

NEW OR INSUFFICIENTLY-KNOWN CRANE-FLIES FROM
CHILE (FAMILY TIPULIDAE, ORDER DIPTERA) Part. I.

By

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Our knowledge of the rich Tipulid fauna of Chile has developed materially in recent years. Since the publication of my basic treatment of these flies for Patagonia and South Chile (Diptera of Patagonia and South Chile, Part I- Crane-flies, 1929); rather numerous species have been received for study and description. Most of the recent additions to the fauna have been due to the diligent efforts of Professor Dillman S. Bullock, of Angol, to whom my deepest thanks are due for this interest in a group of flies that are usually neglected or ignored by the average collector. Still further recent collections have been received through Professor Kurt Wolffhügel, of Cayutue, and several of these records have added materially to our knowledge of distribution. A further unusually valuable series were taken in Aysen, South Chile, in February 1934 by Father Anastasio Pirion. A few records from other sources are discussed in the text of this preliminary paper. I wish to express my deep thanks to all of these friends and co-workers for their friendly aid in developing our knowledge of this great country.

In addition to the new species described, the types of which are preserved in my extensive collection of these flies I am supplying some distributional records involving certain species that are still insufficiently known.

TIPULINAE

Macromastix (Araucomyia) bullocki Alexander.

Cura-Cautín, Termas Río Blanco, altitude 1,050 meters, February 23-26, 1942 (*Bullock*).

Macromastix (Araucomyia) penita, sp.n.

Allied to *paulseni*; size small (wing, male, 12 mm.; antennae less than 20 mm.); flagellar segments not conspicuously swollen at outer ends; vestiture of mesonotum relatively short; wings narrow, grayish, stigma brownish yellow; cell M_4 relatively deep; *m-cu* subequal to the the distal section of vein Cu_1 ; cell M_4 widest at wing-margin; cell *2nd A* narrow, especially at outer end; abdominal tergites gray with a broad brown median stripe.

Male.— Length about 14 mm.; wing 12 mm.; antenna 19 mm.

Frontal prolongation of head moderately long, light brown, pruinose above; nasus distinct; palpi brownish black. Antennae (male) longer than the body, as shown by the measurements; antennae reddish brown, the outer segments more blackened; with twelve segments, including the microscopic terminal button; first flagellar segment constricted at near one-third the length; segments not conspicuously swollen at their outer ends, as in *paulseni*; proximal flagellar segments with rows of scattered spinous bristles, additional to the abundant short erect pale pubescence. Head above light grayish white; vertical tubercle large and bulbous; vestiture pale, of moderate length.

Pronotum very narrow, grayish white. Mesonotal praescutum light gray with four entire brown stripes, the intermediate pair ending some distance before the suture, more separated behind; scutal lobes weakly patterned with darker; remainder of notum light gray; pale vestiture of notum relatively short, erect. Pleura light gray, patterned with darker gray on anepisternum and ventral sternopleurite. Halteres uniformly dark brown. Legs with coxae light gray; trochanters brown, dusted with gray; femora and tibiae reddish brown, the tips dark brown or brownish black; tarsi passing into black. Wings relatively narrow, grayish; wing-base, arcular region and stigma yellow, the latter large; a faint dark cloud on anterior cord; veins brown, brighter in the more yellow areas. Venation: Petiole of cell M_1 , exceeding *m*; cell M_4 relatively deep, *m-cu* and the distal section of Cu_1 subequal, cell M_4 widest at wing-margin; cell *2nd A* narrow, especially at outer end. In *paulseni* and *brevihirsuta*

cell M_4 is unusually wide at base, *m-cu* exceeding the width of cell at margin.

Abdominal tergites clear gray, with a broad conspicuous median brown stripe that is narrowly interrupted at the posterior borders of the segments; basal sternites more reddish brown, sparsely pruinose; sub-terminal segments somewhat darker; hypopygium brownish yellow. Hypopygial structure much as in the other allied species.

Holotype, male, Cerros de Nahuelbuta, altitude 200 meters, January 1, 1937. (*Bullock*).

Macromastix (Araucomyia) penita is somewhat intermediate in its characters between *M. (A.) brevihirsuta* Alexander and *M. (A.) paulseni* (Philippi), in most regards agreeing more closely with the former species. The small size, relatively length of antennae, and the details of venation serve to distinguish the fly.

Tipula araucania Alexander.

Angol, December 16, 1936; December 27, 1941; January 15, 1930 (*Bullock*).

Tipula angolensis, sp. n.

Belongs to the *glaphyoptera* group; size relatively small (wing, male, under 15 mm.); general coloration gray, the praescutum with four brown stripes; the intermediate pair with an interpolated capillary median vitta; antennal flagellum black; wings light brown, variegated with darker brown and more extensive cream-colored areas; *Rs* long; male hypopygium with the caudal margin of the ninth tergite notched, with two broadly obtuse lobes; eighth sternite trilobed, the lateral lobes unusually short and broad.

Male. — Length about 13 mm. wing 14 mm.; antenna about 5.8 mm.

Frontal prolongation of head brown, sparsely pruinose, more heavily so on dorsum; nasus lacking; palpi black. Antennae of moderate length; scape and pedicel obscure yellow, the former pruinose; first flagellar segment light brown, darker at outer end; remainder of flagellum black; flagellar segments rather strongly incised, with conspicuous basal swellings; longest verticils nearly equal in length to the segments. Head gray, with a conspicuous median brown dorsal stripe; vertical tubercle scarcely developed.

Pronotum dark gray, variegated with darker. Mesonotal praescutum gray with four brown stripes, the intermediate pair broadly sepa-

rated and with an interpolated capillary median brown vitta for most of the length, the three lines confluent at their posterior ends; lateral stripes narrow; humeral and lateral portions of praescutum with and additional brown line; scutum slate-gray, each lobe with two brown areas; scutellum yellowish gray with a median line of brown; parascutella gray; mediotergite gray, with a capillary dark brown median line; pleurotergite more whitish gray, especially the katapleurotergite. Pleura clear light gray; dorsopleural and metapleural regions yellow. Halteres yellow, the knob dark brown. Legs with the coxae gray; trochanters yellow; femora obscure yellow, the tips rather narrowly brownish black, the amount subequal on all legs; tibiae brown, the tips blackened, basitarsi brown, passing into black; remainder of tarsi black; claws (male) toothed. Wings light brown, variegated with restricted darker brown and more extensive cream-colored areas; prearcular and costal fields clearer yellow; the darker areas include the stigma and a confluent cloud over the anterior cord; two spots in cell *Sc* and adjoining portion of *R*, the outer one at origin of *Rs*; a broad seam along vein *Cu* in cells *M* and *M*₄; cells beyond cord somewhat more intensely darkened; the pale areas include a narrow but nearly complete fascia beyond cord, barely interrupted at vein *M*₁₊₂; a small spot in outer end of cell *R*₅; extensive brightenings at base and apex of cell *Cu* and in bases of Anal cells; veins dark brown, more yellow in the brightened portions. Venation: *Rs* long, nearly three times *m-cu*; cell 1st *M*₂ relatively small, short-pentagonal; cell *M*₁ deep, its petiole shorter than *m*.

Basal abdominal tergites, including the basal segment, with three conspicuous, continuous, black stripes, the sublateral pair becoming less distinct on the outer segments, the median one correspondingly extensive and conspicuous; sternites yellow, with a conspicuous median brown stripe; hypopygium chiefly yellow. Male hypopygium (Fig. 1), with the ninth tergite, *9t*, transverse, its caudal border generally convexly rounded with a relatively narrow V-shaped median notch, the lateral lobes thus formed low and obtusely rounded, provided with sparse small setae only; remainder of tergite with more abundant scattered setae. Basistyle with the ventrocaudal lobe, *vb*, dark-colored, relatively short and stout, appearing as a cylindrical lobe about three and one-half times as long as its greatest diameter; apex and outer surface of lobe with strong denticles subtending the major setigerous punctures; mesal lobe, *mb*, relatively large, unequally bilobed, the lower lobe larger, covered

with abundant microscopic setulae; lower basal portion of this lobe with a group of unusually long, strong setae. Outer dististyle, *od*, very small, at apex expanded into a weak spatula. Inner dististyle, *id*, long and narrow, its beak slender, the tip very narrowly obtuse; outer portions of style with indications of a lateral crest of setae, somewhat as in *araucania*. Gonapophyses, *g*, of distinctive shape, appearing as a flattened cultriform blade that bears a somewhat similar but smaller flattened blade on its margin at near midlength. Eighth sternite, *8s*, with the appendage trilobed, the median lobe long and depressed, of moderate width, provided with numerous setae on distal half; lateral lobes unusually low and broad appearing as expanded flattened blades.

Holotype, male, Angol, October 4, 1935 (*Bullock*).

Tipula angolensis is very different from all other described regional species of the group, differing especially in the lack of a nasus and the structure of the male hypopygium, more especially the tergite, basistyle, inner dististyle, gonapophyses and appendage of the eighth sternite. By my latest key to the regional species (Diptera Patagonia and S. Chile, 1: 39-42; 1929), the fly runs to *T. jacobsiana* Alexander, an entirely different species.

Tipula antarctica Alexander.

Described from Punta Arenas, Straits of Magellan, collected December 12, 1895, by O. Nordenskjöld. One male, Aysen, February 1934 (*Pirion*).

Tipula anthonympha Alexander.

Termas Río Blanco, Cura-Cautín, altitude 1,050 meters, March 28, 1938 (*Bullock*).

Tipula brethesiana Alexander.

Cayutue, November 13, 1933 (*Wolffhugel*).

Tipula brevicoma, sp.n.

Belongs to the *glaphyroptera* group; confused with *subligulata* Alexander in the original description of the latter species. (Ann. Ent. Soc. America, 34: 244-246, 1941). The holotype of the present fly is the single paratype of *subligulata*.

A dissection of the male hypopygium of this paratype reveals that it represents a very similar yet evidently distinct species that is distinguished from *subligulata* chiefly by the structure of the male hypopygium.

Antennae with shorter verticils, the longest of these shorter than the segments that bear them, whereas in *subligulata* these are equal to or slightly longer than the segments. Wings with the dark pattern paler and slightly more restricted in amount, the subcostal pale interspaces wider, the first being equal to the basal or arcular darkening. Venational details slightly different; cell M_4 not as deep or narrow, *m-cu* being about two-thirds as long as the distal section of vein Cu_1 ; in *subligulata* about three-fifths this length. Male hypopygium with the ninth tergite having a slightly different conformation, the posterior border on either side of the shallow median emargination being more strongly convex, the exceedingly low lobes laterad of this point more heavily blackened and with an evident blackened flange on ventral surface. Inner dististyle much broader in comparison with its length, the basal lobe not as produced as in *subligulata*; outer fringe of setae short and inconspicuous, the longest only about one-third to one-fourth the width of the style opposite the point of their insertion. In *subligulata* these setae are unusually long and conspicuous, the longest exceeding two-thirds the width of the style. Gonapophyses appearing as flattened plates, narrowed, outwardly, the outer margin bicrenate, the more basal notch much larger than the outer. Appendage of eighth sternite very long and narrow, at apex only shallowly notched; greatest width of appendage less than one-fourth the length. In *subligulata*, the appendage is conspicuously broader, its greatest width about two-fifths the length.

Holotype, male, Termas Río Blanco, Curacautín, altitude 1,050 meters, March 26, 1938 (*Bullock*).

Tipula dimorpha Alexander.

Concepción, September 26, 1935 (*Bullock*).

Tipula duseni Alexander.

Valparaíso, April 10, 1932 (*E. P. Reed*); Angol, April 6, 1935. (*Bullock*); Nahuelbuta, Pinas de Lonquimay, January 15, 1938 (*Bullock*); Temuco, April 2, 1936 (through *Bullock*); Termas Río Blanco, Curacautín, altitude 1,050 meters, March 30, 1938 (*Bullock*).

Tipula lanigera tau, subsp. n.

Differs from the typical form in the somewhat broader wings with much more pale color, especially in the cells of the cephalic half; and in the details of structure of the male hypopygium, especially the

conspicuous T-shaped appendage of the eighth sternite. The type of *lanigera* Alexander was from Bariloche, Lago Nahuelhuapi, April 1922.

Male. — Length about 18 mm.; wing 17.5 mm.; antenna about 4.7 mm.

Frontal prolongation of head brown, sparsely pruinose, more neavily so near base; *nasus* long and conspicuous, tufted with long yellow setae; palpi brownish black. Antennae with scape and pedicel yellow, the former sparsely pruinose and a trifle infuscated on proximal third; flagellum uniformly black, the segments moderately incised; longest verticils exceeding the segments in length. Head light gray in front, darker gray behind, still darker behind the eyes.

Pronotum gray, narrowly darkened medially. Mesonotal praescutum light gray, with four entire brown stripes, the intermediate pair very narrowly separated on their anterior fourth and with no vestige of a further interpolated median vitta; humeral and sublateral areas further patterned with brown; scutum gray, patterned with brown, including the cephalic median portion; scutellum light gray; broadly dark brown on central portion; mediotergite light gray, with a conspicuous dark brown median stripe that narrows to a capillary vitta on posterior third; ventral pleurotergite darker. Pleura gray, restrictedly patterned with darker gray. Halteres with stem brownish yellow, clearer yellow at base; knob dark brown with the extreme apical portion yellowed. Legs with the coxae gray; trochanters brownish yellow; femora yellow, the tips rather narrowly dark brown, this most intense shortly before the actual apex; tibiae obscure yellow, the tips narrowly blackened; tarsi passing through brown to black; claws (male) with a weak subbasal tubercle. Wings cream-yellow, handsomely marbled with brown and brownish gray; the darker areas occur as a subcostal series of about five, the last at the stigma; costal cell uniformly yellow except over the humeral cross-vein; subcostal darkened areas subequal in extent to the interspaces; proximal end of stigma more yellowish; the paler brown areas include the remaining cells, being more extensive than the yellow ground except in the outer radial field; along vein *Cu*, in cells *M* and *M*₁, the dark color is more intense; distal ends of outer medial cells with oval yellow areas, those in the cubital and anal cells more extensive but irregular and zigzag; veins brown, more yellowish in the costal interspace. Venation: *Rs* relatively long, about two and one-half times as long as *m-cu* the latter about two-thirds the distal section of *Cu*₁.

Abdominal tergites yellow; clearest on the subbasal segments, becoming more reduced on outer segments; a broad and conspicuous broken sublateral stripe, interrupted at the posterior borders of the segments, broadly so on the outer ones; outer abdominal tergites darker; basal sternites obscure yellow, the outer ones infuscated, provided with conspicuous erect yellow setae, as in *lanigera*. Male hypopygium with the characters much as in the typical form but the shape of the appendage of the eighth sternite different. This appears as a relatively slender median rod that is greatly extended laterad at apex to form a T-shaped structure; its apical portion with very abundant dense setulae, the stem with these less numerous near the base.

Holotype, male, Temuco, March 17, 1937 (*Bullock*).

Tipula latifolia, sp.n.

Belongs to the *glaphyoptera* group; size relatively small (wing, male, 14 mm. or less); mesonotal praescutum gray with four brown stripes, the central ground line with a capillary dark median vitta on cephalic part of sclerite; antennae of moderate length, brownish black to black; wings grayish brown, very restrictelly patterned with darker brown and subhyaline; male hypopygium with the caudal margin of tergite broadly emarginate, with an acute central spinous point; gonapophyses irregularly bifid at tips; appendage of eighth sternite a simple flattened blade, its apex obtuse.

Male. — Length about 12.5-13 mm.; wing 12.5-14 mm.; antenna about 3.9-4 mm.

Female. — Length about 18-19 mm.; wing 15 mm.

Frontal prolongation of head dark brownish gray, paler brown on lower portion; nasus distinct; palpi black. Antennae relatively short, brownish black or black, only the apex of the pedicel a trifle brightened; flagellar segments with basal swellings feebly developed; verticils only a little more than one-half the length of the segments. Head dark gray, the central portion of vertex extensively infuscated, the orbits and front clearer gray.

Pronotum gray, patterned with dark brown. Mesonotal praescutum light gray with four entire brown stripes, the intermediate pair united behind, in front separated but with a further capillary median brown vitta; humeral region with additional darkenings; scutum light gray, each lobe with two dark brown areas; scutellum and mediotergite gray with a brown median line; pleurotergite more grayish yellow. Pleu-

ra light gray; dorsopleural membrane obscure brownish yellow. Halteres brownish black, the extreme base of stem yellow. Legs with coxae gray; trochanters yellow; femora reddish brown basally, the tips brownish black; remainder of legs brownish black, the tarsi black. Wings grayish, very restrictedly and vaguely patterned with slightly darker brown and subhyaline; the darker areas include the stigma, anterior cord, origin of *Rs* and outer end of cell *M* adjoining vein *Cu*, the latter area interrupted by a more or less distinct more yellowish area; three relatively small and indistinct subcostal darkenings, the first at near mid-distance between arculus and origin of *Rs*, the second at *Rs*, the third at end of cell; subhyaline areas appear as an interrupted band before cord, most distinct from the outer end of cell *R* across cell 1st *M*₂ into extreme base of cell *M*₃; a post-stigmal brightening, especially evident in cell *R*₂. A paratype shows additional pale areas in outer end of cell *R*₂ and as two streaks in outer end of cell 1st *A*; prearcular field brightened; veins brown, *R*₁₊₂ with distal end pale. Venation: *Rs* more than twice the length of *m-cu*.

Basal abdominal tergite grayish brown; succeeding tergites yellow, trivittate with brown, narrowly interrupted at posterior borders of segments which are yellowish gray; sternites yellow, restrictedly patterned with brown on sides and less evidently at posterior border; outer segments more extensively darkened but hypopygium largely pale. In female, abdomen chiefly yellow without clearly defined stripes; ovipositor with cerci nearly straight. Male hypopygium (Fig. 2) with the tergite, *9t*, broad, pale, the caudal margin with a broad U-shaped notch that is produced at median portion into an acute spinous point; lateral margins of the obtuse lobes with a small rounded knob or flange. Basistyle, *b*, with mesal lobe, *b*, produced into a relatively large triangular pale cone, the surface with abundant setulae, the lower margin provided with a tuft or pencil of unusually long setae. Outer dististyle, *od*, at apex moderately expanded, apex obtuse. Inner dististyle, *id*, having outer margin with a single row of from 12 to 17 unusually powerful setae; apex of beat obtuse. Gonapophyses, *g*, broad-based, narrowed to a slender neck, at apex a little expanded and bifid. Appendage of eighth sternite, *8s*, unusually broad and spatulate; apex obtusely rounded; greatest width from about two-fifths to nearly one-third the length; central basal portion without setae.

Holotype, male, Termas Río Blanco, Curacautín, altitude 1,050 meters, February 23, 1942 (*Bullock*), *Allotopotype*, female, February 22, 1942. *Paratopotype*, 1 male, with the allotype; paratypes, 1 male, Mitreco, February 15, 1937, (*Bullock*); 3 males, 1 female, Angol, March 10, 1941 (*Bullock*).

Tipula latifolia is very different from other regional small-sized species of the genus. By keys it runs to forms such as *T. brethesiana* Alexander, but has the male hypopygium of entirely different construction. From other species having a simple elongate median lobe on the eighth sternite, it differs widely in coloration of the wings and in all other details of structure of the male hypopygium. The specimens from Angol above recorded as paratypes have the details of the hypopygium somewhat different but are regarded as being identical. Ninth tergite with the median tooth lower and less acute; lateral lobes more truncate. Outer margin of inner dististyle with the spinous setae more numerous (22-24) Appendage of eighth sternite distinctly longer and narrower, the greatest width less than one-fourth the length.

Tipula microspilota Alexander.

Termas Río Blanco, Curacautín, altitude 1,050 meters, March 25, 1938 (*Bullock*); Aysen, February 1934 (*Pirion*).

Tipula parviloba Alexander.

Cayutue, October 4, 1935 (Wolffhügel); "male, feeding on the blossoms of *Laurelia serrata* Webs"

Tipula pirioni Alexander.

Quitratúe, December 9, 1941. (O. Schneider); ex Bullock.

Tipula spatulifera Alexander.

Toltén, February 7, 1937 (*Bullock*); Termas Río Blanco, Curacautín, altitude 1,050 meters, March 28, 1938 (*Bullock*).

Tipula subandina Philippi.

Marga-Marga, September 15-20, 1927 (*Jaffuel & Pirion*).

Tipula subligulata Alexander.

Termas Río Blanco, Curacautín, altitude 1,050 meters. February 23-26 1942, (*Bullock*).

Tipula triemarginata Alexander.

Temuco, September 26, 1935 (*Ladino*); October 27, 1936; (*Es-pinosa*); through Bullock.

LIMONIINAE

Tribe Limoniini

Limonia (*Dicranomyia*) *bullockiana* Alexander.

Punta Pichalo, Pisagua, October 13, 1941 (*Hugo Yávar*); through Bullock.

Tribe Pediciini

Pedicia (*Tricyphona*) *aysenensis*, sp.n.

General coloration clear gray, the praescutum with four darker brownish gray stripes, the intermediate pair only weakly divided by an obscure brownish gray median vitta; halteres yellow; femora obscure yellow, the tips dark brown; wings brownish yellow; with two small, dark brown spots on cord, the one on the anterior cord larger; cell M_2 open by atrophy of m ; male hypopygium with the tergite bearing two submedian lobes that are densely covered by blackened spinous pegs; interbase a very large flattened blade bearing three outer spinous points in addition to a major slender spine at base; surface of blade with about nine elongate pale setae.

Male. — Length about 9 mm.; wing 11 mm.

Female. — Length about 10 mm.; wing 11.8 mm.

Rostrum blackened, gray pruinose; palpi brownish black. Antennae 17-segmented, black throughout; flagellar segments subcylindrical; terminal segment about one-half longer than the penultimate. Head light gray; vertical tubercle conspicuous; anterior vertex (male) a little narrower than in female, about three times the diameter of scape.

Pronotum gray, a trifle darker above. Mesonotal praescutum light gray, with four dark brownish gray stripes, the intermediate pair only weakly divided by an obscure brownish gray median vitta; posterior sclerites of notum light gray, the postnotum somewhat more plumbeous; scutal lobes each with two brownish gray areas that are almost confluent. Pleura clear light gray, the ventral sternopleurite darker; dorsopleural membrane strongly infuscated, somewhat paler before the spiracle. Halteres short, obscure yellow. Legs with the coxae elongate, gray pruinose, the fore pair paler, especially on posterior face; trochanters obscure reddish brown; femora obscure yellow, the tips passing into dark brown; tibiae obscure yellow, the tips more narrowly blackened; basitarsi brownish yellow, the outer tarsal segments passing into brownish black. Wings (Fig. 3) brownish yellow, with two small but conspicuous dark brown spots on cord, the one on anterior cord a little more extensive than the one at *m-cu*; stigma obscure yellow; its proximal end a trifle darkened; veins brown, *Sc* more yellow. Venation: *Rs* short, arcuated to strongly angulated and short-spurred; *r-m* beyond midlength of R_4+5 , the petiole of cell R_4 short; cell M_2 open by the atrophy of *m*.

Abdomen, including hypopygium, black, heavily pruinose to produce a brownish gray appearance; sternites somewhat clearer gray. Male hypopygium (Fig. 4) with the tergite, *9t*, bearing two submedian lobes of moderate size, each set with abundant blackened spinous pegs. Mesal face of basistyle with unusually abundant elongate setae; interbasse, *i*, a very large, flattened, nearly glabrous blade bearing three outer spinous points, in addition to a major slender spine at base; on surface of blade with about nine elongate pale setae. Dististyle, *d*, apical, provided with long setae, terminating in a small cultriform spinous blade.

Holotype, male, Aysen, February 1934 (*Pirion*). Allotopotype female pinned with the type.

Pedicia (Tricyphona) aysenensis is well-distinguished from the other regional members of the subgenus that have cell M_2 of the wings open by the atrophy of *m* by the clear gray color of the body, the conspi-

cuous darkened areas on the wing-disk, and, especially, the structure of the male hypopygium, notably the ninth tergite and the interbase.

Pedicia (Tricyphona) chilota (Alexander).

Aysen, February 1934 (*Pirion*).

Pedicia (Tricyphona) serrimarga, sp.n.

General coloration gray, the praescutum with four dark brown stripes; knobs of halteres weakly darkened; legs yellow, with only the outer tarsal segments darkened; wings yellow, stigma very pale brown; a very poorly indicated brown cloud on anterior cord; R_4+5 short, in direct longitudinal alignment with R_s ; $r-m$ at fork of R_4+5 ; cell M_2 open by the atrophy of m ; male hypopygium with the tergite large, each lobe profoundly divided into two large fleshy lobes; interbase a flattened blade, the surface and lateral margin with abundant microscopic appressed points to produce a weakly serrated appearance.

Male. — Length about 12 mm.; wing 15.5 mm.

Rostrum black, pruinose; palpi brownish black. Antennae 17-segmented, black throughout. Head gray; vertical tubercle relatively conspicuous slightly darkened medially.

Pronotum large, obscure brownish gray Mesonotal praescutum light gray with four conspicuous dark brown stripes, the intermediate pair only slightly separated by an obscure median vitta; posterior sclerites of notum clear gray, the scutal lobes patterned with darker gray. Pleura clear gray; dorsopleural membrane more buffy. Halteres yellow, the apex of knob weakly darkened. Legs with the coxae reddish yellow, very sparsely gray pruinose; trochanters obscure yellow; remainder of legs yellow, the tips of femora and tibiae not darkened; outer tarsal segments passing into brownish black. Wings with a yellowish tinge the stigma very pale brown; a very poorly indicated pale brown cloud on anterior cord; veins yellowish brown. Venation: R_4+5 short, in direct longitudinal alignment with R_s ; $r-m$ at fork of R_4+5 ; cell M_2 open by atrophy of m ; $m-cu$ close to fork of M_3+4 .

Abdomen dark brownish gray, the caudal borders of the more proximal segments narrowly yellow; hypopygium dark yellowish brown. Male hypopygium (Fig. 5), with the large tergite, $9t$ (only one-half shown), profoundly divided medially, each lobe gradually narrowed outwardly, its apex subtruncate; surface and margin of lobes microscopically serru-

late and provided with erect pale setae. Basistyle, *b*, with the interbase, *i*, a flattened blade, the apex produced into a more slender portion; surface of blade, and especially the lateral margin, with microscopic appressed points to produce a weakly serrate appearance. Dististyle, *d*, relatively small and simple, at extreme apex produced into a short compressed glabrous blade; above the apical with several unusually strong spinous bristles.

Holotype, male, Lago Gutierrez, Patagonia, November 11, 1926 (*R. C. Shannon*) Earlier recorded (Diptera of Patagonia and South Chile, 1: 110; 1929) as *Pedicia (Tricyphona) crassipyga* (Alexander). The fly differs conspicuously from true *crassipyga* in the structure of the male hypopygium, especially in the entire lobes of the ninth tergite and in the structure of the interbase. This latter structure in *crassipyga* is shown for comparison (Fig. 6, *i*); it appears as a long slender curved rod from an expanded base, the apex dilated into a weak blade.

Tribe Hexatomini

Austrolimnophila hazelae Alexander:
Aysen, February 1934 (*Pirion*).

Austrolimnophila microsticta Alexander.
Cayutue, November 13, 1933 (Wolffhügel).

Austrolimnophila xanthoptera cayutuensis, subsp.n.

Male. — Length about 18 mm; wing 19 mm.; antenna 4 mm.

Generally similar to typical *xanthoptera* Alexander (Chiloé Island), differing especially in the coloration of the legs and in the details of structure of the male hypopygium.

Antennal flagellum paler than in the typical form, the proximal segments brownish yellow to obscure yellow, the outer segments passing into brown. Vertical tubercle relatively inconspicuous. Intermediate praescutal stripes confluent at their anterior ends. Legs with femora yellow, each with a relatively narrow brown ring immediately before the tips; tibiae yellow, the tips even more narrowly infuscated; tarsi obs-

cure yellow, the outer segments passing into darker brown. Wings slightly narrower than in the typical form. Venation: *Rs* weakly angulated but not spurred at origin. Male hypopygium with the interbases stouted than in typical form, the acute tips pale. Inner dististyle shorter and stouter, the distal third angularly bent, its tip obtusely rounded. Aedeagus relatively long and slender, exceeding the free portion of the gonapophyses in length. Gonapophyses evenly narrowed to the subacute tips, the latter with a microscopic pale flange back from the apex.

Holotype, male, Cayutue, March 12, 1935 (*Wolffhügel*).

The typical form still is known only from the unique type, (Castro, December 20-22, 1926, *Edwards*). In the original description of this, the antenna is stated to be 3.3 mm. long; this is a typographical error for 3.8 mm.

Tribe Eriopterini

Sigmatomera (Austrolimnobia) bullocki (Alexander)

Angol, May 14, 1942; September 16, 1935 (*Bullock*). This beautiful fly was originally referred to the genus *Astelobia* Edwards but the recent accession of many new species from various parts of the world indicates that this name is identical with the earlier *Austrolimnobia* Alexander and that the latter is best considered as representing a subgenus of the characteristic Neotropical group *Sigmatomera* Osten Sacken. The species is very different from the only other Chilean species of the genus so far made known, *Sigmatomera (Austrolimnobia) maiae* (Alexander).

Aphrophila aurantiaca, sp.n.

General coloration of the thorax orange-yellow, without distinct pattern; halteres uniformly yellow; legs yellow, the tips of the tibiae and basitarsi slightly darker; outer tarsal segments dark brown; wings whitish subhyaline, the stigma and basal portion of cell *Sc* darkened; *Rs* relatively long, nearly twice R_2+3+4 ; ovipositor with cerci smooth, entirely so along ventral margin, on dorsal surface, before tip with two papillose swellings.

Female. — Length about 6.5 mm.; wing 8.3-8.5 mm.

Rostrum orange-yellow; palpi brown. Antennae with scape obscure yellow; pedicel and flagellum black; flagellar segments oval. Head obscure yellow, more infuscated behind, especially on the central occipital region.

Pronotum pale yellow. Mesonotum orange-yellow, the humeral and lateral portions of praescutum yellow pollinose. Pleura reddish, variegated with yellow; ventral portion of pleurotergite and portions of pteropleurite darker. Halteres uniformly yellow. Legs with the coxae yellow; trochanters somewhat paler; remainder of legs yellow, the tips of tibiae and basitarsi slightly darker; outer tarsal segments dark brown. Wings whitish subhyaline, the bases more yellowish; stigma oval, pale brown; a conspicuous infuscation in cell *Sc* from wing-base about to mid-distance to origin of *Rs*; veins brown, flavous in the brightened yellow basal portion. Venation: *Rs* relatively long, nearly twice R_2+3+4 ; *m-cu* about one-third to one-fourth its length beyond the fork of *M*.

Abdominal tergites obscure yellow, variegated with pale brown; outer segments yellow; basal sternites clear yellow, the terminal segments slightly darkened. Ovipositor with the genital shield fulvous orange; cerci dark chestnut brown. Cerci (Fig. 8) strongly upcurved, smooth, the upper or dorsal surface of outer fourth with two relatively strong papillae some distance back from tip. Hair-brushes on dorsum of bases of cerci conspicuous, erect.

Holotype, female, Aysen, February 1934 (*Pirion*)

Aphrophila aurantiaca is readily told from allied species by the structure of the cerci. The form most similar in general appearance is *A. chilena* which has the body-coloration somewhat the same but with the upper or concave margin of the cerci coarsely toothed. The cerci of four Chilean species of *Aphrophila* are shown herewith by outline drawings (*aurantiaca*, sp.n., Fig. 8; *chilena* Alexander, Fig. 11; *multidentata* Alexander, Fig. 10; *viridinervis* Alexander, Fig. 9).

Aphrophila coronata, sp.n.

General coloration of mesonotum blackened, sparsely pruinose, the praescutum more reddish brown with three dark stripes; pleura blackened, the dorsal sternopleurite more reddish brown; femora yellow, the tips narrowly dark brown; wings yellowish subhyaline, stigma darker; *Rs* unusually long, a little less than twice R_2+3+4 ; abdomen, including

hypopygium, black; male hypopygium with the tergite very broad, the central portion extended, the lateral angles further produced into lobes; dististyle at apex extended into a long rostral blade, before apex on outer surface with numerous spinous points.

Male. — Length about 6.5 mm.; wing 7.5 mm.

Rostrum brownish yellow; palpi black. Antennae with scape brownish yellow; pedicel and base of flagellum black; remainder of antenna broken but presumably black. Head brownish gray, clearer gray on anterior vertex, the posterior vertex and occiput still darker; anterior vertex more than twice the diameter of scape; eyes large.

Pronotum reduced, obscure yellow. Mesonotal praescutum with ground color reddish brown, sparsely pruinose, with three more blackened stripes, the median one further divided by a capillary velvety black vitta; posterior sclerites of notum black, sparsely pruinose to produce a leaden appearance; median portion of scutum paler; scutellum not at all brightened. Pleura blackened, sparsely pruinose, the dorsal portion of sternopleurite more reddish brown; dorsopleural membrane restrictedly yellow. Halteres with stem yellow; knobs broken. Legs with the coxae brownish black, sparsely pruinose; trochanters obscure yellow; femora yellow, the tips rather narrowly but abruptly and conspicuously dark brown; tibiae and tarsi obscure yellow, the terminal two tarsal segments brownish black. Wings yellowish subhyaline, clearer yellow at base; stigma medium brown; veins brown, brighter at wing-base. Venation: R_s unusually long, a little less than twice R_{2+3+4} ; R_s , R_{2+3+4} and R_2 all in direct longitudinal alignment; cell 1st M_2 closed, m shorter than the basal section of M_2 ; $m-cu$ about one-half its length beyond the fork of M .

Abdomen, including hypopygium, black. Male hypopygium (Fig. 7) with the tergite, $9t$, very broad, its central portion produced into a short wide extension, the outer lateral angles of which are still further extended into lobes. Basistyle, b , stout, the mesal face with a longitudinal row of abundant setae. Dististyle, d , produced at apex into an elongate rostral blade that is unequally bidentate at apex; outer surface of style before the blade with numerous low spinous points; lower or cephalic portion of style with numerous long black setae.

Holotype, male, Aysen, February 1934 (*Pirion*)

Aphrophila coronata is entirely different from all Chilean species in which the male sex is known, including *A. carbonaria* Alexander and *A. chilena* Alexander. The hypopygium, especially the tergite and dististyle, is entirely different from these other species. From those forms in which the male is still unknown, including *A. multidentata* Alexander, the present fly differs in the coloration of the body and legs, and in the unusual length of *Rs* which is much longer than R_{2+3+4} , as stated above.

Aphrophila viridinervis Alexander.

Described from a single female taken at Cunco, near Valdivia (see Revista Chilena Hist. Nat., 43: 176, 1939, for correction of name of type locality). One further female, Aysen, February 1934 (*Pirion*).

Molophilus (Molophilus) dicerus, sp.n.

Belongs to the *plagiatus* group; general coloration testaceous, the praescutum a little darker medially; pleura with a vague darker dorsal stripe; antennae short; wings pale grayish, the veins slightly darker; male hypopygium with the stem of outer dististyle long and slender, approximately twice as long as the arms; basal dististyle a strong black rod that forks into two unequal arms, the more slender axial one approximately as long as the stem, the lateral branch shorter, provided with six or seven conspicuous denticles; phallosome a hairy plate that is emarginate at apex.

Male. — Length about 3.5 mm.; wing 4 mm.; antenna about 0.5 mm.

Rostrum testaceous brown; palpi darker brown. Antennae relatively short; scape and pedicel yellow, flagellum brownish black; flagellar segments oval, with very long verticils, these approximately two and one-half times the length of the segments. Head behind dark brown, sparsely pruinose, the anterior vertex and front yellow.

Pronotum pale yellow, darker in front; pretergites pale yellow. Mesonotal praescutum brownish gray medially, the humeral and lateral portions more yellowish; posterior sclerites of notum more testaceous. Pleura with ventral portion testaceous yellow, the dorsal sclerites slightly more infuscated to produce a vague stripe. Halteres weakly infuscated, the base of stem pale yellow. Legs with the coxae and trochanters testaceous yellow; remainder of legs pale, appearing darker in color due to an abundance of dark-colored setae. Wings with a pale grayish tinge;

veins slightly darker; macrotrichia dark brown. Venation: R_2 lying just distad of level of $r-m$; $m-cu$ a trifle more than one-half the length of petiole of cell M_3 ; vein $2nd\ A$ ending about opposite $m-cu$.

Abdomen, including hypopygium, brownish black. Male hypopygium with the beak of ventral lobe of basistyle slender. Outer dististyle with stem long and slender, approximately twice the length of either arm. Basal dististyle a strong blackened rod, at near midlength bifurcated into a slender, gently curved axial spine that is nearly as long as the stem, and a shorter and stouter lateral arm; axial spine simple, provided with a few setigerous punctures and weak spines, the largest of the latter lying in the axil of the two arms; lateral branch conspicuously provided with about six or seven denticles. Phallosomic structure a hairy plate, its apex with a relatively deep U-shaped notch that is a trifle wider than either subtending lobe.

Holotype, male. Termas Río Blanco, Curacautín, altitude 1,100 meters, February 20, 1942, (*Bullock*).

By my key to the Chilean and Patagonian species of *Molophilus* (Diptera Patagonia and South Chile, 1: 200-202; 1929), the present fly runs to couplet 22, including *Molophilus appressus* Alexander and *M. perfidus* Alexander. It differs conspicuously from both of these flies, as well as from the subsequently described *M. subappressus* Alexander, by the structure of the male hypopygium.

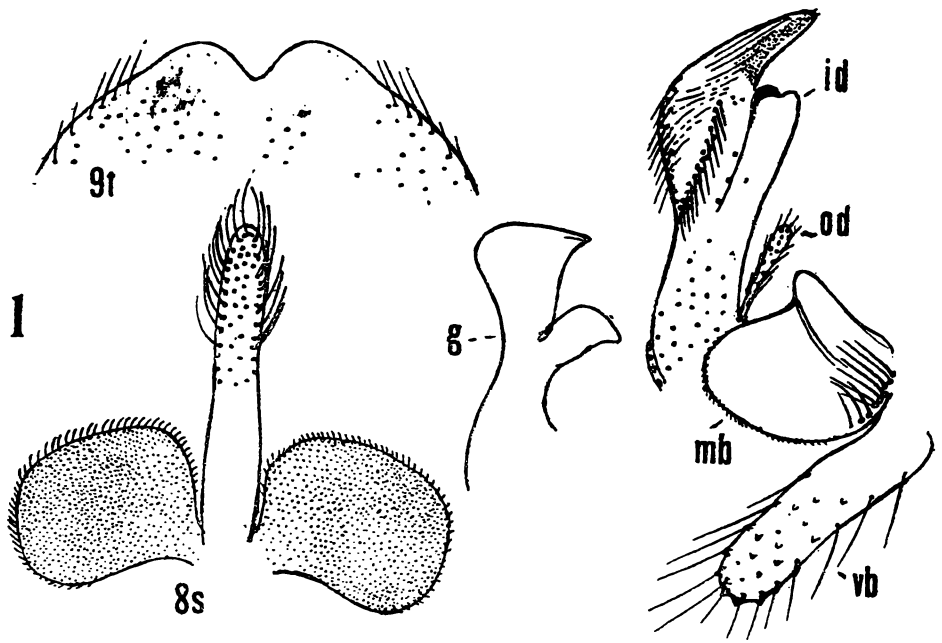


Fig. 1. *Tipula angolensis*, sp.n.; details of male hypopygium.

Fig. 2. *Tipula latifolia*, sp.n.; details of male hypopygium. (Symbols: b, basistyle; g, gonapophysis; id, inner dististyle; mb, mesal lobe of basistyle; od, oyster dististyle; s, sternite; t, tergite; vb, ventral lobe of basistyle).

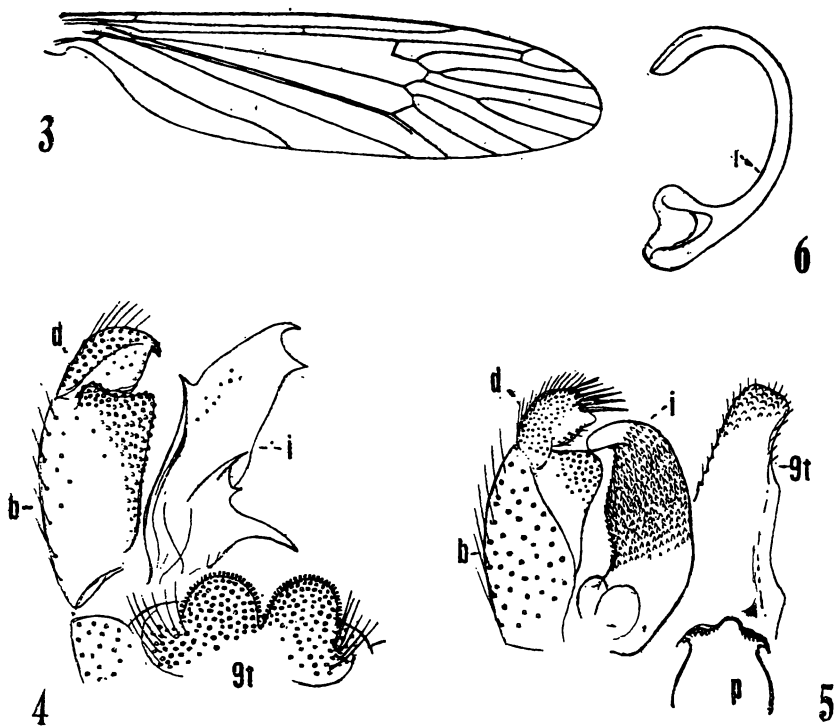


Fig. 3. *Pedicia (Tricyphona) aysenensis*, sp.n.; venation.
 Fig. 4. The same; male hypopygium.
 Fig. 5. *Pedicia (Tricyphona) serrimarga*, sp.n.; male hypopygium.
 Fig. 6. *Pedicia (Tricyphona) crassipyga* (Alexander); male hypopygium. (Symbols: b, basistyle; d, dististyle; i, interbase; p, phallosome; t, tergite).

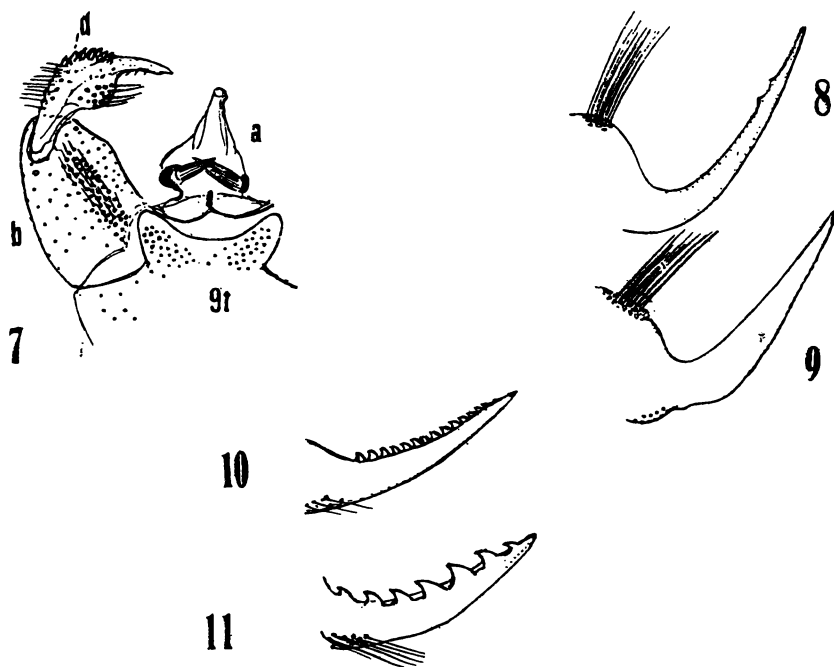


Fig. 7. *Aphrophila coronata*, sp.n.; male hypopygium.
 Fig. 8. *Aphrophila aurantiaca*, sp.n; ovipositor, cercus.
 Fig. 9. *Aphrophila viridinervis* Alexander; ovipositor, cercus.
 Fig. 10. *Aphrophila multidentata* Alexander; ovipositor, cercus.
 Fig. 11. *Aphrophila chilena* Alexander; ovipositor, cercus.
 (Symbols: a, aedeagus; b, basistyle; d, dististyle; t, tergite).