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Undescribed Species of Crane-Flies from the Western United States and Canada (Dipt.: Tipulidae).
Part VII

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The preceding part under this general title was published in ENTOMOLOGICAL NEWS 57: 173-179, 1946. In this paper I am characterizing three further new species from California, the types being preserved in my collection of these flies. Specific acknowledgments are made under the individual species.

Tipula (*Lunatipula*) *palmarum* new species

Size medium (wing, male, 14 mm.); mesonotum buffy gray, the praescutum with four entire pale brown stripes; a central dark stripe on vertex, scutum and scutellum; femora and tibiae obscure yellow, the tips narrowly darkened; wings with a grayish tinge, restrictedly patterned with darker, including the pale brown stigma; obliterative band at cord restricted; male hypopygium with the basistyle extensive, thin and scooplike, entirely cut off from the sternite; ninth tergite having the caudal margin with a V-shaped notch, heavily blackened and thickened; inner dististyle with the outer basal lobe appearing as two strong slender rods, the outer ones stouter, terminating in two spinous points; eighth sternite at apex with a semicircular flap that bears two long brushes of roughened setae.

♂. Length about 13 mm.; wing 14 mm.; antenna about 3.9 mm.

Described from a dried specimen, including the hypopygial characters. Frontal prolongation of head buffy, with a conspicuous dark brown lateral line, nearly as long as remainder of head; nasus elongate; palpi brownish black. Antennae (male) moderately long, as shown by the measurements; scape and pedicel yellow, flagellum black; flagellar segments only moderately incised; longest verticils subequal to the segments. Head buffy gray, the vertex with a capillary dark brown median vitta.

Pronotum buffy, with a narrow darkened central spot. Mesonotal praescutum buffy gray with four entire pale brown stripes, the intermediate pair separated by a more buffy ground line that is approximately as wide; humeral region of praescutum with an extensive paler brown area; posterior sclerites of notum buffy, sparsely pruinose; scutal lobes each with two brown spots; a narrow brown central stripe on scutum, extending caudad over most of the length of the scutellum; mediotergite with this line scarcely indicated, the outer lateral portions provided with conspicuous erect setae. Pleura testaceous yellow. Halteres with stem yellow, knob weakly darkened. Legs with the coxae and trochanters testaceous yellow; femora and tibiae obscure yellow, the tips narrowly darkened; tarsi passing into darker brown; claws (male) with a weak tooth. Wings with a grayish tinge, the cord and veins beyond very narrowly and vaguely seamed with darker; prearcular field narrowly yellow; stigma pale brown; obliterative areas restricted, extending from the outer end of cell *R* across the basal half of cell *1st M*₂ into the base of cell *M*₃; no prestigmal or poststigmal brightenings; veins brown, more brownish yellow in the prearcular and costal fields. Squamulae setae few; stigmal trichia lacking. Venation: *Rs* somewhat less than twice *m-cu*; *R*₁₊₂ entire; petiole of cell *M*₁ shorter than *m*; *M*₃₊₄ shorter than the basal section of *M*₁₊₂. Abdominal tergites obscure yellow, with three broken brown stripes, the central one narrowly interrupted at the incisures; sublateral stripes much more broken but conspicuous, each dark area preceded by a clearer yellow spot on the base of segment; sternites yellow, weakly more darkened medially; hypopygium yellow. Male hypopygium with the basistyle entirely cut off from the ninth sternite by a suture, appearing as an extensive thin and scooplike plate, the dorsal portion with numerous long yellow setae; posterior margin above the suture with an additional pencil of long setae. Ninth tergite entirely separate from the sternite; viewed from above appearing slightly narrowed outwardly, the posterior border with a V-shaped notch, the margin heavily blackened and sclerotized, including the entire posterior margin of the tergal notch, this portion irregularly

toothed. Ninth sternite with its appendage relatively extensive, flattened, with inconspicuous setae, the longest at apex. Outer dististyle a small pale clavate structure. Inner dististyle appearing as a flattened-compressed blade, the beak jutting into the tergal notch; margin of beak blackened; lower beak lacking or very obtuse; on face of style at base of beak with a further blackened lobule or protuberance; what is interpreted as being the outer basal lobe consists of two slender rods or arms, the outer slightly stronger and curved, more or less expanded at tip, both the upper and lower apical angles further produced into acute spinous points, the space between the points with white setae; second arm lying more mesad at end of a flattened plate or flange, appearing as a more slender straight rod that is only a little shorter than the outer arm. Eighth sternite only slightly sheathing, the margin terminating in a semicircular flap that bears two long and dense brushes of roughened or crinkly setae.

Habitat.—CALIFORNIA. *Holotype*: ♂, Palm Canyon, Borego, San Diego Co., May 4, 1945 (A. L. Melander); Alexander Collection, through kindness of Dr. Melander.

The present fly is very distinct in its hypopygial characters, especially the tergite, inner dististyle and eighth sternite. In its general appearance it somewhat suggests species such as *Tipula* (*Lunaticipula*) *boregoensis* Alexander, but is entirely different in hypopygial structure from all such flies.

TIPULA Linnaeus, subgenus HESPEROTIPULA new

Characters chiefly as in *Lunaticipula* Edwards, differing in important differences in the genitalia of both sexes.

Wings of certain species, including the subgenotype, with sparse to more abundant macrotrichia in outer cells, particularly *R*₅. Male hypopygium with the ninth sternite very large, contiguous across the dorsum or virtually so, the eighth tergite and ninth tergite correspondingly reduced, the former semicircular in outline. Basistyle produced into elongate horns (except in *derbyi*). Ovipositor with the cerci reduced to small

rounded or semicircular knobs, much shorter than the elongate hypovalvae, the latter pointed at tips.

Type of subgenus—*Tipula* (*Hesperotipula*) *streptocera* Doane.

Other included species: *circularis* new species (California); *contortix* Alexander (California); *coronado* Alexander (Arizona); *derbyi* Doane (California); *fragmentata* Dietz (Washington, Oregon, California); *insdalei* Alexander (California); *micheneri* Alexander (California); *mutica* Dietz (California); *opisthocera* Dietz (California); *ovalis* Alexander (California); *supplicata* Alexander (California); *trypetophora* Dietz (British Columbia).

Tipula monochroma Dietz, 1919 (*pleuraevicula* Alexander, 1915) and *T. devia* Dietz, 1919 (*transluicida* Doane, 1901) do not belong to this subgenus. As restricted, it is eminently characteristic of the Vancouverian and Californian regions, particularly the latter.

Tipula (*Hesperotipula*) *circularis* new species.

Allied to *streptocera*; male hypopygium with the dorsal portion of ninth tergite produced into two circular blackened lobes or blades, their margins smooth, the space between the lobes transverse; spine of basistyle long and sinuous, strongly narrowed outwardly but scarcely twisted; inner dististyle with the beak short and slender, blackened; outer basal lobe placed far basad, about on a level with the lower beak.

♂. Length about 12-14 mm.; wing 13-14.5 mm.; antenna about 3.8-4 mm.

♀. Length about 13 mm.; wing 15 mm.

Frontal prolongation of head brown above, including nasus, paling to obscure yellow on sides; palpi brown, the terminal segment brownish black. Antennae moderately long, as shown by the measurements; basal three segments yellow, succeeding ones brown. Head above brownish black, the surface heavily pruinose.

Thorax above almost uniformly shiny yellow or reddish yellow, the praescutal stripes poorly differentiated. Pleura some-

what clearer yellow. Halteres with stem brownish yellow, the base restrictedly yellow, knob dark brown. Legs with the coxae and trochanters yellow; femora yellow, the tips narrowly brownish black; tibiae and tarsi gradually more infuscated, the outer tarsal segments brownish black; claws (male) toothed. Wings with a weak brownish tinge, the vicinity of the veins beyond the cord paler; prearcular and costal fields more yellowed; stigma and a small spot at origin of R_s pale brown; obliterative areas at cord and beyond stigma; veins pale brown. Rather numerous macrotrichia in outer half of cell R_2 ; stigmal trichia few. Venation: R_s about two and one-half times $m-cu$.

Abdomen yellow to reddish yellow, the tergites more or less distinctly trivittate with brown, the median stripe becoming heavier and more evident on the outer segments; sublateral stripe more broken. Male hypopygium with the ninth tergite distinctive, the dorsal portion produced into two circular blackened lobes or blades, their margins smooth, the space between the lobes transverse. Basistyle with the spine long and sinuous, strongly narrowed but not twisted. Inner dististyle with the beak short and slender, blackened; outer basal lobe placed more basad than in *streptocera*, about on a level with the lower beak. Eighth sternite with the setae of the lateral lobes abundant and conspicuous; those of the median lobe also unusually numerous, somewhat variable in number but usually totalling at least a score.

Habitat.—CALIFORNIA. *Holotype*: ♂, Livermore, Alameda Co., May 1, 1939 (T. H. G. Aitken). *Allotype*: ♀, Fairfax, Marin Co., April 13, 1919 (E. P. Van Duzee); California Academy of Science. *Paratopotype*: 1 ♂, pinned, with type; *paratypes*: ♂, Berkeley, May 4, 1919 (E. P. Van Duzee); ♂, Sonoma Co., April 4, 1914 (Knoch), received from Dietz, identified as *streptocera*; ♂, Alum Rock Park, Santa Clara Co., May 5, 1939 (T. H. G. Aitken).

The most similar species is *Tipula* (*Hesperotipula*) *streptocera* Doane, which differs conspicuously in the structure of the male hypopygium, including the tergite, horn of the basistyle, inner dististyle and eighth sternite.

Phyllolabis hirtiloba new species

• General coloration of head and thorax light gray; wings with a very weak brownish tinge, the large oval stigma only a trifle darker than the ground; veins R_2 and R_4 relatively short, slightly divergent, so cell R_3 at margin is approximately one-third more extensive than cell R_2 ; male hypopygium with the appendage of the ninth sternite broad, the caudal margin widely and shallowly emarginate, the lateral angles produced into small pale lobes; apex of outer lobe of basistyle with a group of strong dark setae on mesal portion; outer dististyle a microscopic knob; gonapophyses very slender.

♂. Length about 7 mm.; wing 7 mm.

Rostrum dark brown, pruinose; palpi black. Antennae black throughout, scape pruinose; flagellar segments passing through oval to long-oval. Head light gray.

Thorax almost uniformly light gray, the praescutum without evident pattern. Halteres whitened. Legs with the coxae brown, gray pruinose; trochanters yellow; femora and tibiae obscure yellowish brown to pale brown, the tips somewhat more darkened; tarsi brownish black. Wings with a very weak brownish tinge, the large oval stigma only a trifle darker than the ground; prearcular field a little more brightened; veins brown, more yellowed at wing-base. Venation: Sc relatively short, Sc_1 ending a short distance beyond the fork of R_3 , Sc_2 exactly opposite this point; veins R_3 and R_4 relatively short and markedly divergent so cell R_3 at margin is approximately one-third more extensive than cell R_2 ; vein R_3 only a little more than one-half R_{2+3+4} ; $m-cu$ shortly beyond the fork of M_{3+4} on M_4 .

Abdomen dark brown. Male hypopygium with the appendage of ninth sternite wide, the caudal margin very broadly and shallowly emarginate, the small lateral lobes pale. Basistyle projecting beyond the point of insertion of the dististyles as a stout lobe, the apex a trifle widened, obliquely truncated; on mesal edge at and back from tip with numerous strong dark-colored setae; lower lobe of basistyle a strong clavate structure that is provided with scattered relatively short setae. Outer dististyle a microscopic knob; inner style large but still smaller

than the lower lobe of the basistyle, virtually glabrous, at apex narrowed into a lobe. Gonapophyses very slender, nearly straight.

Habitat.—CALIFORNIA. *Holotype*: ♂, Yosemite National Park, near Mirror Lake, altitude 4000 feet, June 6, 1939 (A. Downes).

Phyllolabis hirtiloba is perhaps most similar to species such as *P. claviger* Osten Sacken and *P. meridionalis* Alexander, differing from all described forms in every detail of structure of the male hypopygium, particularly the appendage of the ninth sternite, apical lobe of basistyle, and both dististyles.