

NEW OR INSUFFICIENTLY-KNOWN CRANE-FLIES
FROM THE NEARCTIC REGION.
(Tipulidae, Diptera.)

PART I.

BY CHARLES P. ALEXANDER, Amherst, Mass.¹

The new species discussed at this time were for the most part included in interesting collections sent to me for identification by Dr. Mortimer D. Leonard and Mr. Millard C. Van Duzee. A further addition to the paper was contained in the Canadian National Collection, sent to me through the kind interest of Dr. James McDunnough. I wish to express my thanks and appreciation to the above-named entomologists for their continued cooperation in studying the Tipulid flies.

Limonia (Dicranomyia) erostrata n. sp.

General coloration ochreous; rostrum and first segment of antennae yellow; mesonotal praescutum with a median brown stripe; male hypopygium with the dorsal dististyle a stout pale rod that narrows gradually to an acute blackened tip; ventral dististyle a fleshy lobe that lacks a rostral prolongation.

Male.—Length about 6.5 mm.; wing 6.6 mm.

Rostrum light yellow; basal segments of palpi yellow, the outer segments infuscated. Antennae with the basal segment and sometimes the second light yellow; flagellum dark brown; flagellar segments oval, outer segments narrower. Head ochreous, the vertex more infuscated.

Mesonotum ochreous, with a brown median stripe that is subobsolete and more or less bifid behind, the lateral stripes less evident; scutal lobes brownish gray. Pleura ochreous yellow. Halteres destroyed by pests. Legs with the coxae and trochanters yellow; femora yellow, the tips slightly darkened; tibiae obscure yellow, darkened at tips; tarsi passing into dark brown. Wings light yellow, the stigma lacking; veins darker yellow. Venation: Sc_1 ending opposite origin of R_s , Sc_2 some distance from its tip; $m-cu$ very oblique, at the fork of M , subequal to the distal section of Cu_1 .

¹Contribution from the Department of Entomology, Massachusetts Agricultural College.

Abdomen, including the hypopygium, ochreous. Male hypopygium with the caudal margin of the tergite deeply notched, the lateral lobes conspicuously setiferous. Basistyle with the ventro-mesal lobe relatively small, placed near the base of the style. Dorsal dististyle a very stout, broad-based rod, pale at base, gradually narrowed to an acute blackened tip. Ventral dististyle without a rostral prolongation, appearing as a pale, gently arcuated lobe that is a little longer than the dorsal dististyle, the surface with numerous scattered setae that are longer and more abundant at apex of style.

Habitat: Utah.

Holotype: ♂, Saltair, May 21, 1926 (*M. C. Van Duzee*). *Paratopotypes*, 1 male, 1 sex?, broken. Type returned to Mr. Van Duzee.

I cannot identify this species with any of those described by Doane. The male hypopygium has the same peculiar structure found in *L. (D.) signipennis* (Coq.).

Tricyphona simplicistyla n. sp.

Male.—Length about 14 mm.; wing 13.5 mm.

Close to *T. constans* (Doane), differing especially in the structure of the male hypopygium.

Antennal scape dark brown, the flagellum yellowish brown. Head pale, the vertex with a dusky area on either side of the median line. Praescutum almost uniform ochreous, the scutum conspicuously darker; scutellum pale; postnotal mediotergite pale, margined laterally with brown. Legs yellow, only the terminal tarsal segments a little darkened. Wings with the pattern quite as in *constans*. Venation: *Rs* in alignment with *R*₅; a supernumerary crossvein in cell *R*₃, placed about its own length before *R*₂; cell 1st *M*₂ closed. Male hypopygium with the outer dististyle broad, the apex with abundant spinous setae. Inner dististyle a slender simple rod. Interbasal processes appearing as elongate, nearly straight rods, the tips acute, before apex with a small lateral spine.

T. constans has the outer dististyle very narrow at apex, with relatively few spines. Inner dististyle conspicuously bifid, the outer arm set with two powerful black spines.

It is possible that the supernumerary crossvein in cell *R*₃ is not a constant character but it is identical in both wings of the type.

Habitat: California. *Holotype:* ♂, Mill Valley, Marin Co. March 13, 1926 (*M. C. Van Duzee*). Type in the author's collection.

Rhaphidolabis (Rhaphidolabis) vanduzeei n. sp.

General coloration gray, the praescutum with three dark brown stripes; antennae black throughout; wings whitish subhyaline, with a conspicuous dark brown stigma; caudal margins of abdominal segments narrowly pale; male hypopygium with the dorsal interbase bifid at apex.

Male.—Length about 5.5 mm.; wing 7.2 mm.

Rostrum and palpi black. Antennae black throughout, 13-segmented; flagellar segments short-oval, gradually decreasing in diameter outwardly. Head gray, the center of the vertex slightly infuscated.

Mesonotum light gray, the praescutum with three conspicuous dark brown stripes; posterior sclerites of mesonotum more nearly immaculate. Pleura gray, the dorso-pleural region more ochreous. Halteres pale, with darkened knobs. Legs with the coxae gray; trochanters brown; remainder of legs dark brown, the tarsi passing into black. Wings whitish subhyaline, the stigma conspicuous, dark brown; a weak dusky clouding along the cord; veins dark brown. Venation: *Rs* short, angulated at near midlength; *R*₄₊₅ subequal to the basal section of *R*₅; *R*₂ oblique, joined to *R*₁ near outer end; cell *M*₁ present; *m-cu* shortly beyond fork of *M*.

Abdominal segments dark brown, the extreme caudal margins of the segments pale; hypopygium dark. Male hypopygium much as in *cayuga*; dististyle more slender; dorsal interbase wider than in *cayuga* but narrower than in *rubescens*.

Habitat: California. *Holotype:* ♂, Mt. St. Helena, May 12, 1926 (*M. C. Van Duzee*). Type returned to Mr. Van Duzee.

I take great pleasure in dedicating this species to Mr. Millard C. Van Duzee, to whom I am indebted for many kindly favors in the past. *Rhaphidolabis vanduzeei* much resembles *R. stigma* Alexander but is really more closely allied to *R. cayuga* Alexander, from which it is told most readily by the conspicuous dark brown stigmal spot.

Eriocera alberta n. sp.

General coloration black, light gray pruinose; antennae (♀) 7-segmented, black; knobs of halteres white; wings

white, with grayish brown seams to the veins; R_s angulated and spurred at origin; cell R_3 deep, parallel-sided for more than two-thirds the length; cell 1st M_2 rectangular; $m-cu$ at or close to the fork of M ; $m-cu$ shorter than the distal section of Cu_1 ; ovipositor with fleshy valves.

Female.—Length about 7 mm.; wing 9.2 mm.

Rostrum black, sparsely pruinose. Antennae 7-segmented, black, the scapal segments slightly pruinose; first flagellar segment longer than the succeeding two taken together; terminal segment oval, about one-half the length of the penultimate. Head broad, the vertical tubercle low; front and sides of anterior vertex light gray, the remainder of head dark gray.

Mesonotal praescutum light gray, with four blackish stripes, the intermediate pair only narrowly separated; scutum gray, the centers of the lobes darkened; scutellum and postnotum dark, gray pruinose. Pleura gray. Halteres dusky, the knobs white. Legs with the coxae and trochanters black, pruinose; femora brown, the tips broadly blackened, most extensively so on the short fore legs; remainder of legs black. Wings white, with a distinct grayish brown pattern that appears as narrow seams along the veins, including the origin of R_s , Sc_2 , cord and outer end of cell 1st M_2 ; stigma and fork of R_{2+3+4} ; small paler circular clouds at ends of longitudinal veins; a circular cloud near center of cell 2nd M_2 ; basal longitudinal veins with dark seams, most evident on vein 2nd A ; veins brown. Venation: Sc_1 ending shortly beyond the fork of R_s , Sc_2 a short distance from its tip; R_s relatively short, angulated and spurred at origin; R_{2+3+4} more than one-half longer than R_{2+3} ; R_{1+2} a little longer than R_{2+3} ; cell R_3 relatively deep, the enclosing veins parallel for about three-fourths their length; cell 1st M_2 rectangular; $m-cu$ at or just before the fork of M ; $m-cu$ considerably shorter than the distal section of Cu_1 .

Abdomen black, sparsely pruinose, the sternites more heavily so; subterminal tergites polished black; ovipositor with fleshy valves. Tergal plate pruinose, with a V-shaped notch; sternal valves sheathing, dusky at base, the tips broadly light yellow.

Habitat: Alberta. *Holotype*: ♀, Lethbridge, June 24, 1929 (*J. H. Pepper*). Type in the Canadian National Collection.

Eriocera alberta is readily told from *E. longicornis* (Walker), the only other described Nearctic species with the fleshy type of ovipositor above described, by the number of antennal segments

(the female of *longicornis* with 11 segments), coloration of the wings and the venation. It seems highly probable that the male of the present species will be found to have short antennae.

Rhabdomastix (Sacandaga) leonardi n. sp.

General coloration light yellow, handsomely patterned with black, including three conspicuous stripes on the praescutum; vertex with a conspicuous blackened area.

Female.—Length about 7.5 mm.; wing 6.5 mm.

Described from an alcoholic specimen.

Rostrum yellow, slightly darkened above; palpi very reduced. Antennae with the basal segment light yellow, the second and third segments black; remaining segments broken; first flagellar segment smaller and scarcely longer than the second scapal. Head light yellow, the vertex with a broad black mark extending to the posterior margin, bordered on the posterior vertex by more reddish.

Mesonotal praescutum light yellow with three conspicuous black stripes, the median stripe weakly bifid behind and ending far before the suture; lateral stripes crossing the suture onto the scutal lobes; pseudosutural foveae black; median region of scutum blackened; scutellum yellow; postnotal mediotergite yellow, weakly darkened medially, the posterior portion with two approximated black oval areas. Pleura yellow, handsomely variegated with small dark marks, including the propleura, anepisternum, ventral sternopleurite and meron, and ventral pleurotergite. Halteres pale, the knobs light yellow. Legs with the coxae yellowish brown; trochanters pale; remainder of legs broken. Wings grayish subhyaline, the stigma barely indicated; veins black, the prearcular, costal, subcostal and radial veins light brown. Venation: Sc_1 ending about opposite two-thirds the length of R_s , Sc_2 far from its tip, Sc_1 alone about one-third R_s ; R_3 short and nearly perpendicular; distance on costa between R_{1+2} and R_3 a little longer than the latter; R_4 gently arcuated, a little shorter than the petiole of cell R_3 .

Abdomen light brown, the tergites vaguely darkened basally, the genital segment more darkened medially.

Habitat: Montana. *Holotype*: alcoholic ♀, Bozeman, July 19, 1929 (*M. D. Leonard*). Type in the author's collection.

Rhabdomastix leonardi is named in honor of my old friend and co-worker on the Tipulidae, Dr. Mortimer D. Leonard. The species is very distinct from the other described American species

of the genus. The highly contrasting yellow and black pattern of the head and thorax is somewhat suggestive of that found in many species of the Tipuline genus *Nephrotoma*. It is possible that in fresh specimens the colors as above described may be somewhat dulled by a pollinosity or pruinosity not evident in the alcoholic type.

Erioptera (*Ilisia*) *bispinigera* n. sp.

General coloration obscure yellow, the praescutum with three nearly confluent dark brown stripes; pleura dark, striped longitudinally with pale; halteres pale yellow; wings with cell M_2 open, vein *2nd A* short and straight; male hypopygium with the inner dististyle bidentate on lateral margin; gonapophyses entirely blackened, very unequally bifid.

Male.—Length about 4.5 mm.; wing about 4.5 mm.

Described from an alcoholic specimen.

Rostrum and palpi brownish black. Antennae with the scapal segments dark brown, the flagellum paler; flagellar segments oval. Head chiefly dark brown.

Mesonotal praescutum yellow with three nearly confluent dark brown stripes; pseudosutural foveae dark; scutum obscure yellow, each lobe with the center dark brown; scutellum obscure yellow; postnotal mediotergite dark brown medially, the lateral margins narrowly pale yellow. Pleura chiefly dark brown, with a broad conspicuous yellowish longitudinal stripe extending from behind the fore coxae to the base of the abdomen; dorso-pleural region pale. Halteres relatively elongate, pale yellow throughout. Legs with the fore coxae brownish yellow, the other coxae pale yellow; trochanters pale yellow; remainder of legs broken. Wings grayish subhyaline, the diffuse stigma vaguely darker; veins brown. Venation: veins beyond the cord entirely as in the subgenus *Erioptera*; cell M_2 open; vein *2nd A* short and straight, as in *Ilisia*.

Abdomen dark brown, the pleural region pale; hypopygium obscure brownish yellow. Male hypopygium with the outer dististyle an expanded black structure, the dilated apical portion with microscopic denticles. Inner dististyle shorter, blackened, the outer or lateral margin with two conspicuous black spines, one at near midlength, the second nearly apical in position. Gonapophyses appearing as entirely blackened plates, the basal half dilated, very unequally bifid, the outer arm produced into a slender rod, the tip acute, with three or

four small appressed lateral teeth; inner arm short and stocky, set with conspicuous teeth.

Habitat: Montana. *Holotype*: alcoholic ♂, Bozeman, July 19, 1929 (*M. D. Leonard*). Type in the author's collection.

Erioptera bispinigera is very doubtfully a member of *Ilisia*, in which subgenus I am placing it merely on the course of vein *2nd A*. It may be remarked that all of the subgenera of *Erioptera* are highly artificial and becoming more so with the constant accession of new material.

Erioptera (*Ilisia*) *laevis* n. sp.

Male.—Length about 4.2–4.5 mm.; wing 5–5.5 mm.

Very similar in the pattern of the wings and legs to *E. armillaris*, differing especially in the structure of the male hypopygium.

General coloration of body darker, especially the thoracic notum which is dark grayish brown instead of yellowish brown. Male hypopygium with the outer dististyle relatively small, the apex simply clavate, not emarginate on outer margin. Gonapophyses appearing as simple black horns that are slender, nearly straight, the margins quite smooth.

E. (I.) armillaris Osten Sacken has the outer dististyle very large, the head with the outer margin conspicuously emarginate to produce an obtuse lateral point. Gonapophyses stout, abruptly narrowed to an acute point, the outer margin before this apex microscopically spinulose.

E. (I.) indianensis Alexander has the outer dististyle small and slender, the apex only feebly dilated, entire. Gonapophyses appearing as curved slender hooks, the long tips acute, the margins entirely smooth.

Habitat: Northeastern North America. *Holotype*: ♂, Chesterfield Gorge, Massachusetts, altitude 850 feet, August 2, 1928 (*C. P. Alexander*). *Paratypes*, ♂, Amherst, Massachusetts, July 18, 1928 (*C. F. Clagg*); ♂, Hazleton, Pennsylvania, June 29–July 18, 1910 (*W. G. Dietz*). Type in the author's collection.

There can be no doubt but that there are three distinct species confused under the name of *armillaris*. The wing-pattern is almost identical in all three but the structure of the male hypopygium is very different in the various species.