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**UNDESCRIBED SPECIES OF TIPULINE CRANE-
FLIES FROM TROPICAL AMERICA**

(*Diptera, Tipulidae*)

By CHARLES P. ALEXANDER

The majority of the species described in this paper are from the State of Tachira, Venezuela, where they were collected by Messrs. E. B. and J. H. Williamson and W. H. Ditzler, to whom I am very grateful for the gift of this valuable material.

One additional *Holorusia* was included in Peruvian material collected by Parish and another in the extensive series of Tipulidae belonging to the Paris Museum and kindly loaned to me for study by my friend, M. Dr. Eugene Séguy. The types of all the species except this last-mentioned are preserved in the writer's collection.

Holorusia sinuosa, new species.

General coloration light brown; antennae with the flagellar segments indistinctly bicolorous; mesonotal praescutum with three reddish brown stripes; wings subhyaline with a very heavy and extensive brown pattern, including three blotches in cells *R* and *M*; vein R_{4+5} very sinuous; abdominal tergites trivittate with dark brown.

Male: Length, 17 mm.; wing, 20.5 mm.

Frontal prolongation of the head brown, slightly darker dorso-medially; palpi brownish black. Antennae short; first scapal segment dark brown except at tip; second scapal segment and first flagellar segment obscure yellow; remaining flagellar segments brown, the incisures very indistinctly paler. Head dark brown, the posterior orbits of the eyes paler.

Mesonotal praescutum testaceous brown with three reddish brown stripes, the interspaces darker brown behind; remainder of the mesonotum light brown, the scutellum and postnotum with an indistinct capillary darker line; a darker brown U-shaped area bordering the postnotal pleurotergite before the haltere. Pleura testaceous, indistinctly variegated with darker. Halteres dark brown, the base of the stem restrictedly yellowish. Legs with the coxae pale buff; trochanters obscure yellow; femora dark brown, the tips broadly blackened; tibiae dark brown, the tips narrowly still darker; tarsi very long, much exceeding the remainder of the legs, dark brown. Wings subhyaline with a very heavy and extensive brown pattern; prearcular cells pale; cell *C* obscure yellow, cell *Sc* brown; three brown blotches in cell *R*, the last at origin of *Rs*, narrowly connected with the second along vein *M*; the first of these blotches likewise includes the base of cell *M*; in cell *M* there is a second

blotch immediately beneath the second blotch in the radial cell but barely confluent with it; outer end of cell *M* darkened; stigma brown; veins beyond the cord in the radial field conspicuously seamed with brown, almost obliterating the ground-color; other cells beyond the cord and the distal portions of cells *Cu* and *Anal* brownish gray, the bases of the latter broadly pale, this including more than the basal half of cell *Cu*, the basal quarter of *1st A* and the basal half of *2nd A*; veins dark brown. Venation: Veins R_3 and R_{4+5} unusually sinuous, constricting cell R_3 near mid-length; cell *1st M*₂ relatively small, pentagonal, the basal section of M_{1+2} longest, that of M_{3+4} shortest; petiole of cell M_1 a little more than twice the length of *m*.

Abdominal tergites light brown, trivittate with brownish black; segments six to eight blackened; hypopygium brown; basal sternites pale.

Habitat: Peru.

Holotype, ♂, Yurimaguas, April 12, 1920 (H. S. Parish).

Holorusia guatemalensis, new species.

General coloration pale brown, the praescutal stripes obscure yellow; wings pale brown, heavily variegated with darker brown and subhyaline; cell *1st M*₂ small; *Rs* long, paralleling R_1 .

Male: Length, 13.5 mm.; wing, 18.5 mm.

Frontal prolongation of the head obscure brownish yellow, the nasus infuscated; palpi dark basally, brightened outwardly. Antennae small; scapal segments obscure yellow; flagellum dark brownish black; first scapal segment very long. Head light brown, paler anteriorly.

Mesonotal praescutum pale brown with four obscure yellow stripes; scutum similarly marked, the centers of the lobes being pale; remainder of mesonotum obscure brownish yellow. Pleura obscure yellow. Halteres brown, the base of the stem obscure yellow. Legs with the coxae and trochanters obscure yellow; legs long and slender, brown, the tips of the femora and tibiae dark brown. Wings with a pale brown tinge, variegated with darker brown and subhyaline; prearcular region and cells *C* and

Sc more yellowish; darker brown areas at the stigma; origin of *Rs*; in bases of cells *R* and *M*; at about one-third the length of cell *R*; at near midlength and at distal end of cell *M*; wing-apex darkened; the subhyaline blotches appear as interspaces between the darkened areas in cells *R* and *M*, in cell 1st *R*₁, base of cell *R*₂ and in the bases of cells *Cu* to 2nd *A*; veins dark brown. Venation: *Sc*₂ ending before the fork of *Rs*, the latter vein very long, strongly arcuated at origin, running parallel to *R*₁; *R*₂₊₃ straight; *R*₃ and *R*₄₊₅ arcuated, constricting cell *R*₃ near midlength; cell 1st *M*₂ small, pentagonal, the basal section of *M*₃₊₄ the shortest element of the cell, the other elements more nearly equal in length; cell *M*₁ deep, twice as long as its petiole.

Abdomen pale brown, the incisures narrowly pale; a subterminal brownish black ring, including tergites six and seven and sternite seven; hypopygium pale. Male hypopygium of type with the ædeagus long exerted.

Habitat: Guatemala.

Holotype, ♂, In the Paris Museum, labelled "19-55", Angrand.

The body of the type is somewhat discolored and the coloration is discussed in general terms only.

Holorusia strangalia, new species.

General coloration brown; antennal flagellum bicolorous; mesonotal praescutum with four reddish brown stripes that are narrowly margined with darker brown; pleura yellow; wings gray, with a heavy brown pattern that includes the broad costal margin and apex; a large brown blotch in cell *M*; abdomen of male with a black subterminal ring, the hypopygium yellow.

Male: Length, 15-15.5 mm.; wing, 18-18.5 mm.

Female: Length, 19 mm.; wing, 20 mm.

Frontal prolongation of the head brownish yellow; nasus elongate, black; palpi brownish black, the terminal segments passing into obscure yellow. Antennae (male) of moderate length, if bent backward extending about to the wing-root; scapal segments yellow, the second brighter; basal flagellar

segments bicolorous, the basal half of each dark brown, the distal portion obscure yellow, the terminal segments more uniformly dark brown. Head light brown, more yellowish on the front; a capillary brown median line; orbits paler.

Mesonotal praescutum brown with four conspicuous reddish brown stripes, each of which is margined with dark brown; scutum brown, each lobe with a reddish brown blotch near the anterior margin; scutellum and postnotum dark brown, the latter sparsely pruinose; posterior margin of scutum, the scutellum and postnotal mediotergite with an appressed yellow pubescence; pleurotergite pale, concolorous with the pleura, the caudal half darker. Pleura yellow. Halteres brown, pale basally. Legs with the coxae yellow; trochanters strongly tinged with greenish; femora and tibiae brownish testaceous, the tips darker; tarsi brown; claws toothed. Wings gray with a heavy brown pattern; costal region, including cells *C*, *Sc* and anterior half of *R* dark brown; wing-apex in cells 2nd *R*₁, *R*₂ and *R*₃ dark brown; stigmal spot still darker brown; a seam along *Cu* and *m-cu*; a large rectangular blotch near midlength of cell *M* brown; cell *M* and a small area before the stigma subhyaline; in some specimens a subhyaline spot in the outer ends of cells *R*₂ and *R*₃; veins dark brown. Venation: Vein *R*₄₊₅ strongly and irregularly sinuous, constricting cell *R*₃; second section of *M*₃₊₄ longer than the basal section of the same.

Abdomen brown, the tergites indistinctly marked sublaterally with dark brown; segments six and seven blackened to produce a subterminal ring; hypopygium large, compressed, conspicuously yellow.

The female is similar to the male but the antennae are shorter; no dark subterminal ring on abdomen. Ovipositor with the valves conspicuous, straight, compressed.

Habitat: Venezuela.

Holotype, ♂, La Fria, Tachira, April 14, 1920 (J. H. & E. B. Williamson and W. H. Ditzler).

Allotopotype, ♀, April 17, 1920.

Paratopotype, ♂, April 17, 1920; *paratype*, ♂, Tachira, Tachira, April 7, 1920.

Tipula zonalis, new species.

General coloration orange-yellow; wings faintly tinged with brownish, the costal region, apex and veins beyond the cord conspicuously seamed with brown; abdomen with a narrow black subterminal ring.

Male: Length, 11 mm.; wing, 11.2 mm.; antenna, 7.3 mm.

Female: Length, 14 mm.; wing, 12.2 mm.

Frontal prolongation of the head shiny obscure yellow; palpi testaceous, the terminal segment darker. Antennae (male) elongated; scape obscure yellow; first flagellar segment yellow, dark brown subterminally; remaining flagellar segments black, the extreme base and the apex of each segment conspicuously yellow to produce an annulate appearance. Head shiny obscure yellow.

Thorax shiny orange-yellow, without markings. Pleura yellowish testaceous, immaculate. Halteres obscure yellow, the knobs brown. Legs with the coxae and trochanters concolorous with the pleura; femora and tibiae brownish yellow, the tips narrowly brownish black; tarsi dark brown. Wings with a faint brownish tinge, the base, costal region, apex and the veins beyond the cord conspicuously seamed with darker brown, the darkened areas including cells *C*, *Sc*, distal half of cell *1st R*₁, all of cells *2nd R*₁ and *R*₂ and all but the base of *R*₃; the cells beyond the cord have pale centers; veins dark brown. Venation: *Sc* comparatively short, *Sc*₂ ending about opposite one-third to one-fifth the length of *Rs*; *R*₂₊₃ longer than *R*₂; petiole of cell *M*₁ about one-half longer than *m*; cell *1st M*₂ elongate-pentagonal; basal section of *M*₁₊₂ and *m* subequal; *m-cu* at or immediately before the fork of *M*₃₊₄.

Abdomen shiny obscure yellow; segment seven and the base of eight deep black. In the female the lateral margins of the tergites are distinctly blackened, the mid-dorsal line less distinctly darkened. Male hypopygium with the aedeagus tremendously exerted, about one-half longer than the entire body. Ovipositor with the tergal valves somewhat fleshy, as in *T. smithi* Alexander, to which the present species is obviously allied.

Habitat: Venezuela.

Holotype, ♂, Tachira, Tachira, April 4, 1920 (J. H. & E. B. Williamson and W. H. Ditzler).

Allotopotype, ♀.

Tipula zonalis is allied to *T. parishii* Alexander (Brazil) and *T. smithi* Alexander (Brazil).

Tipula detecta, new species.

General coloration brown and yellow; antennal flagellum entirely dark brown; mesonotal praescutum with four darker brown stripes; wings with a strong brownish tinge, more suffused along the costal region; tip of *R*₂ preserved; abdominal tergites reddish brown, the lateral margins conspicuously blackened; tergite seven entirely blackened; sternites uniformly obscure yellow.

Female: Length, 17 mm.; wing, 16 mm.

Frontal prolongation of the head obscure yellow, a little darker dorso-medially and on nasus; basal two segments of palpus brown, the terminal segments conspicuously yellow. Antennae with the scape yellow; flagellum dark brown. Head brown, very narrowly and indistinctly paler on the posterior orbits; a darker brown median vitta.

Mesonotal praescutum rather bright yellow, darker behind; four darker brown stripes, the intermediate pair narrowly separated for the most of their lengths, connected posteriorly, their inner margins narrowly bordered with darker; scutum obscure brownish yellow, the centers of the lobes dark brown; scutellum and postnotum obscure brownish yellow. Pleura yellow with a faint whitish pruinosity. Halteres rather long and slender, dark brown. Legs with the coxae and trochanters concolorous with the pleura; remainder of the legs dark brown, the femoral bases a little paler; basitarsi much longer than the tibiae. Wings with a strong brownish tinge, cells *C* and *Sc* darker brown; stigma oval, still darker brown; small obliterative areas before the stigma and across the base of cell *1st M*₂, extending from cell *R* to the base of cell *M*₃; veins brownish black. Venation: *Sc*₂ ending about opposite one-third the length of *Rs*; distal sec-

tion of R_2 preserved; cell M_1 deep, its petiole about one-half longer than m ; cell *1st* M_2 elongate-pentagonal, the basal section of M_{1+2} and m subequal and parallel to one another; second section of M_{3+4} relatively long; cell *2nd* A long and narrow.

Abdominal tergites reddish brown, the lateral margins broadly and conspicuously brownish black; on segment seven and the posterior half of segment six producing a subterminal ring; genital segment light brownish orange; sternites obscure yellow. Valves of the ovipositor dark brown, only the tips horn-colored; tergal valves comparatively deep, straight, the tips truncated; sternal valves much shorter but similar in shape.

Habitat: Venezuela.

Holotype, ♀, Tachira, Tachira, April 4, 1920 (J. H. & E. B. Williamson and W. H. Ditzler).

Tipula detecta belongs to the group of *T. effeta* Alexander of Peru. For a discussion of this group of species, see Proc. Acad. Nat. Sci. Philadelphia, 1921, Pt. 1: 100-102; 1921.

Tipula tecta, new species.

General coloration light brown; male antennae elongate; wings brown, the stigma darker brown; distal section of R_2 atrophied; abdominal sternites yellow, the incisures heavily marked with brown.

Male: Length, 11 mm.; wing, 11 mm.

Frontal prolongation of the head comparatively short, obscure yellow above, darker laterally; nasus short and broad; palpi black, the terminal segment fading into yellow. Antennae with the scape yellow; flagellum dark brown; antenna elongate, if bent backward extending to beyond midlength of the third abdominal segment; flagellar segments with a well-marked basal swelling. Head grayish brown, the front yellow.

Mesonotal praescutum light brown with three darker brown stripes, the broad median stripe very indistinctly split anteriorly by a pale median line; remainder of the mesonotum brown. Pleura pale buffy yellow. Halteres long, brown. Legs with the coxae concolorous with the pleura, the fore coxae darker, the coxae provided with long pale setae; trochanters pale;

legs very long and slender, brownish black, the femoral bases paler. Wings with a strong brownish tinge, cells C and Sc slightly darker; stigma oval, dark brown; conspicuous subhyaline areas before and beyond the stigma; a faint obliterate area in cell *1st* M_2 , passing into cell M_3 ; veins dark brown. Venation: Sc_2 ending just before midlength of Rs , the latter about one-half longer than R_{2+3} , gently arcuated at origin; distal section of R_2 entirely atrophied; cell *1st* M_2 narrowed distally, m being only a little longer than $r-m$; petiole of cell M_1 about as long as the basal deflection of R_{4+5} ; $m-cu$ about at the fork of M_{3+4} , the latter vein short, only about one-fifth the length of the first section of M_3 ; cell *2nd* A of moderate width. Macrotrichiae on veins Sc , R , r , R_{2+3} , R_3 and R_{4+5} .

Abdomen yellowish brown, the tergites indistinctly trilineate with dark brown; segments seven and eight black; sternites yellow, the base and apex of each segment conspicuously dark brown medially. Male hypopygium conspicuously yellowish brown. Ninth tergite with a deep U-shaped notch, the lateral lobes small and narrow; from the base of the notch arise two conspicuous chitinized lobes directed caudad, separated from one another only by a small oval notch, their apices obliquely truncated and microscopically denticulate.

Habitat: Venezuela.

Holotype, ♂, Tachira, Tachira, April 10, 1920 (J. H. & E. B. Williamson and W. H. Ditzler).

Tipula tecta is a doubtful member of the genus, since it possesses some characters of the subtribe Dolichopezaria.