

# Notes on the Tipulidae of Ecuador

(ORDER DIPTERA)

## PART II

By Charles P. Alexander  
University of Massachusetts  
Amherst, Massachusetts

The initial part under this general title was published in January 1953 (Rev. Ecuat. Ent. Par. 1: 1 — 9). In the present report I am describing three new species of primitive Tipuline crane-flies and am providing distributional records for other rare and little-known species. This continuing survey of the Tipulidae of Ecuador will be extended into the future years and it is hoped will be brought to a state of completion wherein keys to various genera may be attempted.

Since the publication of the first part, including a record of the development of our knowledge of the Tipulidae of Ecuador, I have learned with the deepest sorrow that William Clarke-Macintyre died at Cojimies on August 7, 1952, of a heart condition that had troubled him for several years past. The significance and importance of Macintyre's work in collecting Tipulidae in various parts of his adopted land were detailed in the preceding article. He is survived by his widow, Mrs. Eloisa Clarke-Macintyre, and three minor children, to whom our deepest sympathy is extended.

In accordance with the practice I have adopted in discussions of the Tipulidae of other parts of the World the various species trea-

ted in the present and succeeding parts under this title will be numbered consecutively so that the total number so considered can be known at any time.

1. **Brachypremna phrixus** sp. n.

Allied to unicolor; mesonotum light yellow, unpatterned; legs yellow, the tips of the femora narrowly blackened; wings shorter and broader than in unicolor, subhyaline, the prearcular and costal fields yellowish brown; stigma small, light yellow, encircled with brown; seams over several of the veins, most distinct along vein Cu in cell M; cell 2nd A almost uniformly darkened; Rs in longitudinal alignment with R4-|-5, r-m present or obliterated by the fusion of adjoining veins, the basal section of R4-|-5 lacking; cell 1st M2 high, much as in unicolor; abdomen polished yellow, the subterminal segments blackened; sternites each with three longitudinal dark brown dashes.

Male.— Length about 14 — 15 mm.; wing 16 — 17 mm.

Female.— Length about 14 — 16 mm.; wing 14.5 — 15.5 mm.

Frontal prolongation of head polished brown; nasus distinct; palpi black. Antennae with basal three or four segments testaceous yellow, the outer ones passing into brown; outer two segments elongate, slender. Head chiefly obscure yellow anterior vertex narrow.

Thorax almost uniformly light brown, the notum unpatterned; pleura very vaguely pruinose. Halteres with stem pale, knob infuscated. Legs with the coxae and trochanters yellow; femora yellow, the tips narrowly but conspicuously blackened; in cases the femora darker, gading more insensibly into the blackened tips; remainder of legs obscure yellow. Wings (Fig. 1) shorter and broader than in unicolor; ground color subhyaline, the prearcular field and cells C and Sc yellowish brown; stigma small, light yellow, encircled with brown; narrow brown seams over certain of the veins, most distinct in cell M adjoining vein Cu; cell 2nd almost uniformly darkened, the base pale; veins pale brown, more yellowed in the costal and prearcular fields. Venation: Rs relatively long, nearly perpendicular at origin, inlongitudinal alignment with vein R4-|-5; r—m present or obliterated by the approximation or fusion of the adjacent veins, the basal section of R4-|-5 lacking; cell 1st M2 high, much as in unicolor; M—cu at or before fork of M; cell 2 and A narrow.

Abdominal tergites polished yellow, the sixth and seventh segments blackened; sternites each with three linear dark brown dashes that do not reach the anterior or the posterior borders of the segments; genital segment in both sexes obscure yellow.

Holotype, female, Cojimies, Manabi, Ecuador, sea-level, January 1949 (W. Clarke--Macintyre). Allotopotype, male. Paratopotypes, both sexes, August 1948 — February 1949 (W. Clarke--Macintyre).

The only other allied species is *Brachypremna unicolor* Osten Sacken, of the Greater Antilles, which has the same somewhat peculiar venation. The two flies are readily told by the coloration, especially of the thorax and wings, and by the peculiar pattern of the abdomen in the present fly.

## 2. *Longurio (Longurio) stenostyla* sp. n.

General coloration of dorsum dark brown, the thoracic pleura and pleurotergite yellow, unpatterned; halteres elongate, dark brown; wings relatively broad, strongly tinged with brown; Rs long, about one-fourth longer than the straight R2-|-3; cell 2nd A relatively narrow; male hypopygium with both dististyles elongate, the outer a long simple club, approximately ten times as long as broad; inner dististyle dilated at base, more narrowed before the flattened terminal blade, the outer margin of the latter with a series of about ten blackened spines; on face of style at near midlength with a long slender gently curved arm, directed outward.

Male.— Length about 10 mm.; wing 10.5 mm.

Frontal prolongation of head and antennae of unique type broken; remainder of head brown.

Mesonotum chiefly dark brown; pleura and pleurotergite yellow, unpatterned. Halteres elongate, dark brown, the extreme base of stem yellow. Legs with the coxae and trochanters yellow; remainder of legs broken. Wings (Fig. 2) relatively broad, strongly tinged with brown; cell C and the stigma a little darker brown; veins brown. Venation: Rs long, about one-fourth longer than the straight R2-|-3; distal end of R1-|-2 preserved but without trichia; cell 1st M2 na-

rrowed outwardly; cell M1 about twice its petiole; m-cu at fork of M3-4; cell 2nd A relatively narrow.

Abdominal tergites dark brown, restrictedly banded with obscure yellow, on the second segment somewhat more broadly so; bases of intermediate tergites yellow, the outer segments uniformly darkened; basal sternites yellow, the subterminal segments more darkened. Male hypopygium (Fig. 4) with the basistyle, b, relatively long, narrowed outwardly, the apex narrowly glabrous. Both dististyles, d, elongate, the outer (shown in figure as lying inside the inner style) a long simple club, unusually slender, its greatest diameter only about one-tenth the length, provided with long setae. Inner dististyle dilated at base, more narrowed just before the flattened terminal blade, the outer margin of the latter with a series of about 10 stout blackened spines; on face of style at near midlength with a long slender gently curved arm, its outer end with a few pale setigerous punctures, the tip obtuse.

Holotype, male, Rio Blanco, near Baños, Tungurahua, Ecuador, altitude 2000 meters, Abril 1949 (Segundo Velastegui, through Macintyre).

In its general appearance the present fly is most similar to species such as *Longurio* (*Longurio*) *sestioris* Alexander, differing from this and from all other known species by the structure of the male hypopygium, particularly the inner dististyle. I am longer attempting to separate the genus *Macromastix* Osten Sacken from the older group *Longurio* Loew. It seems certain that there will be a marked concentration of names within the so-called primitive Tipuline crane-flies, some to fall in the synonymy while others may perhaps be retained as strong to weaker subgenera. The constant discovery of new species in many regions of the World has made it increasingly difficult to maintain the various supposedly valid genera that had been proposed in the past.

### 3. *Longurio* (*Tanypremna*) *carbenipes* (Alexander, 1938).

Callurco; Napo--Pastaza, April 1949 (Segundo Velastegui).

I am placing *Tanypremna* Osten Sacken as a subgenus of *Longurio*, in accordance with policy and belief expressed above.

#### 4. *Ozodicera (Ozodicera) cygniformis* sp. n.

Thoracic dorsum obscure brownish yellow, the praescutum with three darker brownish gray stripes; flagellar branches short, a little less than the stems; wings with a strong brownish tinge; male hypopygium with the caudal margin of the ninth tergite with a broad U-shaped notch, the lateral lobes broad, more narrowed at apex; inner dististyle with the beak long-produced, unequally bidentate at apex, the base of style on outer margin with three further spines; phallosome consisting of two pairs of blades, the broader one with a small subapical marginal spine.

Male.— Length about 20 mm.; wing 16 mm.

Anterior part of head broken. Antennae with only the seven proximal segments preserved, the stems obscure brownish yellow, the branches dark brown, relatively short, a little less than the stems. Head brownish gray.

Thoracic dorsum obscure brownish yellow, the praescutum with three darker brownish gray stripes that are scarcely differentiated from the ground; posterior sclerites of notum more heavily pruinose. Pleura chiefly obscure buffy yellow, vaguely patterned with gray, the more dorsal parts, including the dorsopleural membrane, more evidently infuscated. Halteres with stem light brown, the knob darker. Legs with the coxae brownish yellow; femora light brown, the tips narrowly and vaguely darker brown; tibiae brown, the tarsi more brownish black; claws (male) with a strong basal spine. Wings (Fig. 3) with a strong brownish tinge, the prearcular and costal fields more yellowish brown, particularly cell Sc; stigma pale brown, a trifle darker than the ground; veins brown, those in the prearcular and costal fields more brownish yellow. Venation: Rs about one-fifth longer than M—cu; r—m obliterated by a short fusion of veins R4+5 and M1-2; cell M1 broadly sessile.

Abdominal tergites brownish yellow, vaguely patterned with darker brown; sternites clearer yellow; eighth segment somewhat darker to form a narrow ring. Male hypopygium (Fig. 5) with the ninth tergite, 9<sub>i</sub>, large, its caudal margin with a broad U-shaped notch, the broad lateral lobes more narrowed at tips; surface of lobes with abundant setae. Outer dististyle, d, a broadly flattened pale blade,

its greatest width exceeding three-fourths the length. Inner dististyle distinctive, the beak portion long and slender, very unequally bidentate at apex, the lower tooth elongate; on base of style on outer margin with three further spinous points, the whole structure vaguely suggesting the outline of a swan, hence the specific name. Phallosome, p, consisting of two pairs of blades, the broader one with a small acute marginal spine before apex, the inner pair of blades about as long but more slender (a single one of each pair of blades is shown).

Holotype, male, Puyo, Napo-Pastaza, Ecuador, altitude 980 meters, January 1950 (Segundo Velastegui, through Macintyre).

The nearest relatives of the present fly include *Ozodicera* (*Ozodicera*) *multiermis* Alexander, O. (O.) *phallicanthus* Alexander, and O. (O.) *trispinifer* Alexander, all readily separated among themselves by the structure of the male hypopygia, especially the tergite, inner dististyle and phallosome. The inner dististyle of *multiermis* (Fig. 6) and *trispinifer* (Fig. 7) are shown for comparison with the present fly (Fig. 5).

##### 5. *Tipula* (*Eumicrotipula*) *phalangioides* Alexander, 1945.

The occurrence of this most notable crane-fly was briefly discussed under the preceding part of this series of papers (Rev. Ecuat. Ent. Par. 1: 7—8: 1953). Professor and Mrs. E. Martin Brown discovered this virtually wingless crane-fly at high altitudes on Minza Ridge, on the southeast side of the Volcan Tungurahua, between April 3 and 15, 1939. The following notes by Professor Brown concern the capture of the fly.

“Taken between 4000 and 4650 meters (13,125 to 15,260 feet), on Minza Ridge, April 10 1939. They were running about over the ground and when first observed were mistaken for harvest-men, *Phalangida*. One female was noted ovipositing in wet moss. A copulating pair were preserved in alcohol. No sun during the day; hail, sleet and rain, plus mist, all the time. The highest altitude at which they were observed was at the foot of the cliffs of the west crater, which was also the highest point at which we observed moss”.

“Observations made between April 3 and 15, 1939. Camp on the Minza Chica paramo, at 3750 meters, where collecting was

done to above 4650 meters. On only one day did we have sunshine for as long as one hour and there almost continuous rain or mist. The camp was situated on the uppermost reaches of a heath and although the season of the snows was only about a month away, the heaths were all in bloom. About three inches of soil covered the volcanic ash. There was practically no grass here but a thin scattering was found about 1000 feet higher up. The only entomological find was this interesting species of Tipulid, common at 14,000 feet, but occurring as high as 15,260 feet, where a single male specimen was found among the rocks”.

This fly was adequately described in the original reference but has never been figured. More details concerning the structure of the antennae and male hypopygium are supplied.

Antenna (Fig. 8) short, with very reduced verticils and thus suggesting a species of the genus *Holorusia* rather than a *Tipula*; only 11 or 12 segments; pedicel elongate, more than one-third the scape; all flagellar segments with a dense, extremely short pubescence, additional to the sparse verticils; first flagellar segment about one-half longer than the second, the succeeding segments corrugated; terminal segment relatively large, approximately two-thirds the penultimate.

Male hypopygium (Fig. 8) with the ninth tergite, 9t, transverse, the posterior border subtruncate, with a small U-shaped median notch much shallower sublateral ones; posterior margin of tergite thickened, especially beneath, the lateral angles rounded, without setae; elsewhere on the thickened rim with abundant long slender setae, these smaller and more scattered on the disk, lacking on the cephalic third of the plate; apices of the lobes that subtend the median emargination obliquely truncate, virtually glabrous. Basistyle with the mesal lobe, mb, relatively short and stout, a trifle longer than its diameter across base, the outer half with long setae. Outer dististyle, d, narrowed on about the proximal half, the outer part dilated into a blade that is about one-half longer than broad, provided with long setae, those of the dorsal margin unusually long and conspicuous. Inner dististyle relatively simple, the beak and lower beak blackened; setae of region of dorsal crest long but not especially modified. Gonapophysis, g, appearing as a flattened dusky blade, the tip obtuse, near the base with three or four subparallel corrugations or lines. Aedeagus stout, blackened. Eighth sternite 8s, with the posterior border convexly rounded, without a median appendage or lobe, as common in the subgenus; less

than the posterior half of plate provided with abundant relatively small setae.

6. **Nephrotoma alleni** (Alexander, 1913).

Described from the Colombian Andes. El Tablon, above Banos, Mount Tungurahua, altitude 2800 meters, August 3, 1939 (Macintyre).

7. **Limonia (Limonia) lawlori** Alexander, 1934.

Described from northern Panama. Mapoto, Rio Pastaza, Tungurahua, altitude 1300 meters, October 1, 1938 (Macintyre).

8. **Limonia (Geranomia) xanthoplaca** (Alexander, 1921).

Described from Amazonian Peru. Rio Arajuno, Napo watershed, Napo-Pastaza, altitude 1000 meters, April 21, 1941 (Macintyre).

9. **Orimarga (Diotrepha) fumicosta** (Alexander, 1921).

Balzapamba, Bolivar, altitude 700 meters, May 20, 1938 (Macintyre).

10. **Polymera (Polymera) microstictula** Alexander, 1929.

Tena, Napo-Pastaza, in humid tropical jungle, altitude 1510 meters, 1948 (Levi-Castillo).

11. **Shannonomyia austrolathraea** Alexander, 1930.

La Mass, near Banos, Tungurahua, altitude 2500 meters, July 11, 1937 (Macintyre). Formerly from Bolivia.

12. **Lecteria (Lecteria) armillaris** (Fabricius, 1805).

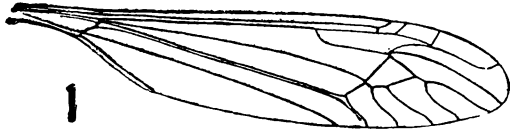
Abitagua, altitude 1000 meters, November 1936 (Macintyre); Jatun Yacu, altitude 700 meters, February-March 1937 (Macintyre); Rio Sasica-yacu, Pastaza watershed, altitude 900 meters, June 1941 (Macintyre), all in Napo-Pastaza. Zamora, Santiago-Zamora, altitude 1000 meters, October 19, 1941 (Laddey).



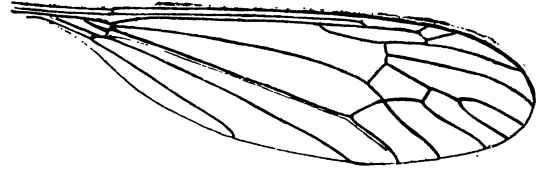
**EXPLANATION OF PLATE**

- Fig. 1. *Brachypremna phrixus* sp. n.; venation.
- Fig. 2. *Longurio (Longurio) stenostyla* sp. n.; venation.
- Fig. 3. *Ozodicera (Ozodicera) cygniformis* sp. n.; venation.
- Fig. 4. *Longurio (Longurio) stenostyla* sp. n.; male hypopygium.
- Fig. 5. *Ozodicera (Ozodicera) cygniformis* sp. n.; male hypopogium.
- Fig. 6. *Ozodicera (Ozodicera) multiermis* Alexander; male hypopygium.
- Fig. 7. *Ozodicera (Ozodicera) trispinifer* Alexander; male hypopygium.
- Fig. 8. *Tipula (Eumicrotipula) phalangioides* Alexander; male hypopygium and antenna.

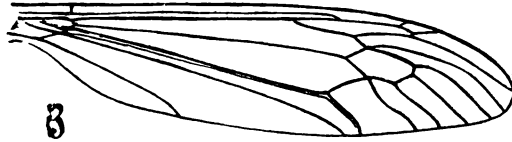
(Symbols: ant, antenna; b, basistyle; d, dististyle; g, gonapophysis; p, phallosome; s, sternite; t, tergite).



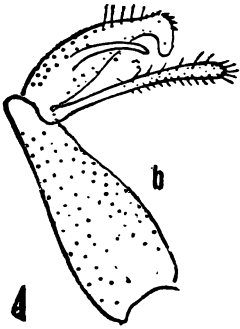
1



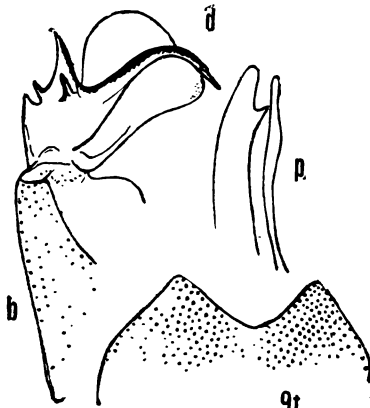
2



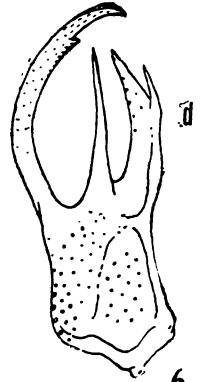
3



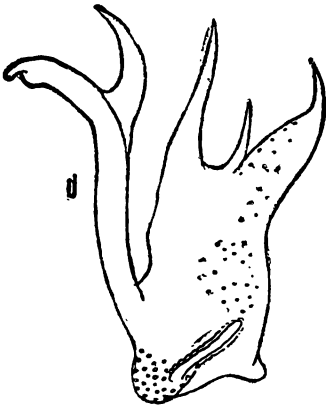
4



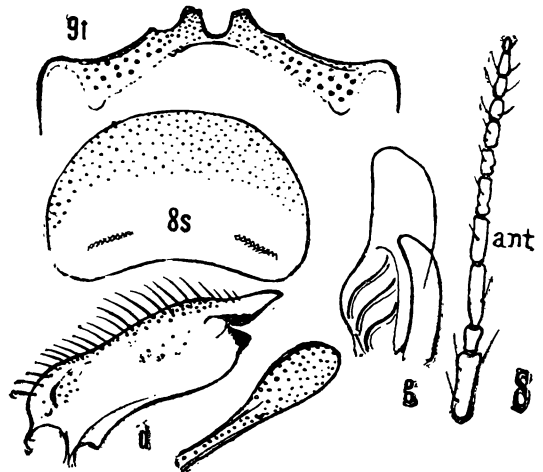
5



6



d



9t

8s

ant

d

8