Allied to scapha; mesonotum pale brownish yellow, vaguely patterned with pale brown, especially on the scutal lobes and scutellum; pleura with a broad dorsal stripe beginning on the propleura, passing above the halteres onto the pleurotergite and mediotergite; tips of femora infuscated; wings whitish subhyaline, very restrictedly patterned with brown, most evident as a seam along the cord; abdominal tergites brown, paler along the midline; male hypopygium with the tergal spines

long and powerful, blackened; inner dististyle a broadly flattened blade, its apex a more or less distinctly bifid blackened beak; phallosome a narrow central structure, at apex on either side with a recurved blackened arm that terminates in from two to four irregular teeth.

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

Rostrum testaceous yellow; palpi light brown. Antennae black throughout; flagellar segments long-oval, shorter than the verticils.

Head yellow.

Pronotum vellow above, darker on sides. Mesonotum almost uniformly pale brownish yellow, clearer yellow on sides, the disk vaguely patterned with very pale brown, most evident on the scutal lobes and scutellum. Pleura and pleurotergite yellow ventrally, the dorsal portion chiefly occupied by a broad brownish black longitudinal stripe beginning on the propleura, deepest in color on the anepisternum, passing above the root of the halteres onto the pleurotergite and posterior lateral parts of the mediotergite. Halteres obscure brownish yellow, the base of stem narrowly more brightened. Legs with the coxae and trochanters yellow; femora and tibiae obscure yellow to brownish yellow, the tips rather conspicuously infuscated; tarsi yellow, the outer segments passing into brown. Wings whitish hyaline, the prearcular and costal fields slightly more yellowed; a restricted brown pattern along the cord, most distinct at the cephalic or stigmal end; veins obscure yellow, darker in the clouded portions, including the outer end of cell  $1st\ M_2$ . Venation: Vein  $R_3$  relatively short and oblique, as usual in the genus, cell  $R_2$  at margin thus very narrow; vein  $R_4$  greatly decurved, ending at wing tip.

Abdominal tergites chiefly dark brown, paler along the midline to produce a rather evident stripe, most conspicuous on the basal segments; basal sternites chiefly yellow, the outer ones weakly infuscated; hypopygium darkened. Male hypopygium with the tergal spines strong and powerful, blackened. Outer dististyle a narrow yellow blade, gradually narrowed outwardly, at and near apex with three strong yellow setae, with one further isolated bristle at near two-thirds the Inner dististyle a broadly flattened blade, its apex a more or less bifid blackened beak; basal flange a broadly triangular blackened point, provided with several long strong blackened setae; setae of outer margin of style about seven in number. Phallosome somewhat as in scapha, appearing as a central narrow depressed structure, at apex on either side with a recurved narrowly blackened arm that terminates

in from two to four small irregular teeth.

Habitat.—Peru (Huanuco). Holotype, &, Fundo Sinchono, Cordillera Azul, altitude 1500 meters, August 14, 1947 (Schunke).

While somewhat similar to Neognophomyia scapha Alexander, of Ecuador, the present fly is quite distinct in all details of structure of the male hypopygium, especially of the phallosome.

# Genus Gonomyia Meigen

# Gonomyia (Gonomyia) platymeroides sp. n.

Mesonotum brown, sparsely pruinose, scutellum pale yellow; antennae black throughout; wings with a strong brownish tinge, the stigma and a seam behind vein Cu slightly more darkened; Sc1 just

beyond the origin of Rs, the latter subequal in length to vein  $R_{2+3+4}$  and less than twice  $R_3$ ; male hypopygium with the apical lobe of the basistyle very small, its apical setae exceeding the lobe in length; inner dististyle a broadly flattened disk, on outer margin near apex with a blackened tooth; phallosome consisting of two pairs of gonapophyses, the outer pair terminating in a strong spine, the inner ones expanded outwardly into weak blades.

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

Rostrum and palpi black. Antennae black throughout; flagellar segments relatively long, cylindrical, each with a single elongate verticil, unilaterally arranged, additional to a dense white pubescence. Head

dark blue gray, with orange markings on posterior portion.

Pronotum and pretergites whitened. Mesonotum brown, the surface more or less pruinose, especially on the median region of the scutum and on the mediotergite where a blue-green sheen is evident; scutellum pale yellow. Pleura and pleurotergite chiefly pale, the dorsal pleurites and ventral sternopleurite weakly more infuscated, leaving a pale longitudinal stripe. Halteres infuscated, the base of stem narrowly yellow. Legs with the coxae and trochanters pale; remainder of legs dark brown. Wings with a strong brownish tinge, the stigma and a seam behind vein Cu slightly more darkened; prearcular and costal fields a trifle more whitened; veins brownish black. Venation:  $Sc_1$  ending just beyond the origin of Rs,  $Sc_2$  before this origin; Rs subequal in length to  $R_{2+3+4}$  and less than twice  $R_3$ ; cell 1st  $M_2$  relatively small, closed; m-cu at fork of M.

Abdomen dark brown, the hypopygium a trifle paler. Male hypopygium with the apical lobe of basistyle very small, the terminal setae longer than the lobe itself. Two dististyles, the outer a long slender fleshy lobe, gently curved and very gradually narrowed to an acute needlelike point. Inner dististyle a broadly flattened disk, the outer margin near apex with a blackened tooth or projection; inner margin of disk evenly rounded, with relatively short setae but with no differentiated fasciculate ones. Phallosome consisting of a relatively small pale blade, subtended by two pairs of gonapophyses; outer apophyses slender, terminating in a strong spine that is subtended by paler membrane extending beyond the point of insertion of the spine; inner apophyses black, a little shorter, expanded outwardly into weak blades, the apex produced into a spine; surface of the expanded outer portion with abundant setae.

Habitat.—Peru (Junin). Holotype, &, Chanchamayo, altitude

1200 meters, January 20, 1949 (Schunke).

Most similar to Gonomyia (Gonomyia) platymera Alexander, which has the inner dististyle of the male hypopygium somewhat the same but differs in all other details of structure of the organ.

# Gonomyia (Neolipophleps) topoensis sp. n.

Belongs to the *falcifer* group; male hypopygium with the outer dististyle a strong blackened rod, its apex extended into a long glabrous point, the base more expanded, its surface microscopically scabrous; inner style produced into two unequal blackened spines, the pale outer portion with three fasciculate setae.

Male.—Length, about 4 mm.; wing, 4.3 mm.

Rostrum and palpi black. Antennae black, the basal segments variegated with obscure yellow; flagellar verticils of male very long.

Head above chiefly obscure yellow, variegated with brown.

Pronotum and pretergites light yellow. Mesonotum brownish gray, the central area of the scutum more reddish brown; posterior border of scutellum narrowly yellowed. Pleura ventrally dark brown, sparsely pruinose; a conspicuous white longitudinal stripe extending from and including the fore coxae, reaching the base of abdomen, passing beneath the halteres, bordered above by a narrow dark brown line; dorsal pleurites and dorsopleural membrane chiefly pale. Halteres with stem yellow, knob infuscated. Legs with the coxae and trochanters yellow; only the posterior leg preserved, femora yellow with a vague to scarcely indicated narrow brown subterminal ring; tibiae pale yellow, the tip narrowly dark brown; tarsi dark brown, the proximal part of basitarsi Wings grayish subhyaline, the prearcular and costal fields more whitened, including more extensive areas before and beyond the pale brown oval stigma; veins pale brown, whitened in the costal field, those comprising the cord a trifle darker. Venation: Sc short,  $Sc_1$  ending a distance before origin of Rs that is approximately equal to the latter vein; cell  $M_2$  open by the atrophy of the basal section of vein  $M_3$ ; m-cu at or close to fork of M.

Abdomen chiefly dark brown; hypopygium chiefly infuscated, the basistyles and inner dististyles extensively more yellowed. Male hypopygium with the outer dististyle a strong blackened rod, expanded at beyond one-third the length and thence narrowed into a long glabrous point; inner margin and surface of the expanded portion microscopically scabrous, the teeth larger and more conspicuous at the outer angle of the expanded part; a long straight spine at near midlength of basal part of stem. Inner dististyle produced into two unequal blackened spines, the paler outer part with three fasciculate bristles and a few other setae. Basistyle at apex produced into a small blackened conical point.

Habitat.—Ecuador (Tungurahua). Holotype, ♂, Upper Rio Topo, altitude 1500 meters, February 1949 (S. Velastegui, through Macintyre).

The closest relatives of the present fly include Gonomyia (Neolipophleps) falcifer Alexander, G. (N.) neofalcifer Alexander, and G. (N.) subfalcifer Alexander, all of which differ from the present fly and among themselves in the details of structure of the male hypopygium.

#### Genus Toxorhina Loew

#### Toxorhina (Ceratocheilus) vulsa sp. n.

General coloration gray, the praescutum with three virtually confluent brown stripes; legs black, including the tarsi; wings with a weak brownish tinge, the extreme base yellowed; veins dark brown; Sc relatively long, ending opposite one-third the length of Rs, the latter a trifle shorter than the basal section of Rs; anterior branch of Rs long and sinuous, at least twice as long as Rs; male hypopygium with the outer dististyle stout on the proximal two-thirds, the apex cylindrical, narrowed; inner dististyle with base enlarged, the outer half or more

narrowed; each arm of aedeagus flattened and with a strong carina on outer half.

Male.—Length, excluding rostrum, about 6.5 mm.; wing, 6.2 mm.; rostrum, about 5 mm.

Rostrum black, elongate, as shown by the measurements. Antennae black throughout. Head gray, the center of vertex extensively blackened.

Pronotum and cervical region dark gray. Mesonotum light gray, the praescutum with three virtually confluent ill-defined brown stripes, the scutal lobes similarly darkened. Pleura gray, variegated with darker, especially on the anepisternum and ventral sternopleurite; dorsopleural membrane dusky. Halteres with stem yellow, knob dark brown. Legs with the coxae gray; trochanters brown; remainder of legs black, including the tarsi, only the femoral bases restrictedly brightened. Wings with a weak brown tinge, the extreme base yellowed; veins dark brown. Venation:  $Sc_1$  ending about opposite one-third the length of Rs, the latter a trifle shorter than the basal section of vein  $R_5$ ; anterior branch of Rs long and sinuous, two or more times Rs itself;  $R_5$  not as strongly decurved at tip as in *superstes*; inner end of cell 1st  $M_2$  more pointed than in *superstes*.

Abdomen dark gray. Male hypopygium with the basistyle produced at apex into an elongate spine. Outer dististyle with the proximal two-thirds stout, thence suddenly narrowed into a more slender cylindrical portion, the tip obtuse and blackened. Inner dististyle with the base enlarged, setiferous, the outer half or more narrowed, the apex with a few microscopic setulae. Aedeagus with the arms flattened and with a strong carina running back from the acute tips for about

one-half the length.

Habitat.—Peru (Junin). Holotype, &, Chanchamayo, altitude

1200 meters, April 29, 1948 (Schunke).

The only similar described species is *Toxorhina* (Ceratocheilus) superstes Alexander, which differs in the venation and in the structure of the male hypopygium.