

## NEW NEARCTIC CRANE-FLIES (TIPULIDAE, DIPTERA). PART XV.

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The preceding part under this general title was published in 1940 (Can. Ent., 72:151-155). The new species described at this time were collected by Messrs. A. E. Brower, R. E. Nye, G. F. Knowlton and H. D. Pratt, and by Dr. Marion E. Smith. I am very greatly indebted to all of the above for the privilege of retaining the type specimens in my extensive collection of these flies.

**Tipula (Yamatotipula) continentalis** n. sp.

Allied to *tephrocephala*; general coloration dark gray, the praescutum with narrow blackened borders to the stripes, the median one especially distinct though narrow; antennae relatively short, scape and pedicel yellow, flagellum black; flagellar segments with scarcely developed basal enlargements, verticils short; wings weakly infuscated, with a very poorly differentiated darker pattern, most evident in the outer radial field and at the outer end of cell 1st  $M_2$ ; male hypopygium with the tergite produced into two narrow lobes that are separated by a slightly wider U-shaped notch; outer dististyle pale, oval in outline.

*Male.* Length about 11 mm.; wing 12.5 mm.

Frontal prolongation of head relatively long, subequal in length to the remainder of head, dark brown above, slightly brightened on ventral half; nasus elongate; palpi black. Antennae with scape light yellow, pedicel a trifle darker, flagellum black throughout; flagellar segments relatively short, with scarcely developed basal enlargements, the verticils shorter than the segments. Head dark brownish gray, the front and very narrow orbits light gray; vertical tubercle relatively low and inconspicuous; anterior vertex wide. .

Pronotal scutum brown, the scutellum light yellow. Mesonotal praescutum chiefly covered by four dark gray stripes that are not or scarcely differentiated from the interspaces except by narrow, more blackened borders, the black median vitta of the intermediate stripes single for its entire length and forming a relatively conspicuous line that becomes obsolete far before the suture; dark borders of remainder of praescutum much less conspicuous; humeral region only restrictedly brightened; posterior sclerites of notum brown or black, sparsely pruinose, the parascutella a little paler; mediotergite with a central black vitta, most distinct on cephalic half of sclerite, narrowed to a capillary line behind. Pleura blackened, pruinose; dorsopleural membrane pale. Halteres with stem obscure yellow, knob infuscated. Legs with the coxae pruinose, the tips paling to yellow; trochanters obscure yellow; femora yellow basally, passing into brown at tips; tibiae and basitarsi dark brown, their tips darker; remainder of tarsi black. Wings weakly infuscated, with a very poorly differentiated darker pattern, appearing chiefly as slightly darker brown clouds in outer radial field; across outer end of cell 1st  $M_2$  and the petiole of cell  $M_1$ ; and less evidently as a dusky seam along vein *Cu*; *m-cu* not or scarcely bordered by darker; stigma oval, darker brown; brightened prestigmal and poststigmal areas; an obliterative streak crossing cell 1st  $M_2$  from the outer end of cell *R* into the base of  $M_3$ ; extreme base of wing narrowly more yellow; veins brown, those at extreme base yellow. Venation: *Rs* exceeding twice the length of *m-cu*; basal section of  $M_3 + 4$  relatively long, nearly equal to basal section of  $M_1 + 2$ ; cell 1st  $M_2$  relatively short-hexagonal, the second section of  $M_3 + 4$  very short.

Abdominal tergites dark brown, the caudal borders narrowly pale; basal tergites more reddish brown, especially laterally; sternites obscure yellow to brownish yellow; hypopygium dark. Male hypopygium with the tergite produced into two narrow lobes that are separated by a deep U-shaped notch, the lobes narrower than the notch, provided with numerous spinulose points. Dististyles

relatively simple, the outer a pale spatulate blade with relatively short setae. Gonapophyses appearing as pale spatulate blades, the stems short. Eighth sternite with its apical membrane bearing a pale depressed median lobe or blade.

*Habitat.* Colorado (Rocky Mountain National Park).

*Holotype.* ♂, at margin of small alpine ponds, along Fall River Road, below the Fall River Pass, near the Continental Divide, July 14, 1940 (Marion E. Smith). Associated with and somewhat resembling superficially *Prionocera oslari* (Dietz).

In the structure of the male hypopygium, *Tipula* (*Yamatotipula*) *continentalis* is closest to *T.* (*Y.*) *albocaudata* Doanc, *T.* (*Y.*) *cayuga* Alexander, and *T.* (*Y.*) *tephrocephala* Loew. In general appearance and coloration it is very different from all these species, more generally resembling certain arctic and alpine species of the genus *Prionocera* Loew.

### ***Limonia* (*Dicranomyia*) *piscataquis* n. sp.**

General coloration gray, the praescutum with a single, dark brown, median stripe; antennae black throughout; thoracic pleura pale, the mesepisternum more darkened; halteres elongate; wings subhyaline, the stigma only vaguely differentiated from the ground;  $Sc_1$  very long, approximately one-half longer than  $Rs$ ; male hypopygium with the ventromesal lobe of basistyle complex; rostral prolongation of ventral dististyle a long sinuous arm, beyond midlength bearing two unusually long and strong spines; gonapophyses with mesal-apical lobe slender, blackened, the lateral margins with microscopic roughenings or spinulae; aedeagus narrow and blackened.

*Male.* Length about 6.5 mm.; wing 7 mm.

Rostrum brown; palpi brownish black. Antennae black. Head gray; anterior vertex of moderate width, a little less than twice the diameter of scape.

Pronotum dark brownish gray. Mesonotum brownish gray, the praescutum with a conspicuous, dark brown, median stripe, the usual lateral stripes lacking; scutal lobes darkened in central portion; posterior sclerites heavily gray pruinose. Pleura and pleurotergite chiefly pale, sparsely pruinose, the mesepisternum more blackened but still heavily pruinose. Halteres elongate, dark brown, the base of stem yellow. Legs with the coxae yellow, the fore pair a trifle darker; trochanters yellow; femora yellow basally, passing into brown; tibiae dark brown; tarsi black. Wings subhyaline, the base a trifle more yellow; stigma only vaguely differentiated from the ground; veins brown, yellow in the prearcular field. Venation:  $Sc_1$  ending opposite origin of  $Rs$ ,  $Sc_2$  very far from its tip,  $Sc_1$  alone being approximately one and one-half times the length of  $Rs$ ; *m-cu* a short distance before fork of *M*.

Abdomen black, sparsely pruinose; hypopygium paler, yellowish brown. Male hypopygium with the tergite transverse, the caudal margin truncate. Basistyle with the ventromesal lobe complex, consisting of two major portions, the more caudal a blackened lobe that bears a slightly smaller lateral branch at its apex, the main axis at tip being provided with many very long setae; the more cephalic lobe more or less bilobulate, pale in color, the longer lobule somewhat pointed, bearing long conspicuous setae. Dorsal dististyle a blackened, gently curved rod that narrows very gradually to a long acute point. Ventral dististyle with the main body relatively small, subequal to the corresponding portion of basistyle, yellow; rostral prolongation of unusual length, appearing as a slender sinuous arm, just beyond midlength on outer face bearing two unusually long and powerful spines that are directed slightly outward; spines placed in a linear row, their basal enlargements contiguous; apex of prolonga-

tion with a few long conspicuous setae. Gonapophyses with mesal apical lobes long and slender, blackened, the lateral margin with microscopic roughenings or spinulae. Aedeagus unusually narrow and blackened.

*Habitat.* Maine (Piscataquis County).

*Holotype.* ♂, Sourdnaunk Lake, October 12, 1940 (A. E. Brower).

*Limonia (Dicranomyia) piscataquis* is so distinct from all other described Holarctic members of the subgenus that comparison with other species seems scarcely necessary. It is perhaps most closely related to *L. (D.) cramptoniana* Alexander and *L. (D.) sphagnicola* (Alexander) but differs from these and other species in virtually every detail of structure of the male hypopygium.

### ***Limonia (Rhipidia) gaspicola* n. sp.**

Size large (wing, female, 9 mm.); general coloration gray, the praescutum with three brownish black stripes, the broad median one split by a capillary median vitta on its anterior third; lateral praescutal stripes narrow but distinct; pectinations of flagellar segments (female) long and conspicuous; femora yellow, with a conspicuous subterminal blackened ring, broadest and most nearly apical on the fore legs; wings with the dark spotted pattern brownish gray, sparse and well-delimited; cell 1st  $M_2$  relatively short.

*Female.* Length about 9 mm.; wing 9 mm.; antenna about 2 mm.

Rostrum and palpi black. Antennae black, the apical pedicels of the flagellar segments whitened; flagellar segments strongly produced, much more so than in the corresponding sex of *maculata*, on the intermediate segments being about as long as the basal swelling and considerably exceeding in length the apical pedicel; terminal segment one-half longer than the penultimate. Head brownish gray; anterior vertex clearer gray, reduced to a narrow line.

Pronotum gray, infuscated medially. Mesonotal praescutum light gray with three brownish black stripes, the median one broad and almost entire, on its cephalic third split by a capillary pale median vitta; lateral stripes very narrow and inconspicuous, their cephalic ends directed mesad toward the central stripe; scutal extensively brownish black, the median area gray; scutellum and postnotum heavily pruinose. Pleura gray, indistinctly lined longitudinally with blackish, the more conspicuous stripe dorsal, extending from the ventral propleura across the anepisternum to the pteropleurite, the ventral stripe crossing the sternopleurite at mid-height; meral region more blackened. Halteres whitened. Legs with the coxae dark brown, pruinose, the tips paling to yellow; trochanters yellow; femora yellow basally, before the tips with a conspicuous blackened ring, broadest and nearly terminal in position on the fore legs, narrower and placed about its own length from the tip on the hind legs; tibiae obscure yellow, the tips narrowly blackened; basal three tarsal segments obscure yellow, the tip of the third and both succeeding segments black. Wings with the ground color pale yellow, sparsely but distinctly spotted with brown and brownish gray areas that are more clearly delimited than in *maculata*; major dark areas four, costal in position, the third a common one involving both the origin of  $R_s$  and the fork of  $Sc$ ; fourth area stigmal, broken by pale spots; cord and outer end of cell 1st  $M_2$  narrowly seamed with brown; elsewhere on disk the cells with sparse, scattered, brownish gray spots that are well-defined and not confluent; veins yellow, dark brown in the patterned areas. Venation:  $Sc$  relatively short,  $Sc_1$  ending about opposite one-third the length of  $R_s$ ,  $Sc_2$  at its tip; free tip of  $Sc_2$  and  $R_2$  in transverse alignment; cell 1st  $M_2$  relatively small, subequal to  $c$ . a little longer than vein  $M_3$  beyond it;  $m-cu$  at or close to fork of  $M$ .

Abdomen brownish black, the genital segment more reddish brown.

*Habitat.* Quebec (Gaspé).

*Holotype.* ♀, Matapedia, July 17, 1940 (A. E. Brower).

*Limonia (Rhipidia) gaspicola* is very different in its general appearance from *L. (R.) maculata* (Meigen) which unquestionably seems to be its nearest ally. The chief distinguishing characters are in the large size of the present fly which is equal to *L. (R.) bryanti* (Johnston), the strongly produced flagellar segments in the female, the mesonotal pattern, distinctly blackened rings on femora, and the sparse but very distinct wing-pattern. Superficially, the fly much resembles *Limonia (Limonia) pemetica* Alexander, actually a very different fly.

### ***Pedicia (Tricyphona) smithae* n. sp.**

Belongs to the *ampla* group; general coloration of thorax black, the praescutum with the yellow ground restricted to very narrow posterior interspaces and humeral triangles; scutum and scutellum dark; wings yellowish brown, the stigma a little darker; cell  $R_3$  short-petiolate; cell 1st  $M_2$  closed; male hypopygium with the tergite produced medially into a very broad, dark-colored lobe, its margin truncate or virtually so, the lateral angles obtusely rounded; dististyle five-spined.

*Male.* Length about 11 mm.; wing 12 mm.; antenna about 1.5 mm.

Rostrum black, sparsely pruinose; palpi black. Antennae relatively short, black; flagellar segments oval; outer segments decreasing in size. Head black, sparsely pruinose.

Pronotum black, sparsely pruinose. Mesonotal praescutum with the restricted ground color obscure yellow, almost covered by three blackish gray stripes, the posterior interspaces limited to capillary pale lines; lateral stripes expanded to the outer margin of praescutum, restricting the ground color to yellow humeral triangles; scutum dull black, including the median area, restrictedly pale at central portion of suture and again on outer posterior portions of scutal lobes; scutellum black, parascutella brownish yellow; mediotergite dark brown, bordered laterally by yellow; pleurotergite brown, the ventral and cephalic portions broadly pale. Pleura yellow, including the dorsopleural membrane and most of pteropleurite; the entire mesepisternum and meron brownish black. Halteres unusually long, stero obscure yellow, darkened outwardly, knob brown. Legs with the coxae dark brown, the tips paling to yellow, broadest on the fore pair; trochanters yellow; femora yellow, the tips narrowly and weakly infuscated, the amount subequal on all legs; tibiae yellow, the tips even more narrowly dark brown; tarsi yellow, the outer segments blackened. Wings with a yellowish brown tinge, the large oval stigma a little darker brown; veins brown. Venation:  $Sc_2$  a short distance before origin of  $R_s$ , the latter elongate, arcuated to angulated at origin;  $R_2+3+4$  present as a short erect element, cell  $R_3$  thus short-petiolate; basal section of  $R_5$  in longitudinal alignment with the outer section; cell 1st  $M_2$  closed; cell  $M_1$  with petiole longer than  $m$ . The left wing of the type shows an adventitious crossvein in cell  $R_3$  at near one-third the length of cell.

Abdomen elongate; tergites dark brown, the lateral borders narrowly yellow, the posterior borders of the individual segments in the infuscated portions even darker, more brownish black; sternites dark brown, sparsely pruinose; hypopygium brownish black. Male hypopygium with the median area of tergite broadly produced, darkened like the remainder of sclerite, the caudal margin truncate to very feebly emarginate, the lateral angles broadly and obtusely rounded. Dististyle short-based, at apex and on face produced into five strong points, the most basal one very slender and spinous; outer dististyle a very small pale fleshy lobe with elongate setae.

*Habitat.* Washington.

*Holotype*. ♂, Mount Rainier, Tipsoo Lake near Chinook Pass, altitude about 5,000 feet, August 2, 1940 (M. E. Smith).

I take great pleasure in naming this species after Dr. Marion E. Smith, Curator of the Insect Collection of the Massachusetts State College, to whom I am indebted for many rare Tipulidae. The nearest ally is the large and conspicuous *Pedicia (Tricyphona) ampla* (Doane) which differs in the size, coloration of the antennae and body, the yellow-tinted wings, and in the structure of the male hypopygium, as the long-produced pale median lobe of the tergite, the apex of which is conspicuously emarginate. Both species, as well as the Eastern Nearctic *P. (T.) autumnalis* (Alexander) and *P. (T.) huffae* Alexander, have the five-spined dististyle that characterizes the group.

### ***Dicranota (Dicranota) fumipennis* n. sp.**

General coloration dark brownish gray, the praescutum with three entire dark brown stripes; antennae black throughout, short, the flagellar segments short-oval; wings with a strong dusky tinge, the costal region, stigma and a seam along vein *Cu* still darker; male hypopygium with the inner dististyle expanded at outer end, the apex broadly obtuse; interbasal rod with apex slightly cultriform.

*Male*. Length about 5.5 mm.; wing 6–6.2 mm.; antenna about 1.1 mm.

*Female*. Length about 6.5–7 mm.; wing 7–7.3 mm.

Rostrum short, brownish gray; palpi black. Antennae short, black throughout; flagellar segments short-oval, the verticils short and stout; terminal segment small. Head brown, the front and orbits more grayish.

Pronotum brownish gray. Mesonotal praescutum brownish gray with three conspicuous dark brown stripes, the median one entire; posterior sclerites of notum dark blackish gray, the pleura somewhat clearer gray. Halteres pale, the knobs weakly darkened. Legs with the coxae gray; trochanters brownish yellow; remainder of legs dark brown, the femoral bases more yellow, the tarsi passing into black. Wings with a strong dusky tinge, still darker in cells *C* and *Sc*, the stigma and along vein *Cu*; longitudinal veins beyond cord very narrowly and vaguely seamed with darker; veins brown. Venation: Cell  $M_1$  present; *m-cu* variable in position, usually more than one-half its length beyond the fork of *M*.

Abdomen, including hypopygium, dark brownish gray, the sternites somewhat clearer gray with narrow, more reddish brown, posterior borders; in the female, the sternites are more extensively pale. Male hypopygium with the interbasal lobe straight, its apex obtusely rounded or slightly cultriform. Outer dististyle a small oval hairy lobe. Inner dististyle nearly twice as long as the outer, the distal end a little expanded, the apex broadly obtuse. Lateral arms of phallosome appearing as slender lobes with acute tips.

*Habitat*. Minnesota (Hennepin County).

*Holotype*. ♂, Nine-mile Creek, April 29, 1939 (H. D. Pratt). *Allotopotype*. ♀, pinned with type. *Paratopotypes*. 6 ♂ ♀, with the types.

The three species most nearly allied to the present fly are *Dicranota (Dicranota) currani* Alexander, *D. (D.) divaricata* Alexander, and *D. (D.) notmani* Alexander, all from eastern North America. *D. notmani* is well-distinguished from all of the others by the conspicuously elongate antennae in the male. *D. divaricata* has the interbases and the lateral arms of the phallosome unusually long and slender. *D. currani* has the median praescutal stripe weakly divided by a pale central vitta, the wings less strongly infuscated, cell *2nd A* wider, and the hypopygium with the inner dististyle narrower, not so expanded and spatulate at its outer end, and the interbase longer and more pointed at apex.

***Dactylolabis knowltoni* n. sp.**

General coloration gray, the praescutum with three polished black stripes, the scutal lobes each with two similar polished black areas; wings with a strong yellow tinge, virtually unpatterned except for the small oval brown stigma; abdomen black, the hypopygium reddish brown; male hypopygium with the vestiture of outer face of inner dististyle sparse and weak; phallosome with the outer blades transversely oval.

*Male.* Length about 6–6.5 mm.; wing 7 mm.

*Female.* Length about 8–8.5 mm.; wing 8 mm.

Rostrum black, sparsely gray dusted; palpi black. Antennae black, the scape sparsely pruinose; flagellar segments oval, gradually decreasing in length outwardly. Head gray.

Pronotum uniformly gray. Mesonotal praescutum gray with three separate polished black stripes, the median one broader than the laterals, not reaching the suture behind; lateral stripes crossing the suture onto the scutal lobes, the latter with a further more posterior polished area at near midlength; posterior sclerites of notum heavily gray pruinose. Pleura with a heavy gray pruinosity. Halteres yellow, the small knobs not or scarcely infuscated. . Legs with the coxae darkened and pruinose basally, the tips paling to obscure yellow; trochanters yellow; femora obscure yellow, clearer basally, more obscure outwardly, the tips passing into brown; tibiae obscure yellow or brownish yellow, the extreme bases and tips more darkened; tarsi black. Wings with a strong yellow tinge, almost unpatterned except for the small oval brown stigma; cord and outer end of cell  $1st\ M_2$  not or scarcely seamed with darker; veins brown, those at the wing-base yellow. Costal trichia normal, short but dense, not spinose. Venation:  $Sc_1$  ending nearly opposite or just before fork of  $R_2+3+4$ ; cell  $M_1$  subequal to its petiole;  $m-cu$  at or very close to fork of  $M$ .

Abdomen polished black; hypopygium obscure reddish brown, the dististyles black. In female, the abdominal sternites more reddish brown, darkened at the bases and subapically, the extreme caudal margins of the segments narrowly pale. Male hypopygium with the outer dististyle cylindrical, thickened at base, thence of nearly equal diameter to the obtuse tips; inner dististyle only a little more than one-third as long, slender, the vestiture sparse and weak. In *nitidithorax*, the outer style is much more strongly narrowed outwardly while the vestiture of the outer face of the inner style appears as conspicuous erect spines or spinous setae. Phallosome with outer portion shorter but wider than in *nitidithorax*, appearing transversely oval or virtually so.

*Habitat.* Utah.

*Holotype.* ♂, Dry Canon, Logan, June 24, 1938 (G. F. Knowlton & R. E. Nye). *Allotopotype.* ♀, pinned with type. *Paratopotypes.* 1 ♂, 1 ♀, with the type.

This interesting species is named in honor of Professor George F. Knowlton, to whom I am greatly indebted for numerous Tipulidae from Utah. The species is closest to the western Nearctic *Dactylolabis hortensia* (Alexander) and *D. nitidithorax* (Alexander). In the former, the very narrow praescutal stripes are four in number and more opaque dark brown, not or scarcely nitidous. In *nitidithorax*, the entire mesonotum is subnitidous dark brown or brownish black, the praescutum without evident stripes.