

NEW OR INSUFFICIENTLY-KNOWN CRANE-FLIES FROM CHILE
(Family Tipulidae, Order Diptera)

(Apartado de Agricultura Técnica. — Año V — Enero-Junio 1945 — Nº 1)

Imp. y Lito. "STANLEY" — Monjitas 511 — Santiago

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MINISTERIO DE AGRICULTURA
DIRECCION GENERAL DE AGRICULTURA
SANTIAGO — CHILE

NEW OR INSUFFICIENTLY-KNOWN CRANE-FLIES FROM CHILE
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PART II

The preceding part under this title was published in the BOLETIN DE SANIDAD VEGETAL, vol. 3, N^o 2: 117-138, 1943. The majority of the species discussed herewith were collected by Professor Dillman S. Bullock of Angol, or by certain of his students. Further interesting materials were taken by P. Felix Jaffuel at the Termas de Chillán in February 1933, and by Dr. Kurt Wolffhügel, in the vicinity of his home at Cayutue, near Lago Todos los Santos, in Llanquihue. Through the appreciated kindness of the various collectors, I have been permitted to retain the types of the various new species in my extensive collection of World Tipulidae.

MACROMASTIX ATRIROSTRIS, sp. n.

General coloration gray, the praescutum with four brown stripes; frontal prolongation of the head elongate, black, approximately one-half longer than the remainder of head; no nasus; halteres elongate, black; wings brownish gray, stigma brownish yellow; veins beyond cord glabrous; vein Sc_1 preserved, R_s long and nearly straight, about one-third longer than R_2+3 ; abdomen black, pruinose; male hypopygium with the tergite transverse, its caudal margin with a U-shaped notch; dististyle with conspicuous lobes.

Male. Length about 15 mm.; wing 15 mm.; rostrum alone 1.7 mm.

Frontal prolongation of head elongate, slender, approximately one-half longer than the remainder of head, black throughout; no nasus; palpi black. Antennae with scape and pedicel light yellow; flagellum

broken (from the slenderness of the scape it is presumed that the antennae are short). Head with the front and extreme anterior vertex yellow, the posterior vertex medially extensively brownish black, paler on sides, the entire surface gray pruinose; vertical tubercle low and little evident; anterior vertex relatively wide, approximately five times the diameter of scape.

Pronotum gray, variegated with darker. Mesonotal praescutum light gray, with four entire dark brown stripes, the intermediate pair separated by a narrow ground vitta; extreme cephalic border of praescutum blackened, more expanded near the humeri; posterior sclerites of notum light gray, patterned with brown, including relatively inconspicuous areas on the scutal lobes, the central portion of scutellum, and paired spots on either side of cephalic half of mediotergite; vestiture of thoracic notum relatively long and conspicuous, whitened. Pleura gray, variegated with brown, especially on ventral half of sternopleurite and on the anepisternum; dorsopleural membrane buffy-yellow; vestiture of sternopleurite sparse but long and conspicuous. Halteres elongate, the base of stem restrictedly yellow. Legs with the coxae light gray; trochanters yellow, the fore pair of unusual length; femora brownish yellow, clearer yellow at base, the tip narrowly blackened; tibiae and basitarsi brown, remainder of tarsi passing into brownish black. Wings with a brownish gray tinge, the extreme base yellowed; stigma brownish yellow, a trifle more darkened at its outer end; a tiny brown cloud over anterior cord and in bases of outer radial cells; veins brown, obliterative areas relatively extensive. Veins beyond cord glabrous, excepting a few trichia on R_2+3 and base of R_3 . Venation: Sc_1 preserved, Sc_2 shortened; R_s long and nearly straight, about one-third longer than R_2+3 ; anterior cord oblique; petiole of cell M_1 shorter than m ; cell 2nd A relatively wide.

Abdomen black, more or less pruinose, especially the basal tergites; basal sternites slightly more reddened; hypopygium black. Male hypopygium with the tergite (Fig. 1, 9t) transverse, its caudal margin with a broadly rounded notch that is filled with pale membrane; lateral lobes broadly obtuse and provided with conspicuous black setae, this area crossing the midline as a narrow band that occupies about one-fourth the length of the sclerite. Dististyle (Fig. 2, d) complex in structure, about as shown.

Holotype, male, Nuevo Imperial, March 1940 (Bullock).

Macromastix atrirostris is entirely different from all other regional species, especially in the elongate blackened frontal prolongation of the head and in the distinctive structure of the male hypopygium. The subgeneric position of this fly is uncertain.

MACROMASTIX NAHUEL BUTAE, sp. n.

Size small (wing, male, less than 9 mm.); general coloration of thorax yellow, patterned with brown, including three praescutal stripes, the median one narrowly split; antennae short; legs dark brown to brownish black; wings with a grayish tinge, the oval stigma more yellowish; *Rs* relatively short, arcuated; abdominal sternites brownish black medially, pale sublaterally; male hypopygium with the ninth tergite strongly notched, the lateral lobes unusually narrow; outer dististyle long and narrow throughout; inner dististyle with only about a dozen blackened spinous points on the subapical beak.

Male. Length about 8.5 - 9.5 mm.; wing 8.8 - 10.5 mm.; antenna about 1.05 - 1.1 mm.

Frontal prolongation of head obscure yellow, of moderate length, subequal to the remainder of head; nasus long and conspicuous, infuscated; palpi black, of moderate length. Antennae short, dark brown, the pedicel a very little more brightened. Head above obscure yellow, clearest adjoining the eyes, the central portion of vertex infuscated, particularly on the low vertical tubercle.

Pronotum light yellow, more infuscated on the sides. Mesonotum yellow, conspicuously patterned with brown, praescutum with three stripes, the central one very narrowly and vaguely split by a median reddish vitta; lateral stripes entire; scutal lobes heavily patterned with dark brown; scutellum uniformly yellow, the parascutella more darkened; mediotergite yellow, variegated with pale brown on either side, leaving the central and lateral portions of the ground color; pleurotergite yellow, its caudal portion weakly patterned with brown. Pleura yellow, conspicuously variegated with dark brown, this involving the propleura, most of the anepisternum and the ventral half of the sternopleurite; mesepimeron, metapleura and dorsopleural membrane light yellow. Halteres relatively long, stem weakly infuscated, the knob more strongly so. Legs with the coxae yellow, more or less variegated with brown on their outer faces; trochanters yellow; femora brown, the tips still darker, the posterior femora almost uniformly dark brown; remainder of legs brownish black to black. Wings with a grayish tinge, the oval stigma more yellowed; veins brown, the adjacent membrane very weakly and narrowly darkened. Macrotrichia on outer three-fourths of vein R_3 ; distal section of R_4+5 ; veins M_1 to M_4 , inclusive, and the distal section of Cu_1 ; a restricted series on vein 2nd *A*; no trichia on *Rs*, R_2+3 or R_2 . Venation: Sc_1 lacking; *Rs* relatively short, arcuated; R_2+3 elongate, about one-half longer than *Rs*; petiole of cell M_1 about one-third longer than *m*; *m-cu* long, cell M_4 widest at base, strongly narrowed before its outer end; cell 2nd *A* relatively narrow.

Abdominal tergites broadly infuscated medially, the lateral borders broadly, the caudal margins very narrowly, paler, more or less pruinose; sternites brownish black medially, the sublateral portions conspicuously yellow, the extreme lateral borders again darkened; hypopygium chiefly obscure brownish yellow. Male hypopygium with the tergite (Fig. 3, 9t) deeply emarginate medially, the lobes unusually long and narrow; base of notch and adjacent portions of sides with relatively few major setae. Outer dististyle (Fig. 4, od) long and slender throughout its length, only a trifle thicker at its outer end; inner dististyle (Fig. 4, id) with the outer beak long and slender, separated from the remainder of style by a U-shaped emargination; the obtuse subapical beak with about a dozen blackened spinous setae. In *bullocki*, the tergal lobes are shorter and broader, the median notch narrower. Outer dististyle expanded except at the narrowed outer end; inner dististyle with the spines of the very obtuse subapical beak more numerous, about thirty in number.

Holotype, male, Nahuelbuta, altitude 800 meters, March 4, 1941 (Bullock). *Paratopotypes*, 2 males.

The present fly is most nearly allied to the larger *Macromastix bullocki* Alexander, which differs not only in the size and details of coloration but especially in the structure of the male hypopygium, particularly of the tergite and dististyles, as compared above. I am not referring either of these species to a subgeneric group until more is known of the female sex. From what is now known, both species will be found to belong in *Araucomyia* Alexander.

HOLORUSIA PROBLEMATICA, sp. n.

General coloration of mesonotum brownish gray, the praescutum with four dark gray stripes; antennae 12-segmented, the flagellar segments beyond the first black; terminal flagellar segment elongate; wings yellow, with darkened washes in the prearcular field and along vein *Cu* to the wing margin; abdominal tergites obscure yellow, narrowly darkened sublaterally.

Female. Length about 15 - 16 mm.; wing 16 - 18 mm.; antenna about 2.7 - 2.8 mm.

Frontal prolongation of head relatively long, reddish yellow, darker and heavily light gray pruinose above; nasus long and conspicuous, with golden yellow setae; palpi black, the terminal segment broken. Antennae (Fig. 5) 12-segmented; scape and pedicel yellow, the former

sparsely pruinose; first flagellar segment brown, the second brownish black; remaining flagellar segments black; scape long, its dorsal surface coarsely corrugated; first flagellar segment elongate-cylindrical, slender, about four-fifths the length of the scape or subequal to the succeeding two segments combined; outer flagellar segments with their lower faces more or less protuberant, most accentuated on the sixth flagellar segment; lower faces of segments without elongate setae, merely pubescent; dorsal faces with appressed setae that are shorter than the segments; terminal segment long and slender, about one-third longer than the penultimate. Head reddish brown, the front and vertex, especially the anterior vertex, with a heavy white pruinosity; no developed vertical tubercle; anterior vertex relatively wide, about three times the diameter of scape.

Pronotum light gray pruinose, darker brown on sides. Mesonotal praescutum with the restricted ground brownish gray, clearer gray on sides; four dark brown praescutal stripes, the intermediate pair separated by a capillary, more blackish vitta; internal margin of lateral stripe likewise more conspicuously darkened; scutum gray, the posterior portion of lobe with a large brown area; posterior sclerites of notum gray pruinose, the central region of scutellum more brownish; pleurotergite brownish yellow, the katapleurotergite heavily pruinose. Pleura heavily gray pruinose, variegated with brown, including a more or less distinct dorsal stripe on the anepisternum and propleura, and another over the ventral sternopleurite; dorsopleural membrane variegated brown and yellow. Halteres infuscated, knobs large. Legs with coxae light gray pruinose; trochanters yellow to brownish yellow; femora brown, their tips inconspicuously darker brown; tibiae and proximal two tarsal segments obscure yellow, their tips very narrowly infuscated; outer tarsal segments blackened; claws (female) simple. Wings (Fig. 7) strongly yellow, the costal border more saturated; stigma brown; a more or less distinct brown clouding, heavier in the type, involving the anterior prearcular field and washes in cells R and M , the latter crossing $m-cu$ and involving much of cell M_4 , reaching the posterior border; veins yellow, darker in the clouded portions. Costal setae and fringe of posterior border unusually short, especially the latter; veins beyond cord without macrotrichia, with the exception of a complete sparse series on R_4+5 . Venation: Sc_1 preserved as a spur; vein R_1 opposite Sc_2 more or less swollen; R_1+2 preserved; vein R_2 erect; R_s long, in continuous alignment with R_2+3 , the latter close to R_4+5 at their bases, cell R_3 thus being narrowed on its proximal portion; cell M_1 nearly twice its petiole; cell 2nd A wide.

Abdominal tergites obscure yellow to reddish yellow, narrowly darkened sublaterally, most evident on the outer segments; caudal

borders of outer tergites narrowly pale; sternites more uniformly yellow. Ovipositor with genital shield obscure yellow; cerci yellow, straight, broad at base, tapering to the narrowly obtuse tips, their margins smooth; hypovalvae very flattened, the tips narrowly obtuse, the outer faces with delicate setulae.

Holotype, female, Guape, near Chillán, Ñuble, January 25, 1943 (through Bullock). *Paratopotype*, female.

The reference of this fly to *Holorusia* must be held somewhat in question. The venation and the structure of the antennae deviate in some regards from the normal type of the genus and it is possible that the discovery of the male sex will necessitate a change in generic assignment. The fly agrees in some regards with *Holorusia vittigera* (Philippi), which is still not known to me. However, this latter is much larger and has a quite different pattern of the body and wings.

TIPULA (EUMICROTIPULA) BIGOTIANA Alexander

The type was a female from Punta Arenas, taken February 25, 1896, by Ohlin. Unfortunately no topotypic males of the fly have yet been discovered. A few specimens from Cayutue, Llanquihue, taken in mid-January 1933, by Edwyn P. Reed, and again between February 7 - 11, 1939, by Wolffhügel, agree very closely in coloration and general appearance with the type and I regard the identity as being correct.

In a recent review of the subgeneric groups included in the South American species of the genus *Tipula* Linnaeus, it is considered that virtually all of these numerous species fall in two subgeneric groups, *Microtipula* Alexander (type, *amazonica* Alexander, 1912) and *Eumicrotipula* Alexander (type, *macrotrichiata* Alexander, 1922). The latter subgenus includes not only the small and medium sized forms that center about the subgenotype but the more numerous representatives of the so-called *glaphyoptera* and *monilifera* groups. In the former group, all species of the genus so far discovered in Chile may be placed.

TIPULA (EUMICROTIPULA) CHILLANICA, sp. n.

Belongs to the *glaphyoptera* group; size medium (wing, 17 mm.); general coloration of thorax gray, the praescutum with four brown stripes, there being no dark median vitta; pleura extensively yellow; wings with a brownish tinge, rather inconspicuously patterned with

darker brown and whitish subyaline, the latter including more conspicuous areas beyond stigma and across cell *1st M*₂; male hypopygium with the caudal margin of ninth tergite triemarginate; outer dististyle apparently lacking; gonapophyses conspicuously bifid; appendage of eighth sternite a long-stemmed simple spatula.

Male. Length about 16 mm.; wing 17 mm.

Female. Length about 20 mm.; wing 17 mm.

Frontal prolongation of head yellowish brown, sparsely pruinose; nasus small but distinct; palpi black. Antennae with scape and pedicel yellow; flagellum broken. Head with front yellow, the posterior vertex more infuscated, pruinose on disk and with a capillary dark brown median vitta; vertical tubercle virtually lacking.

Pronotum dark brown, the lateral borders yellow. Mesonotum chiefly dark gray, the praescutum with four brown stripes, there being no median dark vitta; intermediate dark stripes narrower than the central ground vitta; lateral stripes less distinct; lateral praescutal borders more or less darkened; scutal lobes patterned with brown; scutellum with a median brown vitta, parascutella infuscated; post-notal mediotergite clear dark gray, pleurotergite yellow, particularly the protuberant katapleurotergite. Pleura with the mesepisternum dark gray, the dorsal sternopleurite paler; remainder of pleura, including the propleura and much of the pteropleurite, yellow, the latter weakly patterned with brown; meral region gray dorsally, infuscated on ventral portion. Halteres with stem obscure yellow, base of knob infuscated, its apex obscure yellow. Legs with the coxae yellow, whitish pruinose; trochanters yellow; remainder of legs broken. Wings with a brownish tinge, rather inconspicuously patterned with darker brown and whitish subhyaline; the darker brown areas include the stigma and a confluent seam over the anterior cord; a series of four brown spots in cell *Sc*, the outer three more crowded distally in male than in female; cell *Cu*₁ almost uniformly infuscated; a small brown postarcular darkening in bases of cells *R* and *M*; the pale areas include a post-stigmal area and a comparable one across cell *1st M*₂ and adjacent cells, these two areas scarcely connected in the bases of the outer radial cells; small pale marginal spots in centers of cells *R*₅ to *2nd A*, there being two of these in cell *1st A*, the apices of the intervening veins slightly darkened, more clearly delimiting the spots; cell *C* almost uniformly yellow, concolorous with the subcostal interspaces; veins brown, *C* and the brightened fields more yellowed. Venation: *Rs* a little less than twice *m-cu*; tip of *R*₁₊₂ pale but entire, without trichia; petiole of cell *M*₂ variable in length from subequal to longer than *m*.

Abdominal tergites of male obscure yellow, with a conspicuous median brown stripe that is entire or virtually so; sublateral dark stripe

indicated on basal segments but indistinct behind; sternites more uniformly yellow, the subterminal segments more extensively and uniformly dark brown; hypopygium brownish yellow. In female, abdominal coloration almost as in male; cerci long and slender, straight, their tips obtuse. Male hypopygium (Fig. 11) with the tergite, *9t*, large its caudal border triemarginate, the median lobe broader, the lateral ones rounded. Basistyle with its ventrocaudal lobe, *vb*, blackened, cylindrical, the length about five times the diameter, tipped with very long setae, the longest subequal to or slightly exceeding the lobe; mesal lobe, *mb*, a large flattened plate that is curled into a subcylindrical structure, the entire surface densely, covered with microscopic setulae. Outer dististyle apparently lacking, not observable in the unique type. Inner dististyle, *id*, with the beak relatively slender; setae of dorsal crest relatively long and delicate, angularly bent at tips. Gonapophyses, *g*, conspicuously bifid, the shorter arm obtuse at tip, the longer one acute. Appendage of eighth sternite, *8s*, a simple spatula, gradually widened from the base to the blade, the latter uniformly and densely covered with long pale setae.

Holotype, male, Termas de Chillán, Ñuble, altitude 1800 meters, February 1933 (Jaffuel). *Allotopotype*, female.

Tipula (Eumicrotipula) chillanica is quite distinct from those other regional species of the group having lightly patterned wings, no median dark praescutal stripe, and a simple median spatula on the eighth sternite of male. In this latter character, the fly comes closest to *T. (E.) spatulifera* Alexander, which has all details of coloration of the body and wings, as well as the structure of the male hypopygium, distinct. The resemblance to *T. (E.) jaennickeana* Alexander is even more remote. The apparent loss of the outer dististyle in the present fly is most interesting. It does not appear possible that the structure is normally present and broken on both sides of the unique type slide in such a manner that no trace of a stub or spur persists.

TIPULA (EUMICROTIPULA) PALLIDISIGNATA SALUTATORIA, subsp. n.

Very similar to typical *pallidisignata* Alexander (Malleco, Valdivia), differing in the details of structure of the male hypopygium, especially the lobe of the eighth sternite. The latter has its median lobe very slender, particularly on the outer half; lateral lobes extending to opposite two-thirds the length of the median blade, at bases slightly wider than the median lobe, very gradually narrowed outwardly, their tips obtuse; mesal edges of lateral lobes darkened. In the typical form, the lateral

lobes are reduced to small lateral lobules that reach scarcely to one-third the length of the median blade.

Holotype, male Cayutue, Llanquihue, February 2, 1939 (Wolffhügel). *Allotopotype*, female, March 10, 1933 (Wolffhügel). Paratopotype, 1 female, February 11, 1939 (Wolffhügel); 1 male, mid-January, 1933 (E. P. Reed), the latter earlier recored as typical *pallidisignata*.

TIPULA (EUMICROTIPULA) SUBLIGULATA Alexander

The type was from Termas Rio Blanco, Cura Cautin, altitude 1050 meters, taken in March by Bullock. One male, Termas de Chillán, Ñuble, altitude 1800 meters. February 1933 (Jaffuel). In this latter specimen, the lobe of the eighth sternite is slightly wider than in the type, its length about one-half greater than the width. In the type, the lobe is approximately twice as long as wide.

TIPULA (EUMICROTIPULA) TERSOIDES, sp. n.

Belongs to the *glaphyoptera* group, allied to *tersa*; general coloration of head and thorax gray; praescutum with a capillary brown median vitta, additional to the usual four darker stripes; halteres dark brown; legs yellow, the tips of femora rather narrowly infuscated; wings strongly fulvous brown, only slightly variegated with darker brown and subhyaline, such pattern virtually restricted to the costal portions; no large pale area crossing cell *1st M*₂; male hypopygium with the caudal border of tergite deeply emarginate and with a conspicuous tooth at base of notch; basistyle with the mesal lobe large and conspicuous, much as in *tersa*; appendage of eighth sternite trilobed, the smaller lateral lobes entirely pale, weakly emarginate at their tips.

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

Frontal prolongation of head yellowish brown, subnitidous; nasus elongate; palpi dark brown. Antennae with scape and pedicel light brown, slightly darker above; flagellum broken. Head dark gray, somewhat lighter gray on front and adjoining the posterior orbits; vertical tubercle scarcely developed.

Pronotum dark gray. Mesonotal praescutum with the ground light gray, with four darker gray stripes, the median area with a further capillary dark central vitta; lateral praescutal border paling to brown; scutum gray, each lobe with two dark brown areas; scutellum dark brown, sparsely pruinose; postnotum dark brown, gray pruinose. Pleura dark gray; dorsopleural membrane buffy brown. Halteres dark brown,

the base of stem restrictedly brightened. Legs with coxae brown, gray pruinose; trochanters brownish yellow; femora yellow, the tips narrowly infuscated; tibiae and basitarsi yellow, the tips very narrowly darkened; remainder of tarsi yellow or brownish yellow, terminal two segments broken. Wings of entirely different coloration than in *tersa*, the ground color being a strong fulvous brown, only slightly variegated with darker brown and subhyaline, such pattern being almost restricted to the costal and subcostal fields; the darker pattern includes four subcostal areas, stigma and a confluent seam over the anterior cord, and a seam along vein *Cu*, most evident on the outer end of the vein; the pale areas, excluding the yellow subcostal interspaces, include only a very restricted post-stigmal whitened area over R_{1+2} , a small spot at outer end of cell R_5 , and paired pale spots in cell *Cu*; cell *1st M*₂ uniformly darkened except for a delicate pale line across the basal section of vein M_{1+2} ; very vague yellow spots at distal ends of outer medial cells; veins brown, a trifle paler in the more brightened fields. Venation: Distal third of vein R_{1+2} very pale to almost atrophied; *Rs* nearly three times *m-cu*; cell *1st M*₂ much larger than in *tersa*. In *tersa*, the wing pattern is conspicuously marbled, the ground color being whitish subhyaline, handsomely patterned with medium and darker brown.

Abdomen with first tergite dark brownish gray; succeeding tergites yellow, on outer segments more obscured, with three brownish black stripes, the median one narrowly interrupted at the incisures; lateral borders of tergites grayish, passing into brown sublateral stripes; sternites brownish yellow, subterminal segments dark brown to form a ring; hypopygium brownish yellow. Male hypopygium (Fig. 12) with the tergite, *9t*, transverse, its caudal border with a conspicuous rectangular notch, at the base of which is a triangular tooth; lateral lobes broad, their margins sinuous; dorsal surface of each with a low oblique ridge; a median pale depressed line for the entire length of the tergite. Basistyle with its ventrocaudal lobe, *vb*, long-cylindrical, its length fully seven times the diameter; longest setae shorter than the lobe; mesal lobe, *mb*, unusually long, directed backward, appearing as a flattened-cylindrical structure, its base dilated; surface of lobe densely clothed with delicate setulae. Outer dististyle, *od*, long and slender, slightly enlarged outwardly. Inner dististyle, *id*, with the beak slender; dorsal crest with relatively short setae, mostly straight, some of the more basal ones angularly bent near their tips; outer margin of style before apex microscopically corrugated. Gonapophyses, *g*, dilated at base and tip, the stems more narrowed, the shape as figured. Appendage of eighth sternite, *8s*, trilobed, the median lobe longest, pale, gradually narrowed to the obtuse tip; surface with conspicuous darkened setigerous punctures, the base

more darkened and sclerotized; lateral lobes not more than half as long, entirely pale to subhyaline, their tips shallowly notched.

Holotype, male, Termas de Chillán, Ñuble, altitude 1800 meters, February 1933 (Jaffuel).

The most nearly allied species is *Tipula* (*Eumicrotipula*) *tersa* Alexander, which has a somewhat similar mesal lobe on the basistyle of the male hypopygium but differs in all other details of structure of this organ, as well as in the quite distinct wing pattern. It should be noted that in *tersa* there is no median tooth in the notch of the ninth tergite and that the lateral lobes of the appendage of the eighth sternite are entire.

STIBADOCERINA CHILENSIS Alexander

Nahuelbuta, altitude 600 meters, December 8, 1943 (Bullock). Edwards found this species, sometimes associated with the equally distinct *Tonnoiromyia patagonica* Alexander, in very damp, darkened places near small waterfalls or swiftly flowing water.

LIMONIA (*DICRANOMYIA*) *INFUMATA* (Philippi)

Chillán, Ñuble, altitude 1800 meters, February 1933 (Jaffuel). Termas Rio Blanco, Cura Cautin, Cautin, altitude 1050 meters, March 30, 1938 (Bullock); *Nothofagus* association. Rio Aysén, February 1934 (Pirion).

LIMONIA (*DICRANOMYIA*) *PINODES* Alexander

Cayutue, Llanquihue, December 15, 1942 (Wolffhügel). Hitherto known only from Chiloë Island.

HELIUS (*HELIUS*) *ARAUCARIAE*, sp. n.

General coloration pale yellow; rostrum about one-third longer than the remainder of head; antennae short; wings pale yellow, the prearcular and costal fields more saturated yellow; veins beyond cord with macrotrichia; *Sc*₁ ending shortly before fork of *Rs*, *Sc*₂ at its tip; *m-cu* about one-fourth its length beyond the fork of *M*; male hypopygium

with a lobule on mesal face of basistyle at near midlength, this tufted with setae; outer elongate setae of basistyle microscopically papillose; outer dististyle heavily blackened, broad at base, the apex obliquely truncated; inner dististyle a compressed blade; aedeagus small and simple.

Male. Length about 6 mm.; wing 6.5 mm.; rostrum alone about 0.4 mm.; antenna 0.9 - 1.0 mm.

Rostrum obscure brownish yellow, about one-third longer than the remainder of head; palpi pale brown. Antennae short; basal segments obscure yellow, the outer ones somewhat more infuscated; flagellar segments oval; longest verticils of the intermediate segments subequal to or a trifle exceeding the segments, those of the outer segments even more elongate. Head brownish yellow, very sparsely pruinose.

Thorax uniformly pale yellow, the surface subnitidous. Halteres uniformly pale yellow. Legs with the coxae and trochanters yellow; femora testaceous yellow, tibiae and tarsi slightly darker. Wings (Fig. 8) with a pale yellow tinge, the prearcular and costal fields more saturated yellow; stigma not indicated; veins yellow. Macrotrichia on *Rs* and all veins beyond cord, these relatively short but numerous; basal of cord with a complete series on *R*, together with a few on distal third of the basal section of *Cu*₁. Venation: *Sc*₁ ending shortly before fork of *Rs*, *Sc*₂ near its tip; *Rs* nearly straight, its branches strongly divergent so cell *R*₃ at margin is approximately one-half wider than cell *R*₂; basal section of *R*₄₊₅ shorter than *r-m*; cell 1st *M*₂ a little narrowed outwardly, subequal to vein *M*₄ beyond it; *m-cu* about one-fourth its length beyond the fork of *M*; cell 2nd *A* relatively wide.

Abdomen fulvous yellow, the caudal borders of the segments paler; subterminal segments vaguely more darkened; hypopygium yellow. Male hypopygium (Fig. 6) with the basistyle, *b*, elongate, weakly emarginate on its mesal face at near midlength and here with a lobe bearing about ten strong spinous setae, with two or three others on the side nearer base; mesal face of basistyle with a concentration of setae on its basal portion and again near apex, the central constricted area nearly glabrous; elongate setae at apex of style microscopically papillose. Outer dististyle, *od*, heavily blackened, broad at base, the simple apex obliquely truncate; base of style with scattered, extremely small setulae. Inner dististyle, *id*, subequal in length, appearing as a flattened compressed blade, the lower margin at base with a group of elongate setae. Gonapophyses, *g*, relatively small and weak. Aedeagus, *a*, small and simple. In what appears to represent an interbase, *i*, bears a strong slender spine on outer margin.

Holotype, male, Nahuelbuta, altitude 600 meters, December 8, 1943 (Bullock); in forests of *Araucaria imbricata*. Paratopotype, a fragmentary male.

The discovery of a species of the genus *Heliuss* St. Fargeau in Chile is of unusual interest. In my earlier discussion of the crane-flies of the subregion (Dipt. Patagonia and South Chile, I. Crane-flies, p. 8; 1929), I had listed three groups of Tipulidae (*Dolichopeza*; *Discobola*; *Heliuss*) that were found both in Australia and New Zealand and with representatives in the Holarctic Region, including the Nearctic, but not at that time known from Chile. The present species fills the gap in the case of one of these genera, at the same time adding not only the genus but the entire subtribe Heliaria to the Chilean Subregion. The present fly requires no comparison with any of the rather numerous species of *Heliuss* known from elsewhere in South America, differing very especially in the structure of the male hypopygium, particularly the outer dististyle and aedeagus.

AUSTROLIMNOPHILA (LIMNOPHILELLA) PATAGONICA Alexander.

Described from Bariloche, Patagonia. Valdivia, April 9 - 11, 1920 (J. C. Bradley); Cornell University. Cayutue, Llanquihue, March 10, 1938 (Wolffhügel).

AUSTROLIMNOPHILA (AUSTROLIMNOPHILA) CELESTISSIMA, sp. n.

Size small (wing, female, under 7 mm.); general coloration of head and mesothorax black, conspicuously variegated with silvery gray, including a major area on the posterior vertex and another on the thoracic pleura; head strongly narrowed behind; knobs of halteres blackened; femora yellow basally, conspicuously ringed on outer half with white and black annuli; wings white, with a heavy crossbanded brown pattern, more intense along costal border, the areas broadly interconnected behind, especially in cell *M*; prearcular and costal fields conspicuously yellow; *Sc* short, *Sc*₁ ending about opposite midlength *Rs*; *R*₂ before fork of *R*₃₊₄; cell *M*₁ present; *m-cu* at near two-fifths the length of cell *1st. M*₂.

Female. Length about 8 mm.; wing 6.7 mm.

Rostrum black, sparsely pruinose at base; palpi black. Antennae with scape and pedicel black; basal flagellar segments light yellow, beyond the fifth or sixth more infuscated; basal flagellar segments long-oval, with short verticils; outer segments more elongate-cylindrical, with

long, conspicuous verticils, the longest a little exceeding the segments in length. Head strongly narrowed behind; front and anterior vertex silvery gray; posterior vertex black, enclosing an elongate central silvery mark; posterior orbits narrowly pale.

Pronotum pale, gray pruinose medially, blackened on sides. Mesonotal praescutum black, the sides behind the humeri extensively pale, heavily pruinose with silvery; a narrow median gray vitta on praescutum, beginning shortly behind the front margin and here a little widened, crossing the suture behind, widely expanded on central portion of scutum and scutellum; sides of scutum blackened, involving about the lateral two-thirds of each lobe; sides of scutellum brown; mediotergite blackened behind, brown on cephalic portion, with a more or less distinct gray central line that becomes obsolete at near two-thirds the length of the sclerite; pleurotergite blackened, more brownish gray pollinose on posterior portion. Pleura black, the mesepisternum and adjoining portions of the pteropleurite heavily silvery gray, forming a major area that continues ventrad onto the ventral sternipleurite and cephalic portion of middle coxae; metapleura similarly silvery white; dorsopleural region in front heavily blackened, beneath the praescutal pale triangle and the pleural area abruptly yellow, thus forming a continuous pale marking. Halteres relatively long, stem white, knob abruptly blackened. Legs with fore and middle coxae black, the latter pruinose, as described; trochanters yellowish brown; posterior coxae and trochanters abruptly yellow; all femora yellow basally, more obscure yellow at near midlength, the broad apex and a narrower post-medial ring black, the two enclosing a still narrower white ring; a narrower and less evident ring basad of the inner black annulus; femora strongly enlarged on distal third; tibiae obscure yellow, both base and tip narrowly blackened, the former about twice as extensive as the latter; basal two tarsal segments brownish yellow, their tips narrowly blackened; outer tarsal segments blackened. Wings (Fig. 9) whitened, with an unusually heavy and attractive dark brown and paler brown banded pattern; prearcular and costal fields light yellow; the dark areas arranged as follows: A series of five costal areas, the first over *h*, extending obliquely across arculus to a darkening in cell *M*; second and third areas small, the former over the origin of *R*_s, the latter over the fork of *Sc*, the two enclosing a quadrate yellow spot in cells *C* and *Sc*; in the radial field, areas two and three unite to form a major quadrate mark that completely crosses the field; stigmal area similarly large, behind split into two arms, the major one along the cord, the slightly narrower outer arm across *R*₂, fork of *R*₃₊₄ and outer end of cell 1st *M*₂, reaching the posterior border in the outer end of cell *M*₄; wing apex broadly blackened, the centers of cells *R*₃ to 2nd *M*₂, inclusive, with whitish spots; dark apex almost separated from the major dark

mass along the cord and outer end of cell *1st M*₂ by a narrow whitish stripe extending from costa to the posterior border at end of vein *M*₄, being interrupted by narrow dusky seams along veins *R*₆ *M*₁₊₂ and *M*₃; center of cell *1st M*₂ and adjacent parts of both the radial and medial cells variegated with white, breaking the major dark band at cord; cells *M*, *Cu* and *Anals* chiefly paler brown, with two major white marks, the outer from vein *Cu* to the margin in the outer end of cell *1st A*, the inner white mark in cells *1st A* and *2nd A*, broadest in the latter and involving nearly one-half the length of the cell; veins white, yellow in the flavous fields, dark brown in the patterned areas. A few scattered trichia in stigma, both before and beyond *R*₂; veins beyond cord, and especially beyond the level of outer end of cell *1st M*₂, with trichia. Venation: *Sc* unusually short, *Sc*₁ ending about opposite midlength of *Rs*, *Sc*₂ a short distance from its tip; *Rs* long, gently sinuous; *R*₂ before fork of *R*₃₊₄, about one-half longer than *R*₁₊₂; *R*₃₊₄ about one-fourth *R*₂; cell *R*₃ only about twice as long as its petiole; cell *M*₁ shorter than its petiole; *m-cu* at near two-fifths the length of the rectangular cell *1st M*₂, the latter gently widened outwardly; cell *2nd A* moderately narrow; anterior arculus lacking.

Abdominal tergites dull brownish black, the central portions of the disks a trifle brightened, the caudal borders not or scarcely pruinose; basal sternites more blackened, the outer segments colored more like the tergites, with conspicuous silvery caudal margins that are widest on the subterminal segments. Genital shield obscure brownish yellow, bases of both cerci and hypovalvae restrictedly darkened, the valves more yellowed; cerci elongate, slender, gently upcurved.

Holotype, female, Nahuelbuta, altitude 600 meters. December 8, 1943 (Bullock); in forests of *Araucaria imbricata*.

This unusually attractive fly needs no comparison with other members of the genus. The nature of the wing pattern is approached only by *Austrolimnophila* (*Austrolimnophila*) *eutaeniata* (Bigot), of Tierra del Fuego, a much larger fly with all details of body and leg coloration, and the venation, quite different. The venation of the present fly, especially the very short *Sc* and elongate *R*₂₊₃₊₄, with *R*₂ before the fork, indicates an isolated type and the discovery of the male sex may produce still further evidences of isolation.

AUSTROLIMNOPHILA (*AUSTROLIMNOPHILA*) *MERKLEI* Alexander

Termas Rio Blanco, Cura Cautin, Cautin altitude 1050 meters, March 27 - 30, 1938 (Bullock). Hitherto known only from Patagonia.

AUSTROLIMNOPHILA (AUSTROLIMNOPHILA) VARITARSIS Alexander, var.

Pinales de Nahuelbuta, January 19, 1943 (Bullock). The basal segments of the tarsi are obscure brownish yellow, concolorous with the tibiae and thus not conspicuously contrasting, as is the case in the typical form.

LIMNOPHILA ARMIGERA, sp. n.

Size small (wing, female, 5.2 mm.); general coloration of body dark brown, sparsely pruinose; praescutum without pattern; legs obscure yellow, claws simple; wings unpatterned except for the faintly indicated stigma; Sc_2 at extreme tip of Sc_1 ; R_{2+3+4} long, about two-fifths the length of Rs ; R_2 very faint to virtually atrophied; cell M_1 small, about one-third as long as its petiole; $m-cu$ about its own length beyond the fork of M ; vein *2nd A* strongly angulated and spurred near tip.

Female. Length about 5 mm.; wing 5.2 mm.

Rostrum dark brown; palpi black. Antennae brownish black; flagellar segments long-oval, with conspicuous verticils that are only a little less than twice the length of the segments. Head dark brown; anterior vertex broad.

Pronotum and mesonotum with the ground almost uniformly dark brown, sparsely gray pruinose, the praescutum without pattern; both the tuberculate pits and pseudosutural foveae black, relatively conspicuous, the former placed some distance before cephalic border of praescutum, at near mid-distance between the level of the foveae and the cephalic margin; parascutella and much of the postnotum along its suture between the mediotergite and pleurotergite paling to obscure yellow. Pleura dark brown, sparsely pruinose; dorsopleural membrane a trifle paler. Halteres pale yellow. Legs with the coxae and trochanters pale yellow; remainder of legs obscure yellow, the terminal tarsal segments more infuscated; claws simple, with rather conspicuous setae on basal portions. Wings (Fig. 10) grayish subhyaline, the prearcular field more whitened; stigma oval, very pale brown, scarcely darker than the ground; veins brown, inconspicuous against the ground. Macrotrichia on longitudinal veins beyond cord, much fewer or lacking on R_{2+3+4} and basal section of M_{3+4} ; a few trichia on outer portion of vein *1st A*. Venation Sc_1 ending about opposite three-fourths the length of Rs , Sc_2 faint, placed at the extreme tip of Sc_1 which is thus scarcely evident; Rs straight, about two and one-half times R_{2+3+4} ; R_2 very faint to atrophied, apparently subequal to R_{1+2} ; veins R_3 and R_4 divergent at outer ends so cell R_3 at margin is somewhat more extensive than cell R_2 ; cell M_1 small, about one-third its petiole; cell *1st M₂* subrectangular, slightly widened outwardly; $m-cu$ about its own length beyond the fork of M ; vein *2nd A*

long, at tip bent at virtually a right angle into the margin, at the point of angulation with a conspicuous spur that is about one-half the terminal portion of the vein; anterior arculus preserved.

Abdomen dark brown, the genital shield much paler; ovipositor with the valves very long and slender, horn-yellow, the cerci gently arculus preserved.

Holotype, female, Angol, December 23, 1940 (Bullock).

In the extreme distal position of vein Sc_2 , the present fly agrees most closely with *Limnophila ctenonycha* Alexander, which differs in the venation, as the short R_2+3+4 and the much deeper cell M_1 . I am assuming that the peculiar armature of vein 2nd A of the present fly represents a normal condition, since it is exactly similar in both wings of the type. If this proves to be the case, the fly will readily be distinguished by this character. Still another species that is generally similar is *L. humidicola* Alexander, which has R_2+3+4 nearly as in the present fly but with Sc_2 retracted, cell M_1 deeper, and vein 2nd A normal. The discovery of the male sex of the species under consideration will be of interest.

GYNOPLISTIA (GYNOPLISTIA) BICOLOR (Prilippi).

Panguipulli, Valdivia, altitude 850 meters (Ramon Gutierrez); through Bullock.

GYNOPLISTIA (GYNOPLISTIA) VARIICALCARATA Alexander.

Pinales de Nahuelbuta, January 18, 1943 (Bullock).

SUMARIO

La descripción de nuevas especies y sub-especies misceláneas de Tipúlidos chilenos se continúa en este segundo artículo, basado principalmente en material recibido de Angol y alrededores, de las Termas de Chillán y de Cayutúe en el Lago Todos los Santos.

Se agrega nuevas localidades a la distribución geográfica de especies previamente descritas del país. Se menciona por primera vez para Chile el género *Helius*, que agrega a la fauna chilena la entera subtribu *Heliaria*.

EXPLANATION OF FIGURES

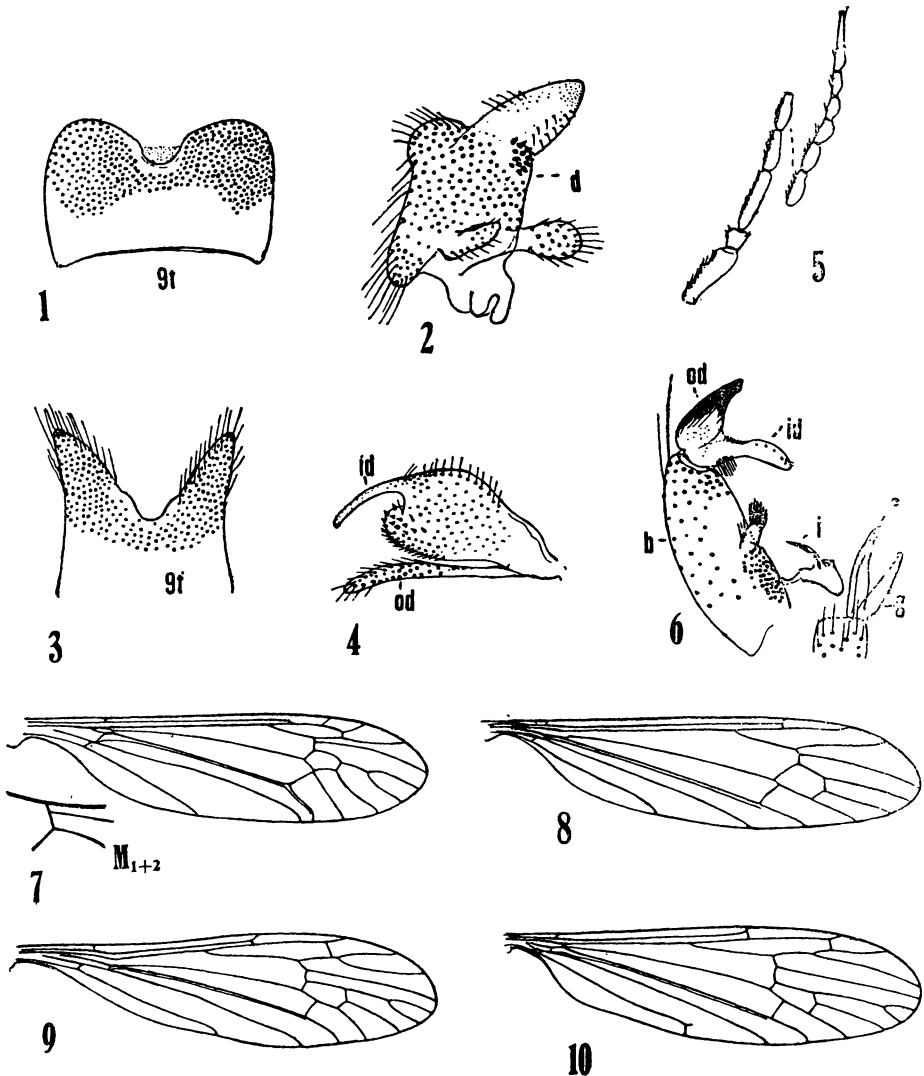


Fig. 1. *Macromastix atrirostris*, sp. n.; male hypopygium. Fig. 2. *Macromastix atrirostris*, sp. n.; same. Fig. 3. *Macromastix nahuelbutae*, sp. n.; male hypopygium. Fig. 4. *Macromastix nahuelbutae*, sp. n.; same. Fig. 5. *Holorusia problematica*, sp. n.; antenna, female. Fig. 6. *Helius (Helius) araucariae*, sp. n.; male hypopygium. Fig. 7. *Holorusia problematica*, sp. n.; venation. Fig. 8. *Helius (Helius) araucariae*, sp. n.; venation. Fig. 9. *Austrolimnophila (Austrolimnophila) celestissima*, sp. n.; venation. Fig. 10. *Limnophila armigera*, sp. n.; venation.

(Explanation of symbols: *a*, aedeagus; *b*, basistyle; *d*, dististyle; *g*, gonapophysis; *i*, interbase; *id*, inner dististyle; *od*, outer dististyle; *t*, tergite).

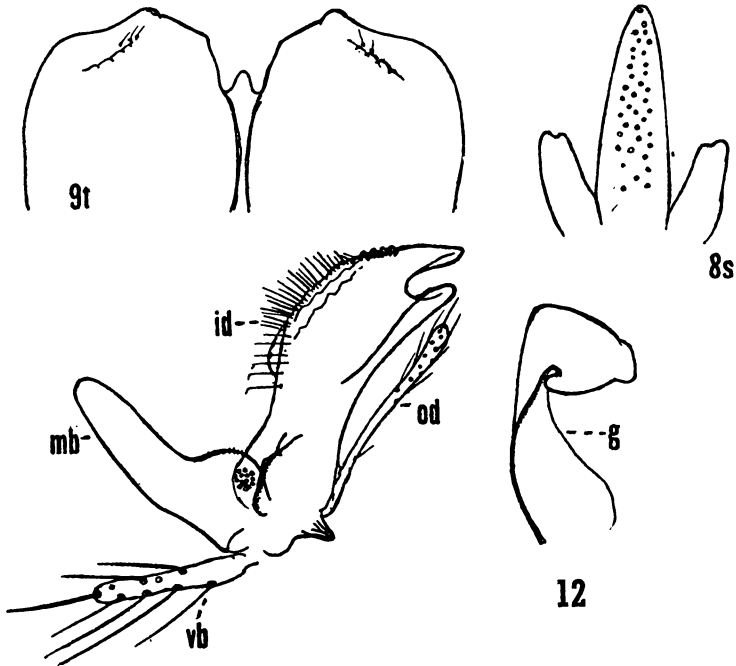
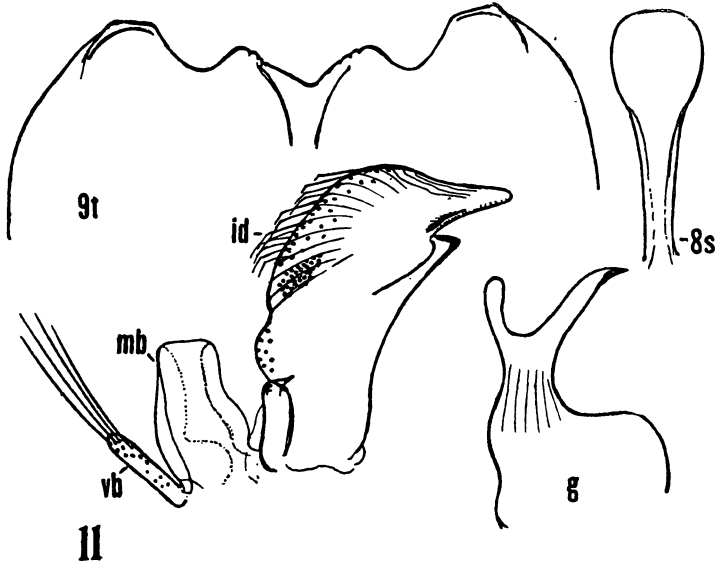


Fig. 11. *Tipula* (*Eumicrotipula*) *chillanica*, sp. n.; male hypopygium. Fig. 12. *Tipula* (*Eumicrotipula*) *tersoides*, sp. n.; male hypopygium.
 (Explanation of symbols: *g*, gonapophysis; *id*, inner dististyle; *mb*, mesal lobe of basistyle; *od*, outer dististyle; *s*, sternite; *t*, tergite; *vb*, ventrocaudal lobe of basistyle).