

RECORDS AND DESCRIPTION OF CHILEAN TIPULIDAE (ORDER DIPTERA) PART II

BY

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The first part under this general title was published in the «*Revista Chilena de Historia Natural*», vol. 38: 173-179; 1934. In the present paper I wish to discuss four new species that were included in rich Tipulid materials recently sent to me by Professor Dillman S. Bullock, chiefly taken in Malleco. I am indebted to Professor Bullock for the privilege, of retaining the materials in my own collection.

***Tipula tri-emarginata*, sp. n.**

Belongs to the *glaphyoptera* group; allied to *brethesiana* and *jacobsiana*; mesonotal praescutum gray, with five brown stripes, the median vitta strongly narrowed at anterior end; posterior sclerites of mesonotum with a median dark line; antennae (male) relatively long, the basal flagellar segments bicolorous; femora yellow, the tips narrowly and weakly infumated; wings almost uniformly tinged with brown, only slightly variegated by darker brown and pale areas; darkenings in cell *Sc* pale brown and but little-evident; abdominal tergites yellow, trivittate with brown, the outer segment more uniformly darkened; male hypopygium with the caudal border of tergite with three emarginations, the four lobes thus formed truncate; outer dististyle with a small terminal spatula, occupying about one-third the total length; eighth sternite trilobed, the median lobe a little longer than the laterals.

*Male*.—Length, about 17 mm.; wing, 18.5 mm.; antenna, about 6.5 mm.

Frontal prolongation of head gray; nasus elongate, tufted with yellow setae; palpi dark brown. Antennae relatively elongate; scape brown basally, the outer end yellow; pedicel yellow; basal flagellar segment brownish yellow; flagellar segments two to six bicolorous, the basal enlargement black, the remainder passing through brownish yellow to brown; outer flagellar segments more uniformly black; basal enlargements of segments relatively large; longest verticils exceeding the segments in length. Head gray, clearer silvery-gray in front;

a capillary dusky line from summit of vertical tubercle back to occiput.

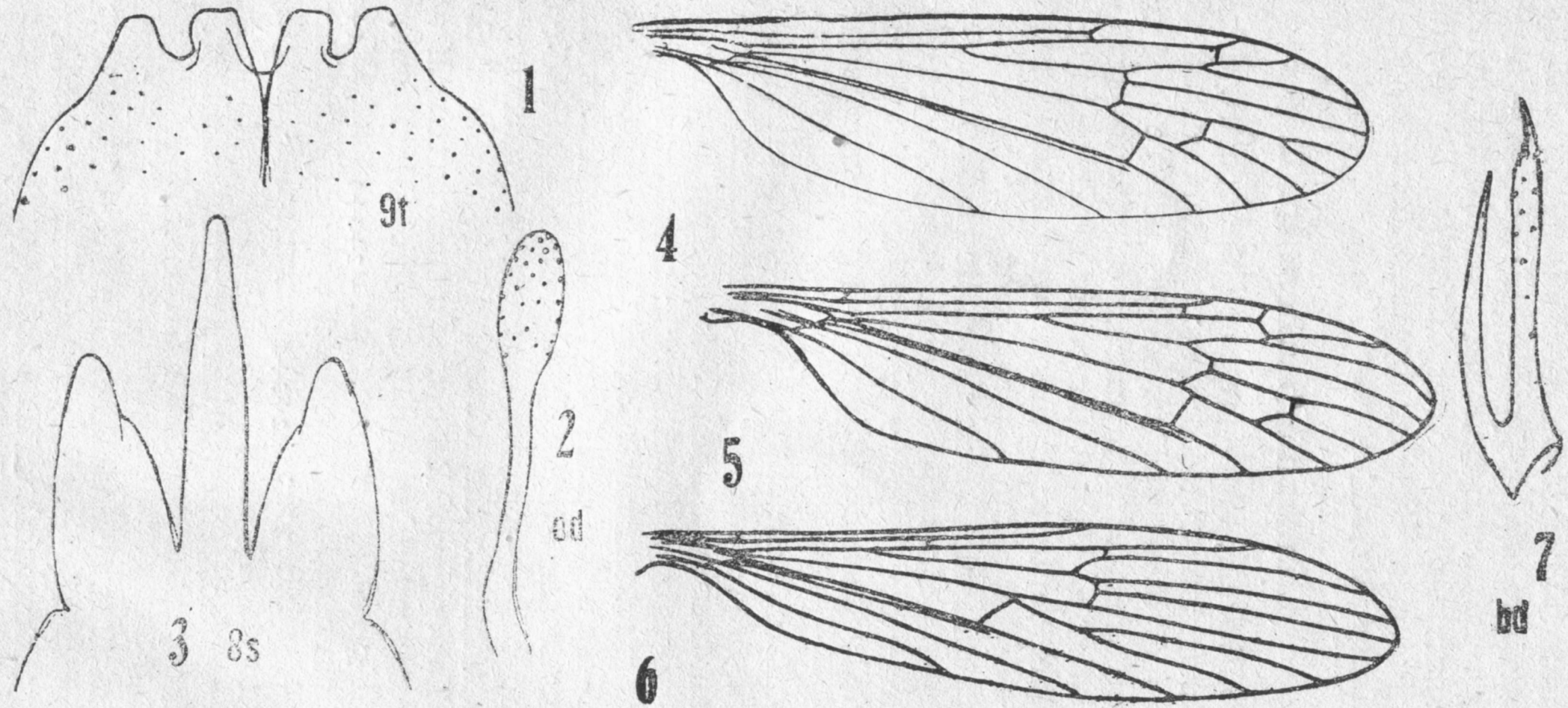
Mesonotal praescutum with the ground-color gray, with five brown stripes; median vitta very narrow on cephalic third of sclerite, widened behind and there subequal in breadth to the intermediate stripes, all three being distinctly wider than the interspaces; scutum gray, each lobe variegated with dark brown; scutellum gray, with a brown median dash; mediotergite clear light gray, with a capillary brown vitta that narrows behind and does not reach the posterior border. Pleura gray; dorso-pleural region more buffy-yellow. Halteres brown, the base of stem restrictedly yellow, the knobs blackened. Legs with the coxae light gray; trochanters yellow; femora obscure yellow, the tips narrowly and weakly infumed; tibiae yellow, the tips narrowly darkened; tarsi passing into brown. Wings almost uniformly tinged with brown, variegated by restricted darker and pale areas; the darker marks include the stigma; a very small cloud at origin of  $R_s$ , and in the costal cell before  $h$ ; three very poorly indicated dark washes in cell  $Sc$ ; pale post-stigmatal area barely indicated; pre-stigmatal area a little larger and more distinct; a linear hyaline dash in cell  $1st\ M_2$ ; bases of Anal cell and intermediate portion of  $Cu$  more cream-yellow; veins brownish black. Venation:  $R_{1+2}$  nearly parallel to the free tip of  $Sc_2$ , cell  $Sc_2$  thus being narrow;  $R_2$  relatively long, exceeding one-half the second section of  $R_1$ ; petiole of cell  $M_1$  shorter than  $m$ .

Basal abdominal tergite buffy-yellow; succeeding tergites yellow, with three continuous narrow brown stripes, on sixth and outer segments more uniformly darkened; sternites buffy-yellow, with a narrow median dark line. Male hypopygium with the caudal margin of the tergite (Lám. VII fig. 1,  $9t$ ) conspicuously three-notched, the four lobes thus formed truncated at tips. Ventral lobe of basistyle between three and four times as long as thick, tufted with long yellow setae that are subequal in length to the lobe. Outer dististyle (fig. 2,  $od$ ) slender, with about, the distal third dilated into an oval spatula that is provided with long conspicuous setae; stem glabrous. Eighth sternite with the appendage (fig. 3,  $8s$ ) trilobed, the lateral lobes shorter than the median, each broader at base than at tip; median lobe with conspicuous erect pale setae, its distal portion rather strongly narrowed.

Hab. Chile.

*Holotype*, ♂, Metrengo, September 20, 1934 (*Bullock*).

The two species that are most similar to the present fly are *Tipula brethesiana* Alexander and *T. jacobsiana* Alexander,



1. Male hypopygium of *Tipula tri-emarginata* sp. n.: *9t* ninth tergite.—2. The same; *od*, outer dististyle.—3. The same; *8s*, eighth sternite.—4. Wing venation of *Limnophila eutheta*, sp. n.—5. Wing venation of *Astelobia bullocki*, sp. n.—6. Wing venation of *Molophilus stenopterus*, sp. n.—7. Male hypopygium of the same; *bd*, basal dististyle.

which have the general coloration of the body and wings somewhat similar. The present species is readily told by the bicolorous antennae, and, especially, the structure of the male hipopygium, as the tri-emarginate ninth tergite and small terminal spatula of the outer dististyle. The conformation of the tergite is approached by the otherwise very distinct *T. enderleinana* Alexander.

### ***Limnophila eutheta* sp. n.**

Allied to *abstrusa*; antennae black throughout, the flagellar segments short and crowded; mesonotal praescutum yellowish gray, with four brown stripes; halteres pale yellow; legs black wings pale yellow, with an extensive brownish gray clouded pattern, darkened area at the origin of *Rs* reaching vein *M* behind; other darkened clouds of wing extensive.

*Male*.—Length, about 8 mm.; wing, 7.5 mm.

Rostrum and palpi black. Antennae black throughout; flagellar segments short and crowded, subcylindrical, becoming smaller outwardly, the outer two segments slightly more elongate; verticils much exceeding the segments in length. Head dark gray.

Mesonotal praescutum yellowish gray, with four conspicuous dark brown stripes, the intermediate pair separated from one another by a distance about equal in width to either stripe; pseudosutural foveae black; posterior sclerites of notum darker gray. Pleura dark gray. Halteres pale yellow. Legs with the coxae black, pruinose; remainder of legs black, with conspicuous setae. Wings (fig. 4) with the ground-color pale yellow, the costal portion clearer yellow; extensive brownish gray clouds include the stigma; a post-arcular darkening; a large cloud at origin of *Rs*, behind reaching vein *M* or approximately so; extensive seams along cord and outer end of cell *1st M*<sub>2</sub>; clouds at fork of *R*<sub>2+3+4</sub> and *M*<sub>1+2</sub>; veins brownish black, paler in the costal portion. Venation: *Rs* longer than in *abstrusa*; *R*<sub>2+3+4</sub> subequal in length to cell *1st M*<sub>2</sub> or to vein *R*<sub>3</sub> alone.

Abdomen black, the surface sparsely pruinose. Genital shield and valves of ovipositor darkened.

Hab. Chile.

*Holotype*, ♂, Angol, Malleco, September 27, 1934 (*Bullock*).

The nearest ally is the very similar *Limnophila abstrusa* Alexander (Patagonia) which has the dark wing-pattern more restricted in area and differs further in slight details of body-coloration.

I now believe that the specimen defined as being a para-

type of *abstrusa* (Marga-Marga, September 14, 1927, *Jaffuel* and *Pirion*) is not conspecific with the type from the Rio Pichileufu, Patagonia (October 24, 1926, *Edwards*).

### *Astelobia bullocki*, sp. n.

Mesothorax chiefly black, the posterior sclerites of notum pruinose; antennae orange throughout; head and prothorax orange; halteres yellow; legs orange, the tips of femora conspicuously black; wings yellow, the costal border and stigma more saturated yellow; restricted brown clouds at ends of cell *1st M*<sub>2</sub>; abdominal segments chiefly dark brown and black.

*Male*.—Length, about 12 mm.; wing, 11.5 mm.

Rostrum orange; palpi a trifle darker. Antennae orange throughout; flagellar segments cylindrical, with longer yellow dorsal verticils and short black ventral setae; dorsal verticils nearly equal in length to the segments. Head obscure orange; anterior vertex of moderate width, about one-half wider than the diameter of scape.

Pronotum orange. Mesonotal praescutum chiefly black, the posterior portions sparsely pruinose, the central area in front polished black; humeral region and sublateral portions behind the pseudosutural foveae more reddish; lateral border behind the foveae blackened; posterior sclerites of notum black, the scutellum and mediotergite rather heavily pruinose. Propleura and cervical region orange, the remaining pleurites chiefly black, with obscure more reddish reflexions on the caudal anepisternum, ventral sternopleurite and posterior pleurotergite. Halteres yellow. Legs with the fore coxae and trochanters orange; middle coxae darkened; trochanters yellow; femora yellow, the tips conspicuously black, the amount subequal on all legs; tibiae and tarsi yellow. Wings (fig. 5) yellow, the costal border and stigma more saturated yellow; restricted but conspicuous brown cloud at fork of *M* and on adjoining veins, and on the outer end of cell *1st M*<sub>2</sub>; veins deep yellow, brown in the clouded portions. Venation: *Rs* shorter than in *maiae*, being subequal to vein *R* alone; basal section of *R*<sub>5</sub> shorter than *m-cu* alone; cell *1st M*<sub>2</sub> slightly longer than vein *M*<sub>4</sub> beyond it.

Abdominal segments dark brown, more blackened medially and on caudal portions; subterminal segments more uniformly blackened; hypopygium brownish yellow.

Hab. Chile.

*Holotype*, ♂, Angol, Malleco, March 9, 1934 (*Bullock*).

I take great pleasure in naming this beautiful species of

cranefly in honor of the collector, Professor Dillman S. Bullock, to whom I am indebted for many favors in the past. The fly is very different from the only other known american species, *Astelobia maiae* Alexander, of Chiloé Island. The difference between the two species are indicated by the following key:

1. Coloration of entire body orange; antennae with flagellum dark brown; wings yellowish-orange, the base and stigma brownish black; halteres yellow, the knobs dark brown; legs uniformly orange. . . . . *maiae* Alexander.

Mesothorax chiefly black, the head and prothorax orange; antennae orange throughout; wings yellow, unmarked except for dark clouds at both ends of cell *1st M*<sub>2</sub>; halteres yellow; legs yellow, the tips of femora conspicuously blackened. . . . . *Bullocki*, sp. n.

### **Molophilus stenopterus, sp. n.**

Belongs to the *plagiatus* group, *flavidus* subgroup; general coloration of entire body fulvous-yellow; antennae (male) relatively long, if bent backward extending about to root of halteres; wings small and narrow; male hypopygium with both arms of the basal dististyle slender, simple, the tips acute.

*Male*.—Length, about, 3.5-4mm.; wing, 3,5×7 to 4×8 mm.

*Female*.—Length, about 4,5 mm.; wing about 4 mm.

Rostrum brownish yellow; palpi dark brown. Antennae with the scape yellow; pedicel brown; flagellum black; antennae (male) relatively elongate for a member of the subgroup, if bent backward extending about to the root of the halteres; flagellar segments log-oval, with a dense white pubescence. Head fulvous-yellow, the central portion of vertex a little darker.

Mesonotum fulvous-yellow, without evident markings, the pleura scarcely paler. Halteres yellow, the knobs weakly darkened. Legs with the coxae and trochanters yellow; femora and tibiae brownish yellow the tarsi a little darker. Wings (Fig. 6) unusually narrow for a member of the subgroup; pale yellow, the veins pale brown, the prearcular and costal veins clearer yellow; macrotrichia brown. Venation: *R*<sub>2</sub> lying a little beyond the level of *r-m*; vein *2nd A* ending just before the posterior end of *m-cu*.

Abdomen, including hypopygium, yellow. Male hypopygium with the basal dististyle (fig. 7, *bd*) profoundly divided, as in the subgroup; base broader than long; both arms simple,

with acute tips; outer arm a little more slender and slightly shorter than the inner, the latter with the tip rather suddenly narrowed into a slender apical spine.

*Hab.* Chile.

*Holotype*, ♂, Angol, Malleco, October 19, 1933 (*Bullock*).  
*Allotopotype*, ♀, in copula with the type. *Paratopotype*, ♂, May 23, 1934 (*Bullock*).

By my key to the Chilean species of *Molophilus* (Dipt. Patagonia and South Chile, 1929, pp. 200-202) the present fly runs to *M. tetracanthus* Alexander, which differs in the large size, with broad, fully-developed wings, the dark coloration of the body, and the details of structure of the male hypopygium. The antennae of the present fly are of an unusual length for a member of this particular subgroup of the genus.

