

## NEW OR LITTLE-KNOWN NEOTROPICAL TIPULIDAE (DIPTERA)

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The Neotropical crane flies discussed herewith are chiefly from Chile and Argentina where they were collected by Luis E. Peña, Oliver S. Flint and older collectors, Dillman S. Bullock and Anastase Pirion. The remaining species are from various countries including México, Guatemala, Colombia and Venezuela, as discussed and acknowledged under the respective species. I am greatly indebted to all of the various persons who collected this interesting series of Neotropical Tipulidae. Unless stated to the contrary, the types of the novelties are preserved in the Alexander Collection, to be permanently preserved in the Smithsonian Institution, Washington, D.C.

### TIPULINAE

#### Valdiviana ALEXANDER

*Valdiviana* ALEXANDER, Diptera of Patagonia and South Chile, 1:17 - 21, 1929.

T Y P E: *Valdiviana edwardsina* ALEXANDER (Chilean Subregión).

Other included species: *Valdiviana shannonina* ALEXANDER, *V. synempora* ALEXANDER; *V. neuquenensis* ALEXANDER.

#### Euvaldiviana subgenus new

Nasus lacking, apex of frontal prolongation of head truncate, with long coarse setae. Antenna (Fig. 2, female) 14-segmented, with five simple terminal segments, all with very long verticils, the longest more than twice the length of the segment; proximal seven segments with lower face strongly produced, gradually reduced on the (\*) Emeritus, University of Massachusetts, Amherst, Massachusetts, U.S.A. outer segments, scape elongate, approximately equal in length to the four basal flagellar segments. In *valdiviana* s.s., antennae of female with 12 segments, flagellar segments 1 - 6 produced, the terminal four simple. Vertical tubercle slightly developed.

Legs of type chiefly detached; tibial spur-formula apparently 0 - 1 - 1; claws simple. Wings (Fig. 1) generally as in other species in the genus, differing conspicuously in the petiolate cell M1 which is broadly sessile in the known species of the typical subgenus; m-cu long and unusually oblique in position, about three-fifths the distal section of Cu1. Ovipositor with both the cerci and hypovalvae long and straight, the cerci more slender.

Type of subgenus: the following species.

#### 1. *Valdiviana (Euvaldiviana) penaina* sp. n.

Size large, wing about 19 mm., general coloration of thorax gray, praescutum with four darker gray stripes that are narrowly bordered by darker brown, pleura with a longitudinal blackened stripe; wings brown, patterned with large whitened spots, cell M1 petiolate; abdomen obscure yellow, with broad lateral stripes, segments seven and eight chiefly brownish black.

Female: Length about 21 mm.; wing 19 mm.; antenna about 3 mm.

Frontal prolongation of head narrowly brown above, yellowed on sides and beneath; nasus lacking; palpi black, terminal segment shorter than the combined proximal three segments. Antennae (Fig. 2) black throughout, 14-segmented; scape elongate, subequal to the combined four proximal flagellar segments; 1 to 7 with ventral face strongly produced, progressively less produced on outer segments, outer five segments simple cylindrical, with long conspicuous verticils. Head obscure brownish yellow; vertical tubercle paler; posterior vertex dark brown, more pruinose on sides; median line paler, narrowed anteriorly.

Pronotum light brown. Mesonotal praescutum light gray with four darker gray stripes that are narrowly bordered by dark brown or brownish black, the border narrower and paler behind; scutum with lobes light brown, internally bordered by brownish black, median area more yellowed; scutellum brownish black medially, vaguely paler on central part, laterally pale, including the depressed parascutella; mediotergite light gray with a conspicuous brown central stripe, narrowed behind. Pleura gray, paler above, with a longitudinal blackened stripe extending from the propleura over the ventral anepisternum; posterior pleurites paler

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brown, sternopleurite clear gray; dorsopleural membrane obscure yellow. Halteres with stem brown, brightened at base, knob blackened with apex slightly whitened. Legs with coxae gray; trochanters obscure yellow; femora brown, tips darker brown; tibiae and tarsi brown, outer tarsal segments darker. Wings (Fig. 1) brown attractively patterned with large whitened spots, placed before origin of Rs in cell R; before and beyond the conspicuous dark brown oval stigma; basad of cord with cell C chiefly whitened, with further postarcular areas in all cells; other conspicuous separate white markings near outer end of cell M before m-cu and marginally in cell 1st A adjoining vein 2nd A; beyond cord with smaller whitened areas in cells M1, 1st M2, 2nd M2, M3 and M4, the largest in cell M1; linear whitened streaks in cells R3 and R5; veins brown, 1st A paler brown, veins comprising the cord chiefly whitened. Macrotrichia on veins C, Sc, R, and on outer radial and R5; veins brown, 1st A paler brown, veins; more sparse trichia on outer ends of Rs, M1 and M2.

Abdomen with proximal segments dark brown, succeeding segments chiefly obscure yellow with a broad lateral stripe that includes the ventral tergites and dorsal sternites; segments seven and eight chiefly brownish black; ovipositor and its basal shield more horn-yellow.

**H o l o t y p e :** female, Chile, Arauco, Nahuelbuta, Butamalal, 1100 - 1400 meters, January 23 - 31, 1954 (Peña).

This distinct fly is dedicated to Luis Peña Guzmán, outstanding collector of insects and distinguished student of the Neotropical Tenebrionidae. The species requires no further comparisons with any of the species listed under the genus earlier.

## 2. *Zelandotipula exserrata* sp. n.

Closest to *serratimargo*; antennae of male elongate, exceeding one-half the body length; male hypopygium with posterior border of tergite broadly emarginate; outer dististyle with a strong tooth at near midlength; margin not serrate; phallosome with gonapophyses long and narrow.

**M a l e :** Length about 16 mm.; wing 21 mm.; antenna about 9 mm.

Frontal prolongation of head obscure yellow above, clear yellow ventrally, sides broadly brown; nasus very long and slender; palpi dark brown. Antennae long, exceeding one-half

the body length; proximal three segments light yellow, second and third flagellar segments light brown, remaining segments darker brown, their extreme outer ends vaguely paler; each of the proximal flagellar segments placed on lower edge of the extreme outer end of the preceding segment; flagellar segments elongate, with abundant shorterect setae, as well as very sparse short verticils on lower face; terminal segment very small, long-oval. Head above chestnut brown laterally, with a more narrow yellow central line that is extended on to the base of the pronotum.

Pronotum yellow, narrowly brown medially and on ventral ends. Mesonotal praescutum cinnamon brown with four poorly indicated narrow obscure yellow stripes, lateral margins darker; scutal lobes obscure yellow, narrowly bordered by brown; scutellum darker brown; mediotergite brown, sides and posterior border light yellow, cephalic end vaguely brightened medially. Pleura dorsally light yellow, extending from pronotum to base of abdomen, broader and more diffuse behind, the stripe anteriorly beneath bordered by dark brown, becoming obsolete on the pleurotergite; ventral sternopleurite paler. Halteres slender, stem brown, narrowly yellowed basally, knob darker brown. Legs with coxae and trochanters yellow; femora yellowish brown, tips darker; tibiae and tarsi brown, outer segments slightly paler brown. Wings light brown, vaguely darker brown at stigma, origin of Rs and in extreme bases of cells R and M; no darkening in cell M as is the case in many species; veins light brown. Veins with exception of C and R glabrous. Venation: Rs relatively long, about one-half longer than m-cu; cell 1st M2 small.

Abdominal tergites light brown, sternites and hypopygium yellow. Male hypopygium (Fig. 5) with posterior border of tergite, t, boardly emarginate, the lobes with short black setae, longer and sparse at midline. Outer dististyle, d, with a strong tooth on margin at near midlength, the border beyond this without denticles; inner style with rostrum short and obtuse. Phallosome, p, with apophyses, g, short and obtuse.

In *serratimargo* (reference later), the border of the outer dististyle is conspicuously serrate; inner style with beak short and obtuse. Tergite scarcely emarginate, lobes very low. Phallosome with apophyses long and narrow. (Type Lake Atitlan, Guatemala; see **Great Basin Naturalist**, 30: 233, fig. 6, 1970).

**H o l o t y p e :** Male, Merida, Venezuela, 1883 (Coll. Wien).

The differences between the present species and *Zelandotipula serratimargo* ALEXANDER have been stressed above, including chiefly the antennae and male hypopygium.

### 3. *Zelandotipula wardiana* sp. n.

Size large (wing of female 33 mm.); general coloration of thoracic dorsum brown, the pleura with an anterior darkened stripe; legs chiefly yellow, the tips of femora pale brown; wings light yellow, restrictedly patterned with darker, including a broad brown seam along vein **Cu** and restricted darkened spots on outer half, including the origin of **Rs** and small marginal dots; a linear series of three dark dashes in medial field behind cell 1st **M2**; cell **M1** sessile.

**F e m a l e :** Length about 28 mm.; wing 33 mm.; antenna about 4.8 mm.

Frontal prolongation of head subequal in length to remainder of head, obscure yellow above, ventral half light brown, nasus elongate. Mouthparts brown, palpi with proximal three segments yellowish brown, terminal segment darkened, outwardly paling to obscure yellow. Antennae 13-segmented (Fig. 4); scape and pedicel brownish yellow, flagellum light yellow, terminal segment black; segments cylindrical, the proximal three with sparse short pale setae; outer segments with pale microscopic setulae only, these scarcely evident except under magnification; terminal segment with a few stronger setae.

Pronotum light yellow, pleura with a dark brown stripe that includes the base of the fore coxae. Mesonotal praescutum with three nearly confluent brown stripes, the vague yellow interspaces with short yellow setae, humeral region obscure yellow; each scutal lobe with two confluent areas, chestnut brown with darker borders, median region and posterior lateral ends of lobes obscure yellow; scutellum brownish gray, with long yellow setae, parascutella light yellow; mediotergite pale brown, with very long yellow setae, sides and pleurotergite yellow. Pleura in type discolored, apparently obscure yellow below and posteriorly, with a darkened stripe on anterior sclerites of the mesopleura. Halteres with the long slender stem yellow, knob broken. Legs with coxae yellow, with long pale setae; trochanters yellow; femora yellow with pale brown apices; tibiae and proximal tarsal segments yellow, tips

of the latter narrowly blackened, remaining segments brownish black to black. Wings (Fig. 3) chiefly light yellow, proximal half with the cephalic prearcular region and a broad seam along vein **Cu** light brown; smaller dark brown areas at origin of **Rs** and as small marginal spots on longitudinal veins from the free tip of **Sc2** to **2nd A**, all such spots very small, virtually lacking on **R4+5**; three more conspicuous linear brown lines including the basal section of vein **M3**, with smaller lines in bases of cells **M1** and **2nd M2**, these three marks being in longitudinal alignment, the latter two with vein-like inclusions; veins yellow, inconspicuous against the ground, pale in the darkened areas. Vestiture of wing veins microscopic or lacking, the setae of both the costal and posterior margins very short and inconspicuous; Veins glabrous except for abundant small trichia on veins **R** and **R1**. Venation: Anterior cord oblique; cell **M1** narrowly sessile; **m-Cu** shortly before fork of **M3+4**

Abdominal tergites almost uniformly light brown, lateral borders more yellowed; sternites yellow, darkened laterally. Ovipositor with cerci relatively broad on proximal two-thirds, thence narrowed to the obtuse tips.

**H o l o t y p e :** female, Colombia, Magdalena; 18 Km. east of San Pedro, 3750 meters, on paramo, at light; 10°-54'N. Lat.: 73°-53' W. Long.: December 18, 1973 (Philip Ward).

This striking species is named for the collector, Dr. Philip Ward, University of Sydney, Sydney, Australia. The most similar Neotropical species include *Zelandotipula fassliana* (ALEXANDER), of Bolivia; *Z. uniatra* (ALEXANDER), Perú, and *Z. vulpes* (ALEXANDER), Brazil, all differing in the coloration of the wings and very evidently in the petiolate cell **M1** of the wings.

### 4. *Tipula (Eumicrotipula) arenae* sp. n.

General coloration of thorax light gray, praescutum with four brown stripes, dorsopleural membrane obscure yellow; legs with femora and tibiae yellow, tips dark brown; wings whitened, with four brown subcostal areas that are less extensive than the interspaces; remainder of wings with an abundant paler brown marbled pattern that is subequal in extent to the ground interspaces, posterior half of cell **R** unpatterned; proximal abdominal tergites brown with a narrow darker brown central stripe, outer segments more uniformly darkened; male hypopygium with posterior border of tergite very shallowly concave; inner distis-

tle with a dorsal crest of very long yellow setae; eighth sternite unusually glabrous, with a very small apical lobe, suboval in outline, the apex truncate.

**Male:** Length about 17 mm.; wing 15 mm.

Frontal prolongation shorter than remainder of head, light gray above, pale brown on sides; nasus small, obtuse, slightly longer than broad; basal segment of palpus brownish yellow, remainder broken. Antennae with scape brown, sparsely pruinose, pedicel light yellow; flagellum broken. Head light gray, with a very narrow blackened median line extended backward from behind the conspicuous oval vertical tubercle.

Pronotal scutum very small, medium brown, slightly light gray pruinose, scutellum yellowed. Mesonotal praescutum light gray with four brown stripes, intermediate pair widened and contiguous anteriorly, lateral pair shorter; scutum light gray, each lobe with two separate brown areas, the anterior one small, oval; scutellum darkened, sparsely pruinose, parascutella yellow, depressed on medial half; postnotum light gray. Pleura light gray; dorsopleural membrane obscure yellow. Halteres with stem yellow, base of knob more darkened. Legs with coxae gray; trochanters obscure yellow; femora light yellow, tips dark brown; tibiae yellow, tips similarly darkened, about one-third as extensive as the femora; basitarsi yellowed; remainder of tarsi broken. Wings whiteened, cell **Sc** very slightly more yellowed, with four brown areas that are less extensive than the interspaces, not reaching veins **Sc** or **M**; remainder of wings with very pale brown markings, subequal to or slightly smaller than the ground interspaces; posterior half of cell **R** unpatterned; veins light brown. Longitudinal veins with trichia beyond the general level of outer end of cell **1st M2**. Venation: **Rs** long, about three times **R2+3**; **M3+4** about one-third the basal section of vein **M3**.

Abdominal tergites medium brown, with a narrow darker central stripe, lateral borders less evidently darkened, terminal segments more uniformly infuscated. Male hypopygium (Fig. 6) with the tergite, **t**, broadly transverse, widest at near midlength, posterior border very shallowly concave, lateral lobes small, with a low darkened basal ridge. Basistyle, **b**, very small, the lobe unusually reduced. Outer dististyle, **d**, small, vestiture of outer end sparse and inconspicuous; inner style with apex

unequally trilobed; dorsal crest a row of very long yellow setae, the longest about one-half the width of the style opposite their insertion. Phallosome, **p**, with aedeagus, **a**, small, outer half slender, gonapophyses, **g**, short and broad, apical lobe truncate. Eighth sternite, **8s**, virtually without vestiture, transverse, gradually narrowed outwardly, apical emargination deep, bearing a single small lobe, suboval, apex truncated; sternite dusky, the apex and a central line pale, at base on either side with a small point, vestiture of lobe very small and delicate.

**Holotype:** male, Punta Arenas, Magallanes, Chile, January 13, 1966 (OLIVER S. FLINT).

Other regional species having the marbled wing pattern and with the hypopygial structure generally as in the present fly include *Tipula (Eumicrotipula) antarctica* ALEXANDER, T. (E.) *magellanica* ALEXANDER, and T. (E.) *tehuelche* ALEXANDER, all differing among themselves in hypopygial details. *Tipula pic-tipennis* WALKER was described from a single female, differing from the present fly in the coloration of the legs. The type of this species is lost (see Alexander, Diptera of Patagonia and South Chile, I, crane-flies, p. 35: 1929).

##### 5. *Tipula (Eumicrotipula) coloptera* sp. n.

Subapterous in the female sex; general coloration of thorax obscure yellow, praescutum with four brown stripes; legs with femora obscure yellow, tips broadly brownish black; wings of male light brown, with certain veins seamed with brown, cells with brown, cells with dark and whitened areas; abdomen yellow, striped longitudinally with brown; male hypopygium with tergite large, outer lateral angles produced into obtusely rounded lobes; outer dististyle with outer end expanded; eighth sternite small, with a conspicuous median lobe.

**Male:** Length about 15 mm.; wing 18 mm.; antenna about 5.8 mm.

**Female:** Length about 20 mm.; wing 3 mm.; antenna about 3 mm.

**Male:** Frontal prolongation of head obscure yellow, slightly more darkened dorsally, nasus elongate; palpi with basal segment obscure yellow, remainder brownish black to black, terminal segment about twice the length of the penultimate. Antennae with scape and pedicel light yellow, first flagellar segment narrowly yellowed basally, remainder brownish black, outer segments black; verticils shorter than the segments. Head above with posterior half brown, anterior vertex with a narrow brown

central line, remainder and the narrow orbits obscure yellow pollinose; vertical tubercle small.

Pronotum light brown. Mesonotal praescutum glabrous; ground color obscure orange yellow, with four brown stripes, the central pair slightly widened at midlength, lateral borders and an area at the pseudosutural foveae pale brown; scutum chiefly brownish black, laterally pruinose; scutellum gray with a central brown spot, parascutella polished brownish yellow; postnotum light gray, with a linear darkened central line, pleurotergite light brown. Pleura pale gray, with vague light brown areas. Halteres elongate, light yellow, apex of knob light brown. Legs with coxae light gray; trochanters yellow; femora obscure yellow, tips broadly brownish black; tibiae light brown, tips slightly darker; tarsi black, claws small, simple. Wings with cells **C** and **Sc**, with the stigma, uniformly light brown; remainder of ground chiefly light brown, most veins narrowly seamed with darker brown; more evident brown clouds and seams in cell **R** at base and as a seam ending at origin of **Rs**; cord; more extensive darkenings in outer two-thirds of cell **M**, interrupted by a large whitened area; other darkenings in extreme bases of cells **R** and **M** and more extensively in cell **Cu**; conspicuous pale areas in outer half of cell **R5** and more basally in cells **R** to **2nd A**; outer two-thirds of cell **R5** and the narrow bases of outer radial cells less conspicuously pale; veins brown, whitened over the cord. Outer rveins chiefly glabrous, with trichia on veins **R3**, most of **R4+5** and sparsely on **M1** and **M2** except basally; both Anal veins with trichia at outer ends. Venation: **Rs** long, nearly three times **R2+3**; petiole of cell **M** about one-half **m**; basal section of **M3+4** subequal to **m**, **m-cu** shortly before its fork.

Abdominal tergites obscure yellow with a vague pale brown central stripe and conspicuous brownish black nearly marginal stripes; sternites yellow, outwardly with vague narrow lines, the lateral pair more concealed; hypopygium brownish yellow. Male hypopygium (Fig. 7) with tergite, **t**, large, outer lateral angles produced into obtusely rounded lobes provide with long pale setae, remaining setae small but numerous. Basistyle, **b**, with ventrocaudal lobe small, nearly circular, with abundant pale setae. Outer dististyle, **d**, straight, expanded outwardly, apex obliquely truncated, with short pale setae; inner style broad, apex with two short lobes, margins blackened. Eighth sternite, **8s**, small, the length subequal

to the conspicuous median lobe, the latter broad on proximal half, narrowed to the subacute apex, with abundant inconspicuous pale setae.

**Female**: Body coloration generally as in the male. Head with frontal prolongation dark brown above, ventral half paler brown, orbist light gray pruinose. Praescutum with ground color slightly more obscure brownish yellow, the darkened pattern almost as in male. Legs shorter and stouter, coloration generally as in male. Wings much reduced, broad-based; generally coloration obscure yellow, veins and adjoining membranes conspicuously brown. Venation very distorted.

Basal abdominal segments yellow, tergites with three continuous brown stripes, the dorsal midline paler than the sublateral stripes, outer segments brownish gray. Ovipositor with valves long and straight, cerci very slender, hypovalvae shorter.

**Holotype**: Male, Guatemala, 25 km. northwest of San Marco, Sierra Madre, 3052 meters, May 25, 1973 (Terry L. Erwin and Gary F. Hevel). Allotopotype, female, with type. Additional specimens in the United States National Museum. Materials from Dr. F. Christian Thompson, National Museum.

There are a small number of Neotropical species in the subgenus *Eumicrotipula* where subapterism occurs, in cases involving both sexes but more commonly in the female only. Species presently known having subapterous females include *Tipula* (*Eumicrotipula*) *michoacana* ALEXANDER, Mexico; *T. (E.) schachovskoyi* ALEXANDER, Argentina, and three Chilean species, *T. (E.) apterogyne* PHILIPPI, *T. (E.) dimorpha* ALEXANDER, and *T. (E.) kuscheii* ALEXANDER. The most interesting of all such species presently known is *T. (E.) phalangioides* ALEXANDER, found at very high altitudes in the Ecuadorian Andes. In this species both sexes have the wings greatly reduced, appearing as tiny pads that are approximately one-half the length of the halteres. This fly was discovered by Professor F. Martin Brown and Mrs. Brown and has been discussed in some detail - Ann. Mag. Nat. Hist., (11) 12: 16 - 18, 1945, and Rev. Ecuat. Ent. Par., 1: 7, 1953. The present species is quite distinct from all previously known members of the subgenus.

#### 6. *Tipula* (*Eumicrotipula*) *tainoleuca* sp. n.

Size medium (wing, female, 19 mm.); thorax with praescutum light gray, with four

darker stripes, central pair widely separated, lateral stripes straight; legs with femora yellow with a conspicuous dark brown subterminal ring; wings with proximal two-thirds almost uniformly pale yellowish brown, beyond the cord with a complete transverse white band extending from costa to the posterior border in cell **M3**; proximal abdominal tergites light yellow with a broad central brown stripe, outer segments more darkened; ovipositor with cerci straight, long and very slender.

**F e m a l e :** Length about 22 mm.; wing 19 mm.; antenna about 3.8 mm.

Frontal prolongation subequal in length to remainder of head, dark brown dorsally, more pruinose at base, lower half paler brown; nasus short, tipped with long setae, remainder of dorsum excepting the base with numerous shorter black setae; palpi brownish black, terminal segment paler brown, longer than the combined basal segments. Antennae with scape, pedicel and firts flagellar segment yellow, succeeding three segments bicolored, yellow, base more narrowly dark brown; outer segments slender, uniformly dark brown; intermediate segments slightly longer than their verticils. Anterior vertex surrounding the antennal bases light yellow, remainder of head light gray with a capillary brown median vitta; vertical tubercle small and low.

Pronotum light brown. Mesonotal praescutum light gray, with four separate stripes, the lateral pair darker, straight; vague pale brown lateral areas surrounding the small sub-oval pseudosutural foveae; scutal lobes gray, vaguely patterned with brown suffusions; scutellum and mediotergite with conspicuous pale setae. Pleura with mesopleura chiefly light gray, posterior pleurites more yellowed, vaguely patterned with brown, more evident on lower half of meron. Halteres with stem yellow, knob brown. Legs with coxae brownish yellow, vaguely pruinose; trochanters yellowish brown; femora yellow with a conspicuous subterminal dark brown ring, slightly more extensive than the pale apex; tibiae yellow, tips vaguely darker; tibial spur long and very slender; claw very small, simple. Wings with proximal two-thirds almost uniformly pale yellowish brown, basad of cord unpatterned except for a very narrow brown seam along vein **Cu** in cells **M** and **M4**; stigma oval, dark brown, paler in costal cell; a small vague darkened cloud over the fork of **Rs**; cells beyond cord and stigma light brown, basally with a broad entire whitened crossband extending from costa to the poste-

rior border in cell **M3**, including the bases of outer radial and medial cells and all of cells 1st **M2** and **M3**; veins brown, only slightly paler in the whitened band. Macrotrichia on longitudinal veins beyond general level of origin of **Rs**, lacking on **m-cu** and the veins comprising cell 1st **M2**; vein 1st **A** glabrous, 2nd **A** with trichia on about the distal half. Venation: **Rs** long, nearly equal in length to the radial veins beyond it; petiole of cell **M1** slightly shorter than **m**; cell 1st **M2** short-pentagonal; **m-cu** at fork of **M3+4**.

Proximal five abdominal tergites extensively light yellow laterally, with a broad virtually continuous central brown stripe, very inconspicuously interrupted by yellow at and near the posterior borders of the segments; outer segments more extensively brown; basal sternites yellow, beyond the second becoming more brownish gray, genital segments light brown. Ovipositor with cerci straight, long and very slender, much exceeding the compressed-flattened hypovalvae.

**H o l o t y p e :** female, Carama-vida, Arauco, Chile, 1100 - 1300 meters, January 8, 1954 (Peña).

The present fly is most readily told by the distinctive wing pattern, especially the virtually unpatterned pale yellow proximal two-thirds of the wing and the broad entire white band beyond the cord. Somewhat similar regional species include *Tipula (Eumicrotipula) reedi* ALEXANDER, T. (E.) *triemarginata* ALEXANDER, and T. (E.) *wittei* ALEXANDER, all best separated by the wing pattern and in details of body coloration.

#### 7. *Tipula (Bellardina) fuscolimbata* sp. n.

Size large (wing of male about 24 mm.); thoracic praescutum orange-yellow with four brownish gray stripes that are narrowly margined by brown; remainder of thorax patterned by brown; legs with femora light brown, apices darker brown, preceded by a narrower yellow band; wings light yellow, conspicuously patterned with brown, outer radial field, including cells **R2** and **R3**, with outer half uniformly darkened, including vein **R4+5**, cell **R5** white; male hypopygium with outer dististyle pale, outer margin fringed with long yellow setae; inner style with the slender beak conspicuously blackened.

**M a l e :** Length about 22 - 23 mm.; wing 23 - 24 mm.; antenna about 4.5 - 5 mm.

Frontal prolongation of head brownish yellow, vaguely pruinose above; nasus elonga-

te; palpi brownish black. Antennae with scape elongate, brownish yellow; succeeding segments yellow, basal enlargements of flagellar segments weakly darkened; longest verticils approximately three times the segments. Head yellowish gray, clearer yellow anteriorly; vertex with a narrow brown central stripe and with darkenings on sides of posterior vertex.

Pronotum yellow, the elevated central part brown, with smaller lateral areas. Mesonotal praescutum with ground obscure orange yellow, with four brownish gray stripes that are narrowly bordered by dark brown, lateral margins narrowly yellow; scutal lobes gray with continuous narrow brown borders, median area paler gray; scutellum brown medially, parascutella yellow; postnotum gray, mediotergite with a narrow brown line, pleurotergite brownish gray to dark brown, the elevated ridge silvery white. Pleura chiefly pale, with a conspicuous dark brown longitudinal stripe extending from cervical region to abdomen, dorso-pleural region abruptly light yellow; ventral pleurites paler brownish gray, patterned with yellow. Halteres with stem light yellow, knob dark brown. Legs with coxae light gray, patterned with light brown; trochanters yellow; femora light brown, apices broadly darker brown, preceded by a narrower yellow band; tibiae and basitarsi yellowed, remainder of tarsi dark brown. Wings with the restricted ground whitened to light yellow, including a narrow arcuated band before cord and broader areas in cells **Cu** and **1st A**, separated by restricted darkened markings; beyond the cord the outer radial field uniformly brown, involving the outer halves of cells **R2** and **R3** and including outer three-fifths of vein **R4+5**; cell **r5** and bases of cells **R2** and **R3** almost uniformly white; veins **M1** to **M4** with brown marginal spots separated by a whitened area; vein chiefly brownish yellow, outer medial veins light yellow. Venation: Basal section of vein **R2** distinct; **m-cu** close to fork of **M3+4**.

Abdomen chiefly brown, slightly gray pruinose, tergites narrowly light gray laterally, with faint submarginal darker brown markings; hypopygium light brown. Male hypopygium (Fig. 8) with posterior border of tergite, **t**, broadly and very shallowly emarginate. Dististyles, **d**, as shown; outer style, **od**, pale, outer margin fringed with long yellow setae; inner style, **id**, with the slender beak conspicuously blackened.

**H o l o t y p e :** male, Mexico, Los Cruces National Park, Distrito Federal, Mexico City-Toluco Road, 3100 meters, July 13, 1966

(Oliver S. Flint, Jr.). Along small streams in grassy mountain meadows with shrubby banks, in stands of *Pinus montezumae* and *Abies religiosa*. Paratopotype, male.

**Tipula (Bellardina) fuscolimbata** is most similar to species such as *T. (B.) craverii* BELLARDI and *T. (B.) larga* ALEXANDER, differing in hypopygial structure and in the wing pattern, especially the blackened vein **R4+5**.

## L I M O N I I N A E

### 8. *Limonia (Dicranomyia) prolixistyla* sp. n.

General coloration of thorax orange brown to orange; antennae and mouthparts dark brown; halteres elongate; wings weakly infuscated, stigma scarcely darker, vein **Sc** short; male hypopygium with ventromesal lobe of basistyle very large, about one-third more extensive than the body of the style; aedeagus narrow; gonapophyses broad, mesal-apical lobe a short curved spine.

**M a l e :** Length about 6.5 mm.; wing 5.8 mm.; antenna about 1.2 mm.

Rostrum and palpi dark brown. Antennae dark brown; flagellar segment oval, the terminal one more slender. Head dark brown, very sparsely pruinose; anterior vertex relatively broad, about four times the diameter of the antennal scape.

Pronotum dark brown above, sides yellowed. Mesonotal praescutum with three confluent orange stripes on disk, sides narrowly yellowed; scutal lobes orange brown, restrictedly darker anteriorly; scutellum light yellow; postnotum orange. Pleura orange, propleura and sternopleurite darker. Halteres elongate, dark brown, base of stem narrowly light yellow. Legs with coxae and trochanters yellow; remainder of legs brown. Wings (Fig. 9) weakly infuscated, stigma scarcely darker; veins medium brown. Longitudinal veins beyond cord with short trichia. Venation: **Sc** short, ending a distance before origin of **Rs** nearly one-half the length of the latter; veins **M3+4** and **M4** subequal; **m-cu** nearly at fork of **M**.

Abdomen dark brown, proximal sternites slightly more yellowish brown. Male hypopygium (Fig. 15) with tergite, **t**, transverse, posterior border very shallowly emarginate, lobes unusually low, setae of moderate length. Basistyle, **b**, with body small, ventromesal lobe very large, about one-third more extensive

than the body of the style. Dorsal dististyle, **d**, long and slender, outer third very strongly curved, the acute apex recurved; ventral style where accommodating the dorsal style emarginate; rostral prolongation narrow, with two slender black spines that narrow into hairlike tips. Gonapophyses, **g**, broad, mesal-apical lobe appearing as a short curved spine. Aedeagus, **a**, unusually slender, terminating in a very small caplike lobe.

**H o l o t y p e :** male, South Chile, Río Tres Brazos, Magallanes, January 9, 1966 (Oliver S. Flint, Jr.).

The present fly is readily told by the short vein **Sc** of the wings and in hypopygial details, especially the very large ventromesal lobe of the basistyle, suggesting the specific name. *Limonia (Dicranomyia) trilobifera* ALEXANDER has a somewhat similar lobe on the basistyle but differs evidently in other hypopygial characters, including the ninth tergite.

#### 9. *Limonia (Geranomyia) podomelania* sp. n.

General coloration of entire body dull black; rostrum unusually long, nearly one-half the wing, labial palpi very slender; legs black, femoral bases narrowly obscure yellow; wings with veins posterior to vein **R** without trichia or virtually so; **Sc** relatively long, **Sc**<sub>1</sub> ending about opposite one-fourth to one-fifth **Rs**.

**F e m a l e :** Length, excluding rostrum, about 7.5 mm.; wing 7 mm.; rostrum about 3.1 mm.; antenna 2mm.

Head and appendages dull black. Rostrum unusually long, especially the very slender labial palpi that are nearly one-third longer than the antennae; maxillary palpi 2-segmented, outer segment long-oval, about three times the basal one. Antennae with proximal flagellar segment longer than the pedicel or the second flagellar segment, remaining segments suboval, with truncated ends, verticils very short. Anterior vertex narrower than the diameter of the antennal scape.

Thorax full black, sparsely pruinose, praescutal stripes not clearly differentiated. Halteres black, base of stem abruptly yellow. Legs with fore and middle coxae blackened, posterior pair slightly paler; trochanters brownish black; femora black, bases narrowly obscure yellow, remainder of legs black. Wings (Fig. 10) strongly blackened, the oval stigma slightly darker; veins darker brown. Veins posterior to vein **R** without trichia, excepting one or two on vein **R**<sub>2</sub>+**3** near outer end. Venation:

**Sc** relatively long, **Sc**<sub>1</sub> ending about opposite one-fourth to one-fifth the long **Rs**; **r-m** obliterated by a short fusion of veins **R**<sub>4</sub>+**5** and **M**<sub>1</sub>+**2**; cell 1st **M**<sub>2</sub> large, longer than the outer medial cells; **m-cu** at fork of **M**.

Abdomen dark brown. Ovipositor horn-colored; cerci relatively short, straight and slender, hypovalvae shorter and stouter.

**H o l o t y p e :** female, Chile, Arauco, Nahuelbuta, Butamalal, 1100-1400 meters, January 23-31, 1954 (Peña).

The most similar regional species is *Limonia (Geranomyia) lachrymalis* (ALEXANDER), widespread in the Neotropics, from Mexico to Ecuador and Perú. This differs in the slightly longer vein **Sc** of the wings and in details of the mouthparts. It is believed that the male sex when discovered will provide further differentiating characters.

## H E X A T O M I N I

#### 10. *Austrolimnophila (Austrolimnophila) stenoptera* sp. n.

Resembles *microsticta*, differing in the coloration of the thorax and abdomen; mesonotum with conspicuous triangular blackened areas on sides of praescutum and on either side of the scutellum; vein **R**<sub>2</sub> close to tip of **R**<sub>1</sub>, subequal to vein **R**<sub>1</sub>+**2**, cell **M**<sub>1</sub> long-petiolate; wings yellow, with abundant brown spots and dots; abdomen obscure yellow, sides narrowly dark brown.

**F e m a l e :** Length about 11 - 12 mm.; wing 7.4 - 7.5 mm.

Rostrum brownish gray; palpi black. Antennae black; scape elongate. Head brown, pruinose, posterior vertex medially darker brown; anterior vertex nearly three times the diameter of scape.

Pronotum large, brown, pretergites light yellow. Mesonotal praescutum restrictedly yellow, with three conspicuous brown stripes; extreme lateral border opposite the small rounded pseudosutural fovea with an elongate shiny blackened area, the point anterior; midarea of transverse suture less evidently darkened; scutum brown, the produced lateral angles of the lobes light yellow; scutellum light brown, parascutella yellow, on posterior medial part with a conspicuous triangular intensely black area, the point directed laterad; postnotum light brown. Pleura obscure brownish yellow, narrowly more darkened above. Halteres elon-



gate, obscure yellow. Legs with coxae large, brownish yellow, trochanters clearer yellow; remainder of legs broken. Wings (Fig. 11) with the ground yellow, conspicuously spotted and dotted with brown, the major areas at origin of **Rs**, cord and along upper margin of cell **1st M2**; dark markings at ends of all longitudinal veins excepting **R5**, the largest in the radial and medial fields, very reduced on the cubital and anal veins; all cells with smaller paler brown spots, larger and more confluent on basal third of wing, outwardly smaller and less numerous; veins light brown. Venation: **Rs** long; cell **M1** relatively short, slightly exceeding its petiole; **m-cu** about its own length beyond the fork of **M**.

Abdomen obscure yellow medially, sides narrowly dark brown. Ovipositor with cerci yellow, long and slender, gently upcurved.

**H o l o t y p e** : female, Argentina, Bariloche, Station 5, ex Madera, Konrad Naumann; Alexander Collection, through the collector and Dr. George Byers. Paratopotype, a broken, female with type.

In its general appearance the species is most like *Austrolimnophila* (*Austrolimnophila*) *microsticta* ALEXANDER, differing in coloration of the thorax and abdomen and in the venation, including the distal position of **R2** and the long petiolate cell **M1**. As described, the wings of the female appear to be slightly reduced to produce a stenopterous appearance.

In the original description of *microsticta* (ALEXANDER, Diptera of Patagonia and South Chile, Crane-flies, pp. 119 - 121, fig. 49, wing, 1929) the account of vein **R2** is erroneous. With the accession of many further specimens it now may be described more accurately. The element **R2** lies far basad, appearing as a long oblique vein, subequal to **R2+3** or from about one-third to one-half **R1+2**, provided with numerous trichia. The condition in this species is not characteristic of others in the genus.

#### 11. *Paralimnophila emarginata* sp. n.

General coloration of head and thorax dark brown, abdomen black, gray pruinose; legs with femora light brown, yellowed basally, with paler yellow rings before midlength and before tip; tibiae yellow, base and apex brown; wings relatively narrow, whitened, with a restricted pale brown pattern, **Rs** long, rectangular at origin, thence in direct alignment with veins **R4** and **R4+5**; male hypopygium with ter-

gite narrowed posteriorly, apex deeply emarginate; outer dististyle stout, blackened.

**M a l e** : Length about 11 mm.; wing 8.5 mm.; antenna about 1.6 mm.

Head mounted in balsam on slide. Rostrum and palpi brown. Antennae with scape and pedicel dark brown; flagellum somewhat paler brown, the bases of the segments slightly brightened; outer flagellar segments subcylindrical, a little shorter than the longest verticils. Head brown.

Thorax of type discolored, appearing to be chiefly dark brown, presumably pruinose in fresh specimens; praescutum and scutum scarcely patterned; scutellum obscure brownish yellow; postnotal mediotergite dark brown, pleurotergite slightly paler. Mesopleura dark brown, propleura somewhat paler; dorsopleural membrane obscure yellow. Halteres with stem yellow, knob brown. Legs with fore coxae brown, remaining coxae paler yellowish brown; trochanters yellow; femora yellowed basally, remainder light brown with paler yellow rings at near midlength and before apex; tibiae yellow, base and apex brown, with a paler brown ring at near one-fourth the length; basitarsi brownish yellow, remainder of tarsi brown. Wings (Fig. 12) relatively narrow; whitened, with a restricted pale brown pattern that includes the long oval stigma and narrow interrupted seams over cord and at origin of **Rs**; further inconspicuous brown areas at near midlength of **Sc** and near end of vein **R3**, slightly evident markings over **R5** and **m-cu**, and a scarcely indicated cloud at fork of **M1+2**; a linear darkening near outer end of cell **R** below **Rs**; a pale brown diffuse cloud at end of **Cu1**, and a very inconspicuous brown central line in outer half of cell **M**; axillary region inconspicuously clouded; veins pale brown, slightly darker in the patterned areas. Nearly complete series of trichia on **Rs** and **R4** and **R5**; sparse trichia on outer half of vein **M1** and at outer end of **M2**; basal veins posterior to **R** without trichia. Venation: **Rs** long, rectangular at origin, in direct alignment with **R4+5** and **R4**; cell **M1** subequal to its petiole; **m-cu** at near midlength of cell **1st M2**.

Abdomen black, gray pruinose. Male hypopygium (Fig. 17) with tergite, **t**, unique, narrowed posteriorly, apex deeply emarginate, the notch about one-third the diameter of either lobe, chiefly filled with whitened membrane. Outer dististyle, **od**, blackened, stout, outer half with a strong terminal spine and a shorter obtusely rounded lobe; inner style, **id**, nearly as

long, broad at base, narrowed to the obtuse apex. Phallosome, **p**, with the aedeagus, **a**, longer than the apophyses, **g**, the outer half gently curved.

**H o l o t y p e** : male, Chile, Angol, November 13, 1940 (D.S. Bullock).

*Paralimnophila emarginata* is most similar to *P. irrorata* (Philippi) and *P. tortilis* ALEXANDER, differing most evidently in hypopygial structure, particularly the ninth tergite.

## 12. *Limnophila* (sens. lat.) *micropriapus* sp. n.

Size small (wing 5 mm.); general coloration of thorax and abdomen brown; head gray, antennae short; legs brown; wings pale yellowish brown, base and costal border yellowed; vein **Sc1** ending nearly opposite the fork of **Rs**; cell **M1** lacking; male hypopygium with posterior border of tergite broadly emarginate, with conspicuous glabrous lateral blades; outer dististyle simple, apex subobtusate, surface with long setae, the outer ones from short basal tubercles; phallosome with the gonapophyses appearing as flattened pale blades, the outer margins with three small acute points; aedeagus simple, basal half dilated, apex a short straight rod.

**M a l e** : Length about 5 mm.; wing 5 mm.; antenna about 0.9 mm.

Rostrum and palpi dark brown. Antennae of male short, brown; flagellar segments long-oval, outer ones more elongate; verticils long and conspicuous, especially on outer segments. Head gray; anterior vertex broad.

Pronotum light brown, scutellum more yellowish brown. Mesonotal praescutum dark brown, sparsely pruinose. Tuberculate pits represented by blackened spots, on a transverse level with the scarcely evident pseudosutural foveae; scutal lobes darkened; posterior sclerites of notum, including the pleurotergite and meron, pale yellowish brown. Remainder of pleura light brown, sparsely pruinose; dorso-pleural membrane yellowed. Halteres light yellow. Legs with fore and middle coxae brown, posterior coxae and all trochanters yellowed; remainder of legs brown; tibial spurs present; claws simple. Wings (Fig. 13) pale yellowish brown, base and costal field clearer yellow, stigma vaguely darkened; veins light brown. Longitudinal veins beyond general level of origin of **Rs** with trichia, including a few on outer ends of veins **1st A** and **2nd A**. Venation: **Sc**

ending nearly opposite fork of **Rs**, the latter in direct longitudinal alignment with **R2+3+4** and **R4**; **m-cu** about one-third its length beyond fork of **M**.

Abdomen light brown, hypopygium more yellowed, subterminal segments slightly darker brown. Male hypopygium (Fig. 16) with posterior border of tergite, **t**, broadly emarginate, laterally extended into conspicuous glabrous blades, their apices rounded. Dististyles, **d**, apical, united at bases; outer style, **od**, simple, basal half more dilated, outer half narrowed to the subobtusate apex; outer half of style and lower face of base with conspicuous longsetae, the apical ones from short basal tubercles; inner style, **id**, about one-half the length of the outer. Phallosome with gonapophyses, **g**, appearing as a pale flattened blade, apex broadly obtuse, outer margin before apex with three small acute points. Aedeagus, **a**, simple, basal half dilated, outer end a short straight rod, its apex apparently simple, truncate (structure partially concealed on slide).

**H o l o t y p e** : male, Aucar, Chiloé Island, Chile, January 10, 1952 (Peña).

The present fly is one of various regional species where the generic position remains in question. I am referring it to *Limnophila* in the broad sense rather than to *Shannonomyia* which it resembles in general appearance, including te venation. The hypopygium differs from that of *Shannonomyia* in the short straight aedeagus and in the simple dististyles.

## 12 A. *Shannonomyia seclusa* (ALEXANDER).

*Limnophila seclusa* ALEXANDER; Ann. Ent. Soc. America, 21: 638, 1928.

The types of this fly were from Pailahueque, Malleco, Chile, collected by Pirion in 1928. Other available records are materials taken by Peña in Arauco, Ñuble and Osorno.

There are various other regional members of the genus having cell **M1** of the wings present and without trichia in the cells, all differing from the present fly in body coloration and in details of hypopygial structure. I am providing figures of the venation (Fig. 14) and the male hypopygium (Fig. 18). In the latter structure attention is directed to the conformation of the ninth tergite, **t**, phallosome, **p**, and gonapophysis, **g**. It is probable that this latter structure may represent an interbase rather than being an apophysis, as here construed.

12 B. *Zelandomyia armigera* (ALEXANDER)

*Limnophila armigera* ALEXANDER; Agricultura Técnica, Chile, 5: 20-21, fig. 10 (venation); 1945.

The type, a female, was from Angol, Chile, December 23, 1940, collected by Bullock. The chief character and suggested specific name of the fly was venational, a conspicuous spur on vein 2nd A, a condition that occurred on both wings of the unique type. However, later discovered materials that seem unquestionably to be referable to the present species lack this wing spur.

The male sex now is available and indicates that the fly more properly is placed in the genus *Zelandomyia* ALEXANDER (Ann. Mag. Nat. Hist., (9) 11: 106, 1923) hitherto known from a few species occurring in New Zealand.

*Zaluscodes* LAMB (Subantarctic Islands of New Zealand, p. 130, 1909), from the Auckland Islands, south of New Zealand is known presently from a single nearly apterous species, *Zaluscodes aucklandicus* LAMB. I am indebted to Dr. Peter M. Johns for specimens representing both sexes of this interesting fly and it is quite different from the present species in the hypopygial structure, particularly the phallosome.

## E R I O P T E R I N I

*Unguicrypteria* genus new

Head with rostrum and palpi short.

Antennae short, apparently 15-segmented; pedicel enlarged; flagellar segments all separate, proximal four slightly protuberant on lower face which lacks verticils, upper face with a single long seta before midlength; outer segments with verticils on both faces, on the outer segments very long, especially the dorsal series, the longest nearly twice the segment. Anterior vertex broad.

Praescutum with tuberculate pits apparently lacking, pseudo-sutural foveae elongate, pale. Meron small, middle and posterior coxae approximated. Halteres elongate. Legs with tibiae bearing a single very small acute spike or spur, the length only about 3 to 3.5 the diameter at base; claws (Fig. 2) unique, each long and very slender, pale, on lower face with four long slender spines, the outermost longest; empodia darker and more conspicuous, about two-thirds the claw and stouter, with short appressed setae. Wings (Fig. 19)

with vein Sc long, Sc1 terminating shortly beyond fork of Rs, Sc2 near tip; branches of Rs long and generally parallel to one another, cell R2 at margin nearly three times as extensive as cell R3; veins R3, R4 and R5 all nearly parallel to one another, the cells at margin subequal; vein R2 faint but indicated, far retracted, about one-fourth R1+2; cell M1 present; m-cu at or shortly before midlength of M3+4. Vein R3 not arched beyond base as in *Crypteria*; vein R2 present but faint, far retracted; R2+3 about one-half to two-thirds vein R3; m-cu at near midlength of vein M3+4. Anterior arculus present. Vein 2nd A moderately long, ending shortly before origin of Rs. Wings not widened opposite termination of vein 2nd A as in *Crypteria*. Male hypopygium (Fig. 21) with dististyles, d, terminal; outer style, od, longer, outer third gently curved, outer margin before the acute tip with about four subappressed smaller spines; inner style, id, with base slightly dilated, provided with small tubercles, each tipped with a delicate seta, apical half gently curved. Phallosome, p, with aedeagus, a, terminating in two narrow divergent rods, as shown; gonapophyses, g, before apex with one or two small points.

Type of genus: *Limnophila ctenonychia* ALEXANDER (Diptera of Patagonia and South Chile, 1: 136-137, fig. 70 (venation), fig. 207 (male hypopygium), 1929). Type from Peulla, Lake Todos-los-Santos, Chile, 500 feet, December 12-13, 1926 (F. and M. Edwards). More recently discovered specimens are from Nahuelbuta, Arauco, Chile, January and February 1953, 1954 (Peña).

This isolated fly originally was placed in the genus *Limnophila* but now appears to be closer to *Crypteria* BERGROTH, of northern Europe. The genotype of the latter, *C. limnophiloides* BERGROTH (Acta Soc. Fauna et Flora Fennica, 37: 4-7, figs. 1-4, antenna, hypopygium, venation; 1913) was from Finland and Sweden. This differs from the present fly in the basal fusion segment of the antenna which is elongate-conical and apparently includes four segments, and also in details of the legs, venation and hypopygium. It should be noted that most of the specimens available to Bergroth appeared to lack vein R2 of the wings (radial crossvein of Bergroth). Specimens in my collection show this as strong and distinct. Bergroth could detect no tibial spurs nor are they apparent in specimens available to me (Denmark, Peder Nielsen). Neither Bergroth nor Edwards mention the single conspicuous spi-

ne at the base of the tarsal claw. In my materials this is present, long and conspicuous, about two-thirds as long as the claw itself but more slender (shown for comparison with the present fly, Fig. 21 A).

13. *Rhodomastix (Rhodomastix) glabrivena* sp. n.

Size medium (wing of male 6 mm.); general coloration of body brown, head and abdomen darker brown; legs light brown; wings pale brown, stigma slightly darker; veins with long trichia, lacking on the unusually long **Rs** and **R2+3+4**.

Male: Length about 7 mm.; wing 6 mm.; antenna about 4.8 mm.

Rostrum and mouthparts brown. Antennae of male elongate, in the type broken at the sixth segment but by comparison with allied and similar species about as long as indicated; segments long-cylindrical, vestiture very delicate, pale and erect, the longest approximately one-fourth to one-fifth the segment. Head dark brown.

Pronotum yellowish brown, scutellum clearer yellow. Mesonotal praescutum obscure yellow with three only slightly darker brown stripes; scutal lobes similarly darkened; posterior sclerites of notum yellowish brown. Pleura brownish yellow, anterior mesopleura darker. Halteres with base light yellow, remainder broken. Legs with coxae and trochanters brownish yellow, remaining segments light brown. Wings (Fig. 20) pale brown, stigma slightly darker; veins pale brown. Veins with long trichia, lacking on **Rs** and **R2+3+4**, **R3** with about three trichia. Venation: **Sc2** lacking; **Rs** very long, about one-half longer than **R** before its origin; **R2+3+4** unusually long, more than three times **R3**; **R3** shorter than the distance on costa between **R1+2** and **R3**.

Basal six abdominal segments dark brown, remainder broken.

H o l o t y p e, male, Chile, Arauco, Nahuelbuta, Pichinahuel, 1100-1400 meters, January 23-31, 1954 (Peña).

The most similar regional species is *Rhodomastix (Rhodomastix) chilota* ALEXANDER, 1929, which differs most evidently in the wing trichiation, including numerous trichia on vein **R2+3+4** which is entirely glabrous in the present fly.

14. *Gonomyia (Progonomyia) alata* sp. n.

Size medium (wing about 6 mm.); general coloration of thorax brown, praescutum with darker brown stripes, pleura with a yellowed longitudinal stripe; legs brownish yellow; wings very slightly infuscated, stigma vaguely darker; **Sc1** ending about opposite midlength of **Rs**, **m-cu** shortly before fork of **M**; male hypopygium with intermediate dististyle with basal half enlarged, outer half a very long slender straight rod; aedeagus with apex curved, shortly before tip on either side with a broad flattened flange to produce a winglike appearance.

Male: Length about 6.5 mm.; wing 6 mm.; antenna about 1.7 mm.

Head and appendages dark brown. Antennae with flagellar segments long-oval, ends truncated, outer segments more elongate, the terminal one subequal to the penultimate; segments longer than their verticils.

Pronotum light brown, lateral borders yellowed. Mesonotal praescutum light brownish gray with three darker brown stripes; pseudosutural foveae black, conspicuous, anteriorly with a yellowed area; scutum obscure yellow, lobes extensively light brown; scutellum brown, posterior border yellowed; mediotergite yellowed, pleurotergite brownish gray pruinose. Pleura chiefly brown with a conspicuous yellowed longitudinal stripe beginning behind the fore coxa, crossing the dorsal sternopleurite and meron to base of abdomen. Halteres with stem brownish yellow, knob darker brown. Legs with coxae and trochanters brownish yellow, fore pair darker brown; femora and tibiae brownish yellow, outer tarsal segments slightly darker. Wings very slightly infuscated, stigma vaguely darker; veins light brown. Veins beyond general level of origin of **Rs** with long trichia, including also the outer ends of both Anal veins. Venation: **Sc1** ending about opposite midlength of **Rs**, **Sc2** retracted, **Sc1** alone about three-fourths **m-cu**, the latter shortly before the fork of **M**.

Abdominal tergites light brown, sternites and hypopygium clearer yellow. Male hypopygium (Fig. 22) with basistyle, **b**, terminating in a narrowly obtuse point, on mesal face before apex with a slender yellow rod, setae with relatively long but inconspicuous style. Dististyles shown in subfigure, outer style, **od**, blackened, its outer fourth an acute black spine; intermediate style, **md**, with basal half en-

larged, outer half a very long slender straight rod that is subequal in length to the base, apex shortly curved; inner style, *id*, pale, stout, lower margin fringed with short setae, the outer ones longer. Aedeagus, *a*, distinctive, normal for the subgenus, with the slender apex decurved, shortly before tip on either side with a broad flattened flange to produce a winglike appearance, the margin with microscopic seta.

**H o l o t y p e :** male, Argentina, Catamarca, Arroyo El Pintado, 650 meters, September 28, 1968 (Peña).

The present fly is most readily told from other regional members of the subgenus by the hypopygial structure, especially the intermediate dististyle and the aedeagus. The flattened lateral flanges of the latter produce a birdlike appearance that has suggested the specific name. The most similar regional species is *Gonomyia (Progonomyia) argentinensis* ALEXANDER (La Rioja, Argentina) which differs evidently in hypopygial structure, including the intermediate dististyle and the aedeagus.

#### 15. *Gonomyia (Lipophleps) curvistylata* sp. n.

Size small (wing about 3 mm.); general coloration of body dark brown, thoracic pleura with a broad obscure yellow longitudinal stripe; legs light brown; wings light brown, stigma not indicated, *Sc*<sub>1</sub> ending shortly before origin of *Rs*, basal section of *R*<sub>5</sub> about one-half *M*; male hypopygium with dististyle a long curved blackened sickle, on inner margin with a slender tubercle.

**M a l e :** Length about 3 mm.; wing 3 mm.

Rostrum black. Antennae with scape and pedicel dark brownish yellow on upper surface; flagellum dark brown, the verticils very elongate. Head chiefly light yellow.

Pronotum above dark brown, posterior sclerites whitened. Mesonotum dark brown above, lateral borders of praescutum scarcely paler. Pleura brown with a broad obscure yellow longitudinal stripe that includes the fore coxae, widened behind. Legs with coxae light yellow, trochanters more obscure yellow; remainder of legs light brown. Wings light brown, stigma not indicated; veins pale brown. Venation: *Sc*<sub>1</sub> ending shortly before origin of *Rs*; basal section of *R*<sub>5</sub> about one half *m*; *m-cu* shortly before fork of *M*.

Abdominal tergites dark brown, paler brown laterally, sternites pale brown. Male

hypopygium (Fig. 23) with the outer end of basistyle and the dististyle well-preserved, the remaining structures in poor condition. Dististyle, *d*, subterminal, including a long curved blackened sickle, at near midlength on the inner or concave margin with a small slender tubercle that is tipped with a delicate seta; distad of the major style a small oval fleshy lobe that evidently represents the second dististyle. Apical lobe of basistyle, *b*, with strong setae, near base with a single seta of unusual length.

**H o l o t y p e :** male, Argentina, Catamarca, North Aconquija, 1700 meters, October 2, 1968 (Peña).

The most similar species include *Gonomyia (Lipophleps) bruchi* ALEXANDER, Northern Argentina; *G. (L.) nestor* ALEXANDER, Brazil, Sao Paulo; *G. (L.) rhadinostyla* ALEXANDER, Nicaragua; *G. (L.) scimitar* ALEXANDER, Panama to British Guiana; and *G. (L.) subscimitar* ALEXANDER, Peru, all differing in hypopygial structure, especially the dististyles.

#### 16. *Molophilus (Molophilus) araucoensis* sp. n.

Belongs to the *plagiatus* group; general coloration of the thorax brown, patterned with yellow; halteres yellow; wings pale brownish yellow, prearcular and costal fields clear light yellow; abdomen brown; male hypopygium with beak of basistyle a slender straight spine; basal dististyle long, slender, apex terminating in a spine that is subtended by other subapressed spines; phallosome glabrous, suboval, apex extended into an acute central spine.

**M a l e :** Length about 4.2 mm.; wing 4.5 mm.; antenna about 1.2 mm.

Rostrum and palpi brown, terminal segment of the latter about one-half longer than the stouter penultimate. Antennae relatively long, brown; flagellar segments progressively very slightly longer and more slender outwardly; segments with delicate erect pale setae. Head dark brown.

Pronotum obscure yellow. Mesonotal praescutum of holotype yellowed, with three confluent brown stripes, scutal lobes extensively darkened, scutellum obscure yellow; postnotum and pleura dark brown, dorsopleural region yellow; paratype with thorax, especially the pleura, much paler than in the holotype. Halteres yellow. Legs with coxae and trochanters yellow; remainder of legs brownish yellow to yellow, outer tarsal segments infuscated. Wings pale brownish yellow, prearcular and costal fields clear light yellow; veins yellow.

Abdomen brown, hypopygium slightly paler brown. Male hypopygium (Fig. 24) with beak of basistyle, **b**, a very slender straight spine. Outer dististyle, **d**, with stem slender, longer than the expanded blackened apex, the latter terminating in two spines, the outer narrowed and slightly bent at apex, inner or basal style distinctive, slightly longer than the outer style, slender, apex narrowed into a spine that is subtended by two longer lower points and three more separated spines along outer margin, the most basal one smaller. Phallosome, **p**, glabrous, suboval, apex extended into an acute central spine. Aedeagus, **a**, slender, shorter than the outer dististyle, straight, the outer third narrowed into a spine.

**H o l o t y p e** : male, Chile, Arauco, Nahuelbuta-Butamalal, 1100-1400 meters, January 13-31, 1974 (Peña). Paratopotype, male, with type.

**Molophilus (Molophilus) araucoensis** si readily distinguished from other generally similar regional members of the group by the hypopygial structure, including the apical spine of basistyle, basal dististyle and the spinose phallosome.

#### 17. **Molophilus (Molophilus) basispinosus** sp. n.

Belongs to the **plagiatus** group; general coloration of thorax dark brown, including the pleura; antennae short; legs light brown, wings faintly yellowed; male hypopygium with outer dististyle very large, basal style with stem straight, parallel-sided, terminating in three unequal spines, with an additional strong spine at base of style; phallosome bilobed, the lobes with conspicuous erect spinoid setae; aedeagus long, flattened, exceeding the basal dististyle in length.

**M a l e** : length about 4.3 mm; wing 4.8 mm; antenna about 1 mm.

Head and hypopygium mounted on slide. Rostrum and palpi dark brown; terminal segment of latter about one-third longer than the penultimate and more slender. Antennae brown throughout; flagellar segments short-oval, longest verticils exceeding the segments. Head brown.

Pronotum light yellow. Mesonotal praescutum pale brown with three darker brown stripes, the lateral pair darker, continued caudad onto the sides of the acutal lobes, median region of scutum light brown, scutellum more yellowed; postnotum dark brown. Pleura dark

brown dorsopleural region and wing base light yellow. Halteres brown. Legs with fore coxae light brown; remaining coxae and all trochanters light yellow. Wings faintly yellowed, base and costal region clearer yellow; veins brownish yellow, trichia light brown.

Abdomen dark brown, hypopygium slightly more yellowed. Male hypopygium (Fig. 25) with beak of basistyle, **b**, light brown, cleaver-shaped. Outer dististyle, **d**, very large, especially the outer arms, shaped as in figure: inner or basal style, **id**, distinctive, only slightly longer than the outer style; stem straight, parallel-sided, terminating in three unequal spines, as shown, the lateral point very small, appressed, base of style with a further strong erect spine. Phallosome, **p**, large, bilobed, the oval lobes with unusually conspicuous pale spinoid setae. Aedeagus, **a**, long, flattened, slightly dilated at midlength, exceeding the basal dististyle in length.

**H o l o t y p e** : male, Chile, Arauco, Nahuelbuta, Caramavida, 1100-1300 meters, January 1-6, 1954 (Peña).

**Molophilus (Molophilus) basispinosus** is readily distinguished from other regional members of the **plagiatus** group by the hypopygial structure, including especially the basal dististyle.

#### 18. **Molophilus (Molophilus) ornithostylus** sp. n.

Belongs to the **plagiatus** group; general coloration of body dark brown; halteres clear light yellow; legs brown, tips of tibiae and the tarsi darker; wings yellowed, prearcular and costal fields clearer yellow, a weak brown clouded pattern extends from stigma over the cord, including central portions of both Anal cells; male hypopygium with basal dististyle large and conspicuous, in appearance suggesting a bird's head with an elongate slender beak; phallosomic structure with two relatively long densely setulose blades.

**M a l e** : Length about 5.5-2 mm.; wing 5.5-6 mm.; antenna about 1.5-1.6 mm.

**F e m a l e** : Length about 5.5-6 mm.; wing 6-6.5 mm.

Rostrum and palpi dark brown; terminal palpal segment about one-third longer than the penultimate. Antennae short, dark brown; flagellar segments oval, terminal segment oval, about two-thirds the penultimate. Head dark brown.

Thorax almost uniformly dark brown, the median praescutal stripe slightly darker. Halteres clear light yellow. Legs with coxae and trochanters yellow; femora dark brown, bases narrowly yellow; tibiae brownish yellow, tips, with the tarsi, dark brown. Wings with ground yellowed, prearcular and costal fields clearer yellow; a weak brown pattern including the stigma, a seam over the cord, and the central parts of both anal cells; veins light brown, more yellowed in the brightened fields. Venation: **R4+5** in direct alignment with **Rs**, about one-third to one-half longer than the basal section of **R5**.

Abdomen dark brown. Male hypopygium (Fig. 26) with the inner or basal dististyle, **id**, large and conspicuous, in its general appearance suggesting a bird's head with a long beak and a darkened dorsal crest, blackened throughout; stem stout, the outer fourth narrowed into a slender straight spine, outer margin of style with an extensive dark cushion of appressed black spinoid setae, this armature continued basad on style, becoming more sparse toward the base. Phallosome, **p**, with apex produced into two relatively long blades, densely setulose. Aedeagus unusually long and slender, nearly straight slightly longer than the basal dististyle.

**H o l o t y p e**: male, Chile, Arauco, Nahuelbuta, Butamalal, 1100-1400 meters, January 23-31, 1954 (Peña). Allotype, female, with type, mounted on separate pin. Paratopotype, male, pinned with allotype. Paratypes, 1 male, 1 female, on one pin, North Aconquija, Catamarca, Argentina, 1700 meters, October 2, 1968 (Peña).

Regional members of the *plagiatus* group having the basal dististyle of the hypopygium somewhat as in the present fly include *Molophilus (Molophilus) catamarcensis* ALEXANDER, of Argentina, and to a lesser degree, *M. (M.) walkeri* ALEXANDER, of Colombia, all differing among themselves chiefly in the conformation of the basal dististyle of the hypopygium.

## EXPLANATION OF FIGURES

### Plate 1

- Fig. 1. *Valdiviana (Euvaldiviana) penaina* sp. n.; venation  
 Fig. 2. *Valdiviana (Euvaldiviana) penaina* sp. n.; antenna, female

- Fig. 3. *Zelandotipula wardiana* sp. n.; venation  
 Fig. 4. *Zelandotipula wardiana* sp. n.; antenna, female  
 Fig. 5. *Zelandotipula exserrata* sp. n.; male hypopygium  
 Fig. 6. *Tipula (Eumicrotipula) arenae* sp. n.; male hypopygium  
 Fig. 7. *Tipula (Eumicrotipula) coloptera* sp. n.; male hypopygium  
 Fig. 8. *Tipula (Bellardina) fuscolimbata* sp. n.; male hypopygium

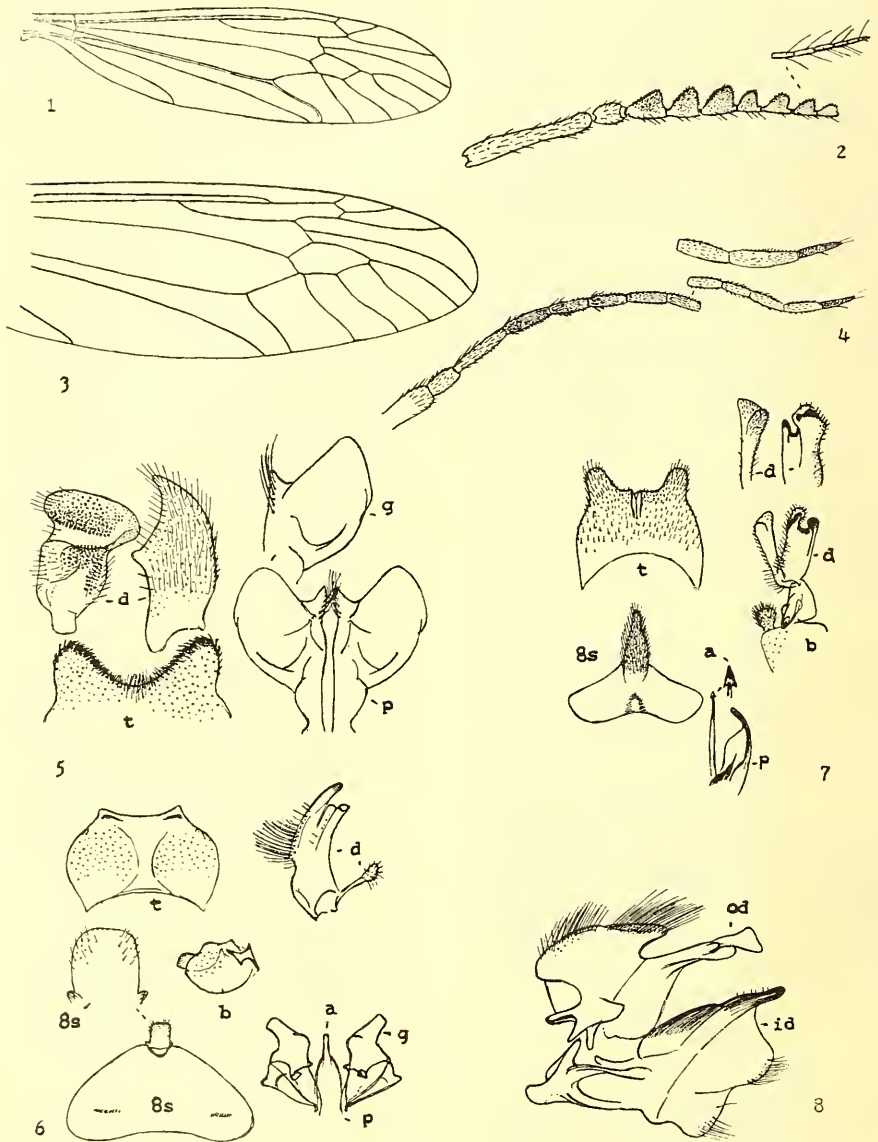
### Plate 2

- Fig. 9. *Limonia (Dicranomyia) prolixistyla* sp. n. venation  
 Fig. 10. *Limonia (Geranomyia) podomelania* sp. n.; venation  
 Fig. 11. *Austrolimnophila stenoptera* sp. n.; venation  
 Fig. 12. *Paralimnophila emarginata* sp. n. venation  
 Fig. 13. *Limnophila micropriapus* sp. n.; venation  
 Fig. 14. *Shannonomyia seclusa* (ALEXANDER); venation  
 Fig. 15. *Limonia (Dicranomyia) prolixistyla* sp. n.; male hypopygium  
 Fig. 16. *Limnophila micropriapus* sp. n.; male hypopygium  
 Fig. 17. *Paralimnophila emarginata* sp. n. male hypopygium  
 Fig. 18. *Shannonomyia seclusa* (ALEXANDER); male hypopygium

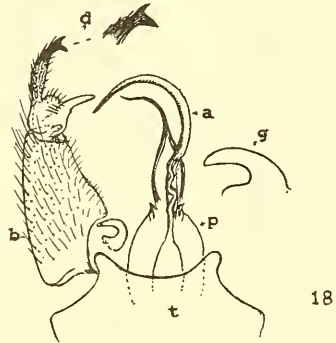
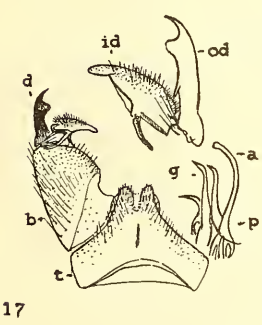
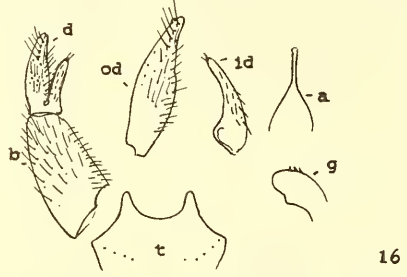
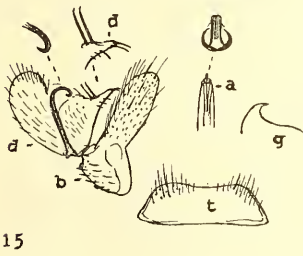
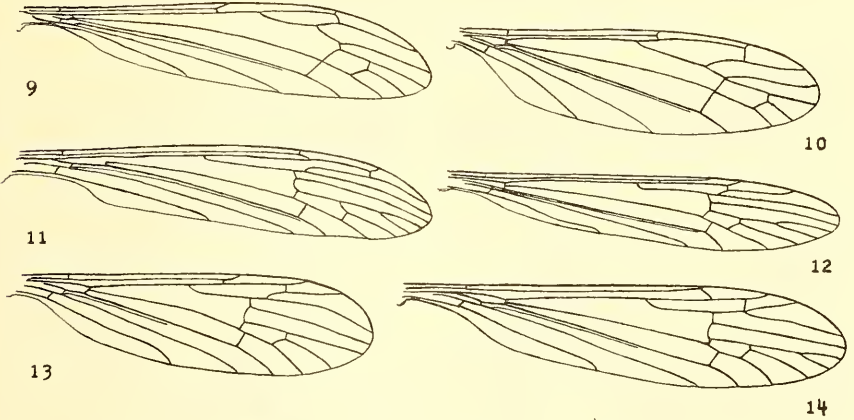
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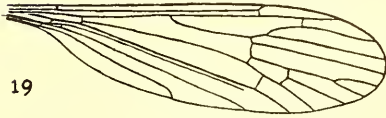
- Fig. 19. *Unguicrypteria ctenonycha* (ALEXANDER); venation  
 Fig. 20. *Rhabdomastix glabrivena* sp. n.; venation  
 Fig. 21. *Unguicrypteria ctenonycha* (ALEXANDER); male hypopygium and tarsal claw.  
 Fig. 22. *A. Crypteria limnophiloides* BERGROTH; tarsal claw.  
 Fig. 22. *Gonomyia (Progonomyia) alata* sp. n.; male hypopygium  
 Fig. 23. *Gonomyia (Lipophleps) curvistyla* sp. n.; male hypopygium  
 Fig. 24. *Molophilus (Molophilus) araucoensis* sp. n.; male hypopygium  
 Fig. 25. *Molophilus (Molophilus) basispinosus* sp. n.; male hypopygium  
 Fig. 26. *Molophilus (Molophilus) ornithostylus* sp. n.; male hypopygium

Explanation of symbols: Male hypopygium: **a**, aedeagus; **b**, basistyle; **d**, dististyle; **g**, gonapophysis; **id**, inner dististyle; **od**, outer dististyle; **p**, phallosome; **s**, sternite; **t**, tergite.

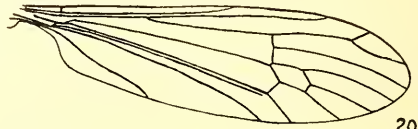




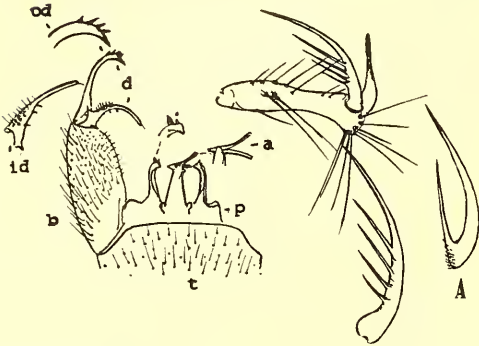




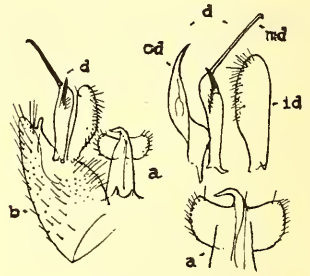
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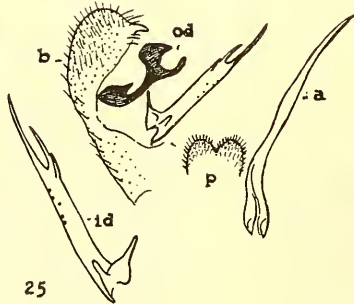
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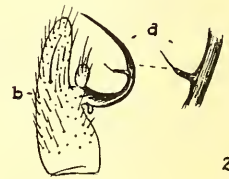
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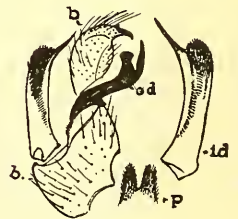
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