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**NEW OR INSUFFICIENTLY-KNOWN CRANE-FLIES  
FROM THE NEARCTIC REGION (DIPTERA,  
TIPULIDAE) PART XIV.<sup>1</sup>**

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The preceding part under this general title was published in December, 1950 (Bull. Brooklyn Ent. Soc., 45: 156-160). At this time I am characterizing a few further species of the genus *Tipula*, all from California and chiefly from the Hastings Reservation, in the Santa Lucia Mountains, Monterey County, where they were taken by the Director of the Reservation, Dr. Jean M. Linsdale. I wish to express my deepest thanks and appreciation to Dr. Linsdale for the privilege of studying exceedingly large series of crane-flies from the Reservation which have provided an exceptionally complete list of the species. Representatives of the species are contained in the collections of the Frances Simes Hastings Natural History Museum and in my personal collection. Further acknowledgments are made later in the paper under the discussion of *Tipula* (*Lunatipula*) *hastingsae*.

***Tipula* (*Hesperotipula*) *linsdalei* n. sp.**

*Male*: Length about 12-13 mm.; wing 14-15 mm.; antenna about 3.5 mm.

*Female*: Length about 13 mm.; wing 13.5-14 mm.

Frontal prolongation of head brown; nasus relatively short; palpi black. Antennae (male) with basal three segments yellow, remaining ones black. Head black, gray pruinose.

Pronotum dark brown medially above, paling to yellow on the sides. Mesonotum yellow, the praescutum with more reddish stripes; pleura yellow. Halteres with stem brownish yellow, knob

<sup>1</sup> Contribution from the Department of Entomology, University of Massachusetts.

darker brown, the base of stem clearer yellow. Legs with the coxae and trochanters yellow; femora yellow, the tips blackened; tibiae obscure yellow, the tips more narrowly darkened; tarsi passing into brownish black; claws (male) toothed. Wings whitish subhyaline, the centers of cells beyond cord, as well as cell *R*, slightly more darkened, the veins thus appearing to be seamed with the pale ground; stigma and a small spot at origin of *Rs* darker brown; prearcular and costal fields yellowed; veins brown, more brownish yellow in the brightened portions. Venation: *Rs* fully three times the short *m-cu*.

Abdominal tergites reddish yellow, with three broken black stripes, the median one interrupted by the gray posterior borders of the segments, the lateral stripes reduced to major spots on the basal parts of the individual segments; sternites clearer yellow; hypopygium castaneous. Male hypopygium with the ninth tergite distinctive, appearing as a flattened plate on either side of a narrow median notch, the margins rolled downward to form a partial cylinder. Horn of the basistyle short and unusually widened at base, scarcely longer than the inner dististyle. Inner dististyle with the beak short and blunt, not blackened; outer basal lobe large, virtually on a level with the main body of the style from which it is separated by a small notch; basal lobes of style of moderate size only. Eighth sternite with the setae of both the lateral and median lobes very long and numerous.

*Habitat*: California (Monterey County).

*Holotype*: ♂, Hastings Reservation, June 1, 1943 (J. M. Linsdale); returned to Dr. Linsdale. *Allotopotype*; ♀, pinned with type. *Paratopotypes*: 7 ♂♀, May 6–June 1, 1943 (Linsdale).

I am very pleased to name this fly for the collector, Dr. Jean M. Linsdale, Director of the Frances Simes Hastings Natural History Reservation. The most similar described species is *Tipula* (*Hesperotipula*) *micheneri* Alexander, which differs chiefly in the details of structure of the male hypopygium.

### ***Tipula* (*Hesperotipula*) *ovalis* n. sp.**

*Male*: Length about 14 mm.; wing 14.5 mm.; antenna about 4.6 mm.

*Female*: Length about 13 mm.; wing 16 mm.

Frontal prolongation of head obscure yellow; nasus elongate; palpi with basal three segments dark brown, the terminal one fading to pale brown. Antennae (male) of moderate length, as indicated by the measurements; basal three segments yellow, re-

mainder of flagellum black; flagellar segments only gently incised; longest verticils subequal to the segments. Head black, gray pruinose.

Thoracic dorsum reddish yellow, without distinct pattern, the pleura somewhat clearer yellow. Halteres dark brown, the base of stem narrowly yellow. Legs with the coxae and trochanters yellow; femora obscure yellow, the tips brownish black; tibiae and tarsi brown; claws (male) toothed. Wings with a brownish ground, more or less distinctly streaked with paler, especially evident along the veins beyond the cord; prearcular and costal fields yellow; stigma medium brown; veins brown; sparse macrotrichia in cell  $R_5$ .

Abdomen (male) with the tergites yellow, with a broken median brown stripe and conspicuous brownish black sublateral spots on segments two to five; sternites and hypopygium more uniformly pale. In female, the lateral tergal borders are distinctly infuscated, the median stripe best indicated on the more proximal segments. Male hypopygium with the upper plate of the ninth tergite produced into two oval blackened lobes, with smooth margins, separated by a narrow notch; lower plate terminating in two low transverse blackened ledges, separated at the midline by a very small notch. Basistyle produced into a long, unusually slender horn that narrows gradually to the acute tip. Outer dististyle dark-colored, gently sinuous in outline, provided with coarse black setae. Inner dististyle with the beak slender, blackened; dorsal crest low, the outermost lobe large and flattened, provided with abundant erect yellow setae, the smaller outer lobe behind the dorsal crest small and separated from the crest only by a small notch. Eighth sternite with the setae of the lateral lobes long and delicate, very abundant; median lobe with only about a dozen much stouter bristles.

*Habitat*: California (Monterey County).

*Holotype*: ♂, Hastings Reservation, along Finch Creek, May 21, 1943 (J. M. Linsdale); Alexander Collection. *Allotopotype*: ♀, with the type; returned to Dr. Linsdale.

The most similar described species are *Tipula* (*Hesperotipula*) *circularis* Alexander and *T. (H.) streptocera* Doane, which differ in the details of structure of the male hypopygium, particularly of the ninth tergite, basistyle, inner dististyle and eighth sternite.

#### *Tipula* (*Lunatipula*) *hastingsae* n. sp.

*Male*: Length about 15–16 mm.; wing 16–19 mm.; antenna about 4.5–5 mm.

*Female*: Length about 18–22 mm.; wing 16–21 mm.

Characters mostly as in *polycantha* Alexander (Southern Rocky Mountain Region), differing in details of wing pattern and structure of the male hypopygium.

Head light gray. Antennae with the scape and pedicel brown, flagellum brownish black to black; basal swellings of the segments moderately developed.

Mesonotal praescutum with all dark stripes confluent, the posterior end of the median stripe much paler. Wings with the dark and pale pattern very contrasted, the former being slightly more extensive than the latter; costal border uniformly darkened; white areas before cord very irregular, not forming a narrow transverse band at near one-third the wing length, as in *polycantha*; pale pattern in cells *M* and *1st A* particularly extensive; beyond the cord, the pattern distribution more as in *polycantha* but much more contrasted.

Male hypopygium more as in *polycantha* than in *vittatipennis*, especially in the armature of the eighth sternite. Ninth tergite with the tergal lobes broader and more rounded. Outer dististyle expanded at outer end, the outer angle obtuse, not produced as in *polycantha*. Inner dististyle narrower and more produced, the outer basal lobe larger. Ninth sternite with the horns slender and relatively inconspicuous, the tips pointed. Gonapophyses appearing as very powerful divergent curved arms. Eighth sternite with about five or six major modified setae on either side, with a few more reduced ones at the base of the series. *Tipula polycantha* differs especially in the details of the ninth tergite, both dististyles, gonapophyses and the eighth sternite.

*Habitat*: California.

*Holotype*: ♂, Mount Diablo, Contra Costa County, altitude 2860 feet, May 12, 1940 (Mont A. Cazier). *Allotopotype*: ♀, pinned with the type. *Paratypes*: ♂, San Gabriel River Bird Sanctuary, May 21, 1945 (J. A. Comstock); numerous ♂♀, Del Mar, San Diego County, April 29–May 13, 1945, June 10, 1945, late June 1950 (J. A. Comstock); ♂♀, San Jacinto River Canyon, above Hemet, Riverside County, in chaparral, May 14, 1939 (T. H. G. Aitken); ♂♀, Hastings Reservation, Monterey County, June 13, 1938, April 26, May 9, May 23, 1943 (J. M. Linsdale); 1 ♀, Shingle Springs, El Dorado County, May 27, 1939 (Mont A. Cazier).

This very attractive species is named for Mrs. Frances Simes Hastings, through whose thoughtfulness and generosity the Has-

tings Natural History Reservation has been established and maintained. As indicated in the above diagnosis, the closest relative is *Tipula (Lunatipula) polycantha* Alexander, which has been compared throughout the description.

***Tipula (Lunatipula) sanctæ-luciæ* n. sp.**

Size medium (wing, male, about 15 mm.); mesonotal praescutum yellow, with three black stripes, the whole surface obscured by a sparse gray pruinosity; legs yellow, the tips of the femora and tibiae narrowly brownish black; wings with the ground creamy white, the centers of virtually all cells slightly infuscated, leaving broad borders of the ground along the veins; stigma brown; abdominal tergites with a conspicuous black median stripe, the usual lateral stripes represented by isolated dark spots on the sublateral portions of tergites two to seven; male hypopygium with the tergite deeply notched medially, each lobe again with a very deep and narrow U-shaped emargination, the inner lobule thus formed lying almost on edge, the flattened face against the midline; outer dististyle appearing as a glabrous polished scoop, the entire inner or concave face with an abundance of long yellow setae; eighth sternite sheathing, strongly narrowed outwardly, bearing two apical lobes, each with a dense brush of relatively short yellow setae.

*Male*: Length about 14 mm.; wing 15.5 mm.; antenna about 4 mm.

Frontal prolongation of head castaneous, slightly darker on dorsum; nasus long and slender; palpi black, the long terminal segment much paler. Antennae with the basal three segments light yellow, the remaining segments brownish black, the basal enlargements of the more proximal ones still darker; verticils subequal in length to the segments. Anterior vertex reddish, posterior vertex and occiput black, both partly concealed by a gray pruinosity, particularly in front; no vertical tubercle.

Pronotal scutum protuberant and blackened medially, the sides brownish yellow; scutellum and pretergites obscure yellow. Mesonotal praescutum with the restricted ground color yellow, the disk chiefly covered by three black stripes, the whole surface rendered opaque by a sparse gray pruinosity; lateral and humeral portions of the ground more or less patterned with reddish; scutum obscure yellow, each lobe with a single major blackened sparsely pruinose area; scutellum and mediotergite reddish yellow, both with sparse scattered erect setae; pleurotergite more or less darkened, light brown. Pleura chiefly obscure yellow. Halteres with stem ob-

scure yellow, knob infuscated. Legs with the coxae and trochanters yellow; femora and tibiae yellow, the tips narrowly brownish black, the amount subequal on all legs; basitarsi obscure yellow, the apex and remainder of tarsi black; claws (male) toothed. Wings relatively broad; ground color creamy white, the centers of virtually all the cells slightly infuscated, leaving broad borders of the ground along the veins; cell *C* pale brown, prearcular field and cell *Sc* clear yellow; stigma brown, relatively conspicuous, with several trichia; a small brown spot at origin of *Rs*; vein brown, paler in the brightened fields. Venation: *Rs* about three times the short *m-cu*; petiole of cell *M*<sub>1</sub> about one-half longer than *m*.

Abdomen yellow, more or less polished; tergites with a conspicuous black median stripe, on the subterminal segments interrupted by pale yellow borders; the usual lateral stripes replaced by isolated brownish black spots on sublateral portions of tergites two to seven, inclusive; sternites chiefly obscure yellow, the posterior borders of the segments vaguely more infuscated; hypopygium relatively large, castaneous. Male hypopygium with the tergite small, set off from the sternite by impressed sutures; basistyle entire, large and conspicuous. Ninth tergite of peculiar conformation, strongly elevated and corrugated, almost divided by a deep and narrow notch and groove, the lateral lobes thus formed again deeply divided by a narrow U-shape notch, the mesal lobule lying almost on edge with the flattened face directed to the midline; the broader lateral lobes narrowly rimmed with black edge. Ninth sternite relatively inconspicuous, its appendage small, with moderately long yellow setae, contiguous at the midline. Basistyle conspicuous, the posterior edge sharply margined and at its ventral angle produced into an acute spinous point; caudal margin of the style back from this spine flattened and sclerotized on the lower portion, near the dististyle with a rounded notch that is filled with whitish membrane, the dorsal angle of this notch produced into a second, inwardly directed chitinized point; dorsal apical part of style with long black setae. Outer dististyle unique, appearing as a polished scoop, the outer convex face glabrous, the concave inner surface provided with abundant long yellow setae. Inner dististyle not clearly evident in the unique dry type. Eighth sternite sheathing, strongly narrowed outwardly, the tip more or less circular; viewed from below the apex appears truncated and filled with pale membrane; viewed from behind, the sides of the shallow aperture are produced into short polished lobes that bear dense brushes of relatively short yellow setae, the more ventral ones longer and stouter, decussate.

*Habitat*: California (Monterey County).

*Holotype*: ♂, Hastings Reservation, along Finch Creek, May 21, 1943 (J. M. Linsdale); Alexander Collection.

I am unable at this time to indicate the exact relationships of this fly. In some regards it suggests species of the subgenus *Hesperotipula* Alexander rather than *Lunatipula* Edwards, where I am placing it. In the latter subgenus it suggests species such as *Tipula* (*Lunatipula*) *splendens* Doane, and allies, but the actual relationship seems distant. It should be noted that the male hypopygium was described from the unique dry type, without mounting or dissection.