

**Undescribed Crane-Flies from Argentina
(Dipt. : Tipulidae). Part VIII.**

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The four new species of *Dicranomyia* described at this time were collected in the Province of Córdoba by Dr. Bruch, and in the Province of Jujuy by Engineer Weiser, to both of whom I am greatly indebted for numerous specimens of Argentinian Tipulidae. The types are preserved in the writer's collection through the kindness of the collectors.

***Dicranomyia flavofascialis* sp. n.**

Antennae with the scapal segments obscure brownish yellow, the flagellum dark brown; head with a grayish yellow bloom; mesonotum dark reddish brown, the praescutum with three, brownish black stripes; scutal lobes brownish black; pleura largely dark brown; femora with the tips broadly yellow and with a more or less distinct subapical brown ring; wings yellowish subhyaline; stigma and indistinct seams along the cord and outer end of cell *1stM*₂ darker; vein *Sc* short; abdomen dark brown, the segments ringed caudally with yellowish.

♂. Length 8.2-8.5 mm.; wing 9.4-10 mm. ♀. Length 8.5-10.5 mm.; wing 8.5-11.5 mm.

Rostrum and palpi dark brown. Antennae with the scapal segments obscure brownish yellow; flagellar segments oval, dark brown. Head dark with a greyish yellow bloom; vertex between eyes narrow.

Mesonotal praescutum dark reddish brown with three, brownish black stripes, the median stripe broad, becoming indistinct before the suture; scutum pale medially, the lobes brownish black; scutellum yellowish medially, the lateral margins brownish black; postnotum dark brown, the lateral margins narrowly obscure yellow. Pleura dark brown, the dorsal margin of the sternopleurite more yellowish; remainder of sternopleurite dark brown. Halteres pale brown, the knobs and distal half of the stem brown.

Legs with the coxae obscure yellow, the outer faces more or less darkened; trochanters dull yellow; femora pale brown with the tips broadly and conspicuously light yellow, preceded by a dark brown ring; tibiae and tarsi brown.

Wings yellowish subhyaline; stigma suboval, brown; narrow and very indistinct seams along the cord and outer end of cell *1st M*₂; veins dark brown. Venation: *Sc* short, ending opposite or slightly before the origin of *Rs*, *Sc*₂ a short distance

from the tip, *Sc1* alone being about equal to the outer deflection of *M3*; *Rs* about one-half longer than the deflection of *R4+5*; cell *1st M2* closed; basal deflection of *Cu1* at the fork of *M* or nearly so.

Abdominal tergites dark brown, the posterior margins of the segments conspicuously and broadly ringed with dull yellow; sternites obscure yellowish brown, similarly ringed with yellow.

Holotype: ♂, La Granja, Alta Gracia, Córdoba, April 1-8, 1920, (C. Bruch). *Allotopotype*: ♀. *Paratopotypes*: 30 ♂ ♀.

Dicranomyia flavofascialis is closely related to *D. andicola* (Alexander) but is readily told by the darker coloration of the thorax and abdomen, the less distinct brown pattern on the wings, and the subterminal brown ring on the femora.

***Dicranomyia patruelis* sp. n.**

Antennae dark brown, the first scapal segment obscure brownish yellow; flagellar segments oval; head light brown; mesonotum obscure yellow, the praescutum with three, broad, dark brown stripes; scutellum dark brown with a pale median line; halteres long and slender; legs uniformly brown; wings yellowish subhyaline, the stigma pale brownish yellow; *Sc* short, cell *1st M2* closed; abdominal tergites uniformly dark brown.

♂. Length 8 mm.; wing 9 mm. ♀. Length 9 mm.; wing 10 mm.

Rostrum and palpi dark brown, the former elongate. Antennae with the basal segment obscure brownish yellow, the remainder of the organ dark brown, the flagellar segments oval. Head light brown, somewhat narrowed behind.

Pronotum long and narrow, dark brown above, paler laterally. Mesonotal praescutum shiny obscure yellow with a broad, dark brown, median stripe that becomes bifid and obliterated shortly before the suture; lateral stripes not well indicated; scutum whitish, each lobe dark brown; scutellum dark brown, with a capillary pale median vitta; postnotum dark brown, paler laterally. Halteres long and slender, dark brown, the base of the stem paler.

Legs with the coxae obscure yellow, the fore coxae darker; trochanters obscure yellow; femora light brown; remainder of the legs darker brown.

Wings yellowish subhyaline, the stigma very pale brownish yellow; veins brown. Venation: *Sc1* ending just before the origin of *Rs*, *Sc2* some distance before this tip. *Sc1* alone being a little longer than the basal deflection of *M1+2*; *Rs* about one-

third longer than the deflection of $R4+5$; tip of $R1$ beyond r indistinct; cell $1st\ M2$ closed, subrectangular; basal deflection of $Cu1$ much shorter than $Cu2$, placed just beyond the fork of M .

Abdominal tergites uniformly dark brown; sternites uniformly obscure brownish yellow, the terminal segments a little darker.

Holotype: ♂, La Granja, Alta Gracia, Córdoba, April 1-8, 1920, (C. Bruch). *Allotopotype*: ♀.

Dicranomyia patruelis is closely allied to *D. flavofascialis* but is readily told by the uniform femora and abdomen, the subhyaline wings with the stigma pale, and the different coloration of the body.

***Dicranomyia globulicornis* sp. n.**

Antennae uniformly dark brown, the basal flagellar segments subglobular; head grayish brown, the orbits clearer gray; mesonotum yellowish buff, the praescutum with four, narrow, brownish gray stripes, the scutellum and postnotum whitish, pruinose; legs brown; wings hyaline, highly iridescent; stigma pale brown; Sc short, $Sc2$ far before the tip of $Sc1$; cell $1st\ M2$ closed; abdominal segments uniformly brown.

♂. Length about 5.8 mm.; wing 6.5-6.8 mm.

Rostrum and palpi dark brown; rostrum slightly produced. Antennae dark brown throughout, the basal five or six segments of the flagellum nearly globular, the succeeding segments passing into oval, the terminal segments elongate. Head grayish brown, the orbits broadly paler gray; head strongly narrowed behind; vertex between eyes wide.

Pronotum large, dark brown medially, paler laterally. Mesonotal praescutum yellowish buff with four, narrow, brownish gray stripes, the intermediate pair narrowly separated and not attaining the suture; scutum pale grayish white medially, the centers of the lobes dark brownish gray; scutellum and postnotum pale, covered with a sparse white bloom. Pleura pale reddish yellow, covered with a sparse white bloom. Halteres short, pale, the knobs indistinctly darker.

Legs with the coxae shiny reddish brown; trochanters obscure yellow; femora pale brownish yellow; remainder of the legs brown.

Wings hyaline, highly iridescent; stigma pale brown; veins brown. Venation: Sc short, $Sc1$ ending before the origin of Rs , the distance about equal to m ; $Sc2$ far from the tip of $Sc1$, the latter vein alone thus being very long, only a little shorter than Rs and a little longer than the deflection of $R4+5$; cell $1st\ M2$

closed; *m* about two-thirds the outer deflection of *M*₃; basal deflection of *Cu*₁ longer than *Cu*₂, placed at or before the fork of *M*.

Abdomen uniformly brown, the tergites a little darker colored.

Holotype: ♂, Tilcara, Province of Jujuy, March 20, 1920, (V. Weiser). *Paratopotype*: ♂.

***Dicranomyia jujuyensis* sp. n.**

Mesonotal praescutum with an obscure yellow median stripe, the posterior half of the sclerite with four, narrow, dark brown stripes; scutal lobes with a dark brown ring; halteres yellow, the knobs dark brown; wings subhyaline, with a heavy reticulate pattern; *Sc* long, cell 1st *M*₂ closed; abdomen uniformly reddish brown.

♂. Length 4.8 mm.; wing 5.8 mm.

The unique type is not fully matured. Rostrum relatively long and slender, brown, sparsely pollinose; palpi dark brown. Antennae with the first segment brown, the second segment and basal segments of the flagellum paler, distal flagellar segments brown. Head with a sparse, grayish yellow pollen, the center of the vertex with a brown mark.

Pronotum pale, sparsely pollinose. Mesonotal praescutum with a broad, median, obscure yellow stripe, the posterior half broadly margined with dark brown, the mesal margin of the usual lateral stripes similarly dark brown, the interspaces silvery white, pruinose; lateral margins of the sclerites obscure yellow; scutum silvery-white, each lobe obscure yellow, encircled by a broad, dark brown marking; scutellum silvery; postnotum obscure yellow, sparsely pollinose. Pleura brownish yellow. Halteres yellow, the knobs dark brown.

Legs long and slender, the coxae and trochanters yellow; remainder of the legs not fully colored, apparently to become dark brown with the femoral tips paler.

Wings subhyaline with a conspicuous reticulate brown pattern, the heavier areas being at the origin of *Rs*, before midlength of cells *Sc* and *R*; near midlength of *M*; a conspicuous stigmal area that extends onto the deflection of *R*₄₊₅; a large, conspicuous area occupying the outer end of cell 2nd *R*₁, the centers of cells *R*₃ and *R*₅; all the other cells of the wing with conspicuous spots, clouds and transverse bars; costa yellow with about 22 subequal dark brown marks alternating with yellow areas that are usually much wider; remaining veins pale brown. Venation: *Sc* long, *Sc*₁ ending beyond midlength of the long *Rs*, *Sc*₂ at the tip of *Sc*₁; *r* at the tip of *R*₁; *Rs* long, square and spurred at origin; cell 1st *M*₂ closed; outer deflec-

tion of M_3 about twice the length of m ; basal deflection of Cu_1 before the fork of M , the distance being about equal to $r-m$.

Abdomen reddish brown, possibly darker when fully colored.

Holotype: ♂, Tilcara, Province of Jujuy, March 20, 1920, (V. Weiser).

In its reticulate wing-pattern, *D. jujuyensis* bears a certain resemblance to *D. reticulata* (Alexander) of Cuba and Southern Florida, but is readily told by the long subcosta and the details of coloration.

Color Preference of Bees (Hymen.).

Lately there has come a statement that bees are largely given to visiting blue, purple or violet flowers, although not totally ignoring yellow or red ones. Bees are heterotropic. They have become diversified along with the entomophilous flora. Of 437 local flowers whose visitors were observed, 96.2 per cent are visited by bees. There are only three on which I am sure bees never occur. The colors of the local flora are red (all dark colors) 29.4 per cent, yellow 30.7, white 39.8. Of the flowers observed 30.2 per cent are red, 30.6 yellow, 39.1 white, showing a little discrimination in favor of red flowers. The flowers visited by bees show red 28.7 per cent, yellow 31.1, white 40.0. Of 6063 bee visits 23.1 per cent are to red, 33.5 to yellow, 43.2 to white. The flowers visited and visits made are about what might be expected without regard to color. The determining condition is the situation of the nectar, which is most accessible in white flowers and the least in red ones. Of local bees only 70 (23.6 per cent) are largely given to visiting red flowers. Of their visits, 45.9 per cent are to red, of the visits of 96 other species, 52.9 per cent are to yellow, while of the visits of the remaining 130 species, 55.9 per cent are to white.

When a statement about bee visits is made, one would like to know the percentages of red in the flora referred to, in the flowers observed and in the visits recorded. In the Alps 57.1 per cent of the bee visits were to red flowers, but these were about 48 per cent of the flowers observed, and the visits of insects of all classes showed 41.6 per cent under that color. In the Berlin Garden 55.4 per cent of bee visits were to red, but such flowers were 48.2 per cent of the flowers observed, indicating that they had been selected.

The general statement criticized here would be more correct if applied to hawk-moths or to butterflies.—CHARLES ROBERTSON, Carlinville, Illinois.



Alexander, Charles P. 1924. "Undescribed crane-flies from Argentina (Dipt.: Tipulidae). Part VIII." *Entomological news, and proceedings of the Entomological Section of the Academy of Natural Sciences of Philadelphia* 35, 61–65.

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