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UNDESCRIBED SPECIES OF CRANE-FLIES FROM
THE UNITED STATES AND CANADA, PART II

(*Diptera, Tipulidae*)

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The new species of crane-flies described herewith were included in the extensive and interesting collections made by Professor J. Speed Rogers in Tennessee; by Mr. Raymond Shannon in Washington; and by Mr. Norman Criddle in Manitoba, the latter included in abundant lots of material submitted by Mr. Curran. I express my sincere thanks to the above mentioned entomologists for these kind favors. Except where noted otherwise, the types are preserved in the collection of the writer.

Elliptera tennesa, new species.

Size large (wing over 7 mm.); mesonotal praescutum with three confluent shiny brown stripes; wings with a faint brownish tinge; *r* present; basal section of R_{4+5} arcuated; cell $1stM_2$ closed; *m-cu* some distance before the fork of *M*.

Male: Length, about 5.5 mm.; wing, 8.3-8.5 mm.

Female: Length, about 5.5-6 mm.; wing, 7.5-8.5 mm.

Rostrum short, obscure yellow; basal segments of the palpi yellowish, the terminal segments dark brown. Antennae with the basal segments light brown, the flagellum dark brown; flagellar segments short-oval. Head grayish brown.

Pronotum testaceous brown. Mesonotal praescutum ochreous yellow, with three conspicuous shiny brown confluent stripes, the

median stripe paling into reddish brown behind; scutal lobes shiny brown, median area pale; scutellum and postnotum pale testaceous brown, the latter passing into yellow laterally. Pleura reddish yellow. Halteres dark brown, the base of the stem broadly pale. Legs with the coxae and trochanters reddish yellow, the fore coxae a trifle darkened at base; remainder of legs brown, the femoral bases somewhat paler. Wings with a faint brown tinge, the veins darker brown. Macrotrichiae on all the longitudinal veins beyond the cord except the base of R_{2+3} and basal half of the first section of R_{4+5} ; trichiae on Sc and R_1 beyond the origin of Rs ; on the distal fifth of the first section of M ; a scattered series along the whole length of vein $2nd A$. Venation: Sc long, Sc_1 extending to about opposite two-thirds the length of the long Rs , Sc_2 shortly before origin of Rs ; r present but weak, opposite or before $r-m$; basal section of R_{4+5} strongly arcuated; cell $1st M_2$ closed; $m-cu$ variable in position, in cases more than its own length before the fork of M , in still other cases only about one-half its length.

Abdominal tergites brown, the sternites pale, obscure yellow, especially the basal segments; hypopygium brownish yellow.

Habitat: Tennessee.

Holotype, ♂, Allardt, Buffalo-Cove, Fentress Co., altitude 1,300 feet, June 11, 1924 (J. S. Rogers); Coll. No. 15.

Allotopotype, ♀.

Paratopotypes, 6 ♂♀, altitude 1,100–1,300 feet.

Type in the collection of the Museum of Zoology, University of Michigan, through Professor Rogers.

Elliptera tennesa differs from *E. illini* Alexander in the much larger size and distinct venation, especially the arcuated basal section of R_{4+5} , the normally closed cell $1st M_2$ and other details. In this species, the apparent radial crossvein is constantly retained.

***Molophilus auricomus*, new species.**

General coloration reddish yellow; antennae short in both sexes; male hypopygium with the outer dististyle narrowed into a long acute point.

Male: Length, about 3 mm.; wing, 4 mm.

Female: Length, about 3.5 mm.; wing, 4.3 mm.

Rostrum and palpi dark. Antennae short in both sexes, in the male about reaching the wing-root; basal segments pale yellowish, the terminal segments infuscated. Head yellow.

Pronotum sulphur-yellow, more reddish laterally. Lateral pretergites conspicuously light sulphur-yellow. Mesonotum reddish yellow, the lateral margins of the praescutum yellowish. Pleura reddish yellow. Halteres pale, the knobs light yellow. Legs with the coxae and trochanters pale testaceous yellow; fore legs dark brown, the femora paler basally; middle and hind legs more yellowish, the terminal tarsal segments darkened. Wings yellow, the costal region brighter yellow, the anal margin a little darkened; veins pale yellow, C , Sc , R and Cu_1 more conspicuously so; macrotrichiae pale brown, in the costal region light yellow. Venation: $m-cu$ at near one-third the length of M_{3+4} ; vein $2nd A$ elongate, ending opposite or beyond midlength of the petiole of cell M_3 .

Abdomen reddish yellow, the tergites with a narrow interrupted median brown vitta; hypopygium concolorous, the dististyles conspicuously blackened. Male hypopygium with the ventral portions of the basistyle produced caudad into flattened triangular lobes; dorsal angle of basistyle further produced into a slender rod that is about one-half as long as the dististyle, acutely pointed at apex, the surface with a few scattered very elongate setae. The two dististyles occupy the notch of the basistyle, are generally similar to one another in shape, very long and extruded, the tips acutely pointed and blackened. Outer dististyle broadest near midlength, thence narrowed to the long acute point, the lateral margin near midlength with very weak serrulations. Inner dististyle widest at the basal third, the distal two-thirds blackened, slender, sinuous, the outer margin near two-thirds the length with small serrulations. Aedeagus long and slender, straight, longer than the dististyles.

Habitat: Tennessee.

Holotype, ♂, Allardt, Buffalo-Cove, Fentress Co., altitude 1,400 feet, June 28, 1924 (J. S. Rogers); Coll. No. 61.

Allotopotype, ♀, Allardt, Crooked Creek, altitude 1,550 feet, June 14, 1924 (J. S. Rogers); Coll. No. 30.

Paratopotypes, ♂ ♀, June 14-28, 1924.

Type returned to Professor Rogers.

Molophilus auricomus is strikingly similar to the species that we have been calling *M. pubipennis* (Osten Sacken) but the antennae are short and the male hypopygium is very distinct in structure. There is a possibility that the present species is the true *pubipennis*, the types of which consist of females only.

Gonomyia (Ptilostena) apicispina, new species.

Male: Length, about 4 mm.; wing, 5.2 mm.

Female: Length, about 5.8 mm.; wing, 6.3 mm.

Closely allied to *G. (P.) mathesoni* Alexander, differing especially in the structure of the male hypopygium.

Rostrum and palpi infuscated. Basal antennal segments light yellow, the terminal segments passing into brown. Head yellow.

Pronotum yellow, brighter medially. Mesonotum reddish brown, the praescutum with a very sparse pruinosity, the lateral margins more yellowish; scutal lobes somewhat darker than the median area, the posterior calli yellow. Pleura reddish brown, the dorsal region somewhat darker; a more or less distinct yellowish longitudinal stripe that includes the dorsal portions of the sternopleurite and the meron. Halteres infuscated. Legs with the coxae and trochanters yellowish testaceous; femora yellow; tibiae yellow, the tips narrowly infuscated; tarsi dark brown, the proximal portions of the basitarsi a little paler. Wings with a faint yellowish brown tinge, the costal region brighter yellow; veins pale brownish yellow, those in the costal region brighter. Venation: Veins R_1 and R_2 rather closely approximated at margin; R_{2+3} gently arcuated.

Abdominal tergites brown, the caudal margins of the segments narrowly yellowish; sternites more uniformly yellow. Male hypopygium with the apical lateral lobe of the basistyle relatively stout. Outer needle-like dististyle very slender, the apical third darkened. Middle dististyle with the inner arm expanded into a paddle-like darkened blade that is fully one-half

the length of the outer arm, the latter moderately slender, ending in a slightly decurved acute spine. Inner dististyle a small pale rod, the apex with a conspicuous black spine. Aedeagus entirely pale, the tip bent laterad into a simple blade-like beak.

Habitat: Indiana.

Holotype, ♂, Hensler's Woods, near Hanover, June 16, 1921 (C. P. Alexander).

Allotopotype, ♀.

Paratopotypes, 2 ♂♂.

Gonomyia (Ptilostena) shannoni, new species.

Closely related to *G. (P.) californica* Alexander, differing especially in the structure of the male hypopygium.

Male: Length, 6 mm.; wing, 7 mm.

Rostrum and palpi dark brown. Antennae with the basal segments pale brown, the outer flagellar segments passing into dark brown; flagellar segments elongate-oval. Head light yellow, the center of the vertex with a large dark brown spot.

Pronotum dark brown, the lateral margin narrowly light sulphur-yellow. Lateral pretergites narrowly light sulphur-yellow. Mesonotal praescutum dark gray with two narrow dark brown lines that cross the suture and include the inner margins of the scutal lobes; humeral region with a yellow triangle; lateral margin of praescutum behind the pseudosutural foveae obscure yellow; scutal lobes gray, the median area buffy gray; scutellum obscure buffy with a brown spot on either side; postnotal mediotergite dark gray, each antero-lateral angle with a yellow spot. Pleura dark brown, sparsely pruinose, the dorso-pleural membrane sulphur-yellow; a broad pale yellow stripe extending from behind the fore coxae to above the posterior coxae. Halteres yellow, the knobs dark brown. Legs with the coxae fulvous-yellow, their bases narrowly infuscated; trochanters orange-yellow; femora yellow, the tips conspicuously darkened; tibiae obscure yellow, the tips narrowly darkened; basitarsi obscure yellow, their tips and the remainder of the tarsi dark brown. Wings whitish subhyaline, the base and costal region pale yellow; a sparse dark brown pattern, including seams

at *h*; arculus; origin of *Rs*; end of *Sc*; along the cord; at *m*; a small cloud at fork of *R*₂₊₃, in contact with the stigma; wing-apex dark, more extensive in the apex of cell *R*₂; veins dark brown, more flavous in the yellow areas. Venation: *Sc* long, *Sc*₁ ending beyond midlength of *Rs*, *Sc*₂ at its extreme tip; *Rs* angulated and short-spurred at origin; veins *R*₁ and *R*₂ closely approximated at margin, the space separating them being about one-half *Sc*₂; veins *R*₂ and *R*₃ at tips showing a tendency to turn cephalad.

Abdominal tergites dark brown, the caudal margins of the intermediate segments conspicuously ringed with yellow, these areas becoming more extensive outwardly, the terminal segments and hypopygium more uniformly darkened; sternites obscure brownish yellow, the sides marked with brown. Male hypopygium with the dististyle a very massive, heavily blackened, compact structure, the inner cephalic angle produced into a long powerful spine that is directed caudad; inner caudal angle produced mesad into an expanded truncated blade or club; mesal edge of style between these two prolongations extensive, provided with a broad tooth; surface of style with abundant setulae.

Habitat: Washington.

Holotype, ♂, Wawawai, July 8, 1920 (R. C. Shannon).

I am indebted to the kindness of my friend, Mr. Shannon, for this specimen.

***Limnophila (Phylidorea) tepida*, new species.**

General coloration dark brown; fore femora dark brown, the basal fifth yellow; wings with a uniform pale yellow tinge, the oval stigma darker; abdomen fulvous-yellow, the eighth segment narrowly dark brown to produce a narrow subterminal ring; male hypopygium with the aedeagus and subtended gonapophyses very long and filiform; the shorter apophyses shallowly bifid at apices.

Male: Length, about 9.5 mm.; wing, 10.5 mm.

Rostrum and palpi dark brown. Antennae with the basal segment dark brown, the following segments brownish yellow, the terminal segments darker. Head dark, gray pruinose.

Pronotum and mesonotum dark brown, sparsely pruinose, the posterior margins of the scutal lobes obscure yellow; scutellum paler, the surface pruinose. Pleura dark, heavily gray pruinose, the postnotal pleurotergite pale. Halteres pale, the knobs weakly infuscated. Legs with the coxae and trochanters obscure yellow, the fore coxae a little infuscated; only a single (fore) leg remains, this dark brown with about the basal fifth of the femora yellow; tibiae and tarsi a little paler than the femora. Wings with a pale yellow tinge, the stigma oval, brown; wing-membrane otherwise unmarked; veins brown, more yellowish in the costal region. Venation: *Sc*₁ ending opposite the fork of *M*, *Sc*₂ longer, at the tip of *Sc*₁; *r* just before midlength of *R*₂; cell *M*₁ longer than its petiole; cell 1st *M*₂ relatively small, rectangular; *m-cu* at near one-third the length of the cell; vein 2nd *A* relatively long and sinuous.

Abdomen fulvous-yellow, the eighth segment narrowly dark brown; hypopygium yellow. Male hypopygium with the basistyles short and stout; outer dististyle entirely pale, the apex suddenly narrowed into a long slender point; inner style shorter. Aedeagus and the subtending pair of gonapophyses long and filiform, as in the *adusta* group, the shorter pair of apophyses slender, heavily chitinized, the apex of each shallowly bifid.

Habitat: Colorado.

Holotype, ♂, without further data.

***Tipula perparvula*, new species.**

Belongs to the *marmorata* group; size very small (wing, ♂, under 10 mm.); femora yellow, the tips narrowly blackened; male hypopygium with the outer dististyle narrow, tapering gradually to the subacute apex.

Male: Length, 7.8-8 mm.; wing, 9.3 mm.

Frontal prolongation of the head brownish black, the nasus relatively stout; palpi brownish black. Antennae (♂) relatively short, if bent backward about attaining the wing-root; scape light yellow, the flagellum dark brown, the extreme base of the first segment paler; flagellar segments only slightly incised. Head gray, the posterior vertex and occiput strongly infused, the posterior orbits remaining clear gray.

Mesonotal praescutum gray, with three conspicuous dark brown stripes, the median stripe broad, narrowed posteriorly and barely reaching the suture; lateral stripes narrow, relatively short, pseudosutural foveae very small; in the paratype, the median stripe is narrowly split by a capillary vitta of the ground-color, the cephalic ends of the intermediate stripes thus formed being invaded by gray triangles, as in *T. ignobilis* Loew; scutal lobes extensively dark brown; scutellum a little paler than the scutum, dark brownish testaceous; postnotum dark, sparsely pruinose. Pleura clear gray, indistinctly variegated with darker, especially ventrally. Halteres yellow, the knobs dark brown. Legs with the coxae light gray, indistinctly variegated with darker; trochanters obscure yellow; femora yellow, the tips narrowly and conspicuously blackened; tibiae brown, the tips passing into brownish black; tarsi brownish black. Wings with a grayish tinge, the stigma and outer halves of cells *C* and *Sc* darker; inconspicuous whitish hyaline spots, arranged as follows: Before the stigma in cells *C* and 1st *R*₁; beyond the stigma in cells *R*₂ and *R*₃; an obliterative area crossing the cord and including parts of cells *R*₁, 1st *M*₂ and *M*₃; a circular spot beyond midlength of cell *M*; bases of cells *R*, *M*, *Cu*, the Anal cells and the prearcular region pale; veins dark brown. Venation: *Rs* short and straight; *M*₃₊₄ very short, about one-half longer than the basal section of *M*₄ alone.

Abdominal tergites with the basal segment dark brown; the succeeding segments obscure yellow, the tergites with a dark spot on either side of the median line at base, the color continued slightly caudad to form broken sublateral stripes; on the sixth and remaining segments, the dark color increases in amount to include the whole tergite; lateral and caudal margins of the intermediate tergites narrowly pale; basal sternites yellow, the outer segments black, with the caudal margins narrowly but conspicuously yellow. Male hypopygium small and inconspicuous. Ninth tergite with a very shallow V-shaped notch. Outer dististyle pale, narrow, tapering gradually to the subacute tips. Eighth sternite unarmed.

Habitat: Manitoba.

Holotype, ♂, Aweme, June 29, 1924 (N. Criddle).

Paratopotype, ♂.

Type in the Canadian National Collection.