

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

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The preceding part under this general title was published in ENTOMOLOGICAL NEWS 59: 207-214. The crane-flies considered herewith are from various far western states where they were collected in part by myself, in part by my good friends, George F. Knowlton and Peder Nielsen, as mentioned under the individual species concerned. The types of the novelties are preserved in my personal collection of these flies.

### *Limonia (Dicranomyia) nielseniana* new species

Mesonotal praescutum yellowish gray with three darker stripes, the median one broader and more deeply colored; rostrum and basal palpal segments yellow; antennae black throughout, the flagellar segments moderately elongate; wings whitish subhyaline, stigma dark brown, conspicuous; a restricted dark pattern, chiefly evident as a seam along vein *Cu*; vein *Sc*<sub>1</sub> long, approximately three-fifths *Rs*; male hypopygium with the caudal margin of the tergite nearly truncate, the lateral lobes very low and inconspicuous; ventromesal lobe of basistyle blackened, long and conspicuous, bearing a small lateral tubercle; ventral dististyle small, the rostral prolongation compressed-flattened, more or less cleaver-shaped, the lower outer angle produced into a point; rostral spines widely separated, the outer one curved, the inner spine straight; aedeagus unusually slender.

♂. Length about 6-6.5 mm.; wing 6.5-7 mm.

♀. Length about 7.5 mm.; wing 8 mm.

Rostrum obscure yellow, palpi black, the basal two segments yellow. Antennae black throughout; flagellar segments oval, the outer ones more elongate, the terminal about one-third longer than the penultimate. Head gray, the center of vertex a little more brownish yellow; anterior vertex broad, approximately three times the diameter of scape.



Pronotum above dark brown, paler on sides. Mesonotal praescutum yellowish gray, with three brown stripes, the median one broader and more deeply colored, brownish black; sides of praescutum more pruinose; scutum and scutellum broadly obscure yellow, the sides brownish gray; mediotergite dark brown, sparsely pruinose, pleurotergite yellowish gray. Pleura chiefly yellowish gray, the ventral sternopleurite more or less darkened, especially behind. Halteres with stem pale, knob infuscated. Legs elongate; fore coxae infuscated, remaining coxae and trochanters yellow; femora obscure yellow, the tips narrowly infuscated; remainder of legs brownish yellow, the outer tarsal segments brownish black. Wings whitish subhyaline, the prearcular and costal fields a little more yellowed; stigma small, oval, dark brown, conspicuous; very narrow and inconspicuous brown seams over cord and outer end of cell *1st M*<sub>2</sub>, vein *Cu* more evidently darkened; veins chiefly brown, more yellowed in the brightened fields. Venation: *Sc*<sub>1</sub> ending opposite or shortly beyond the origin of *Rs*, *Sc*<sub>1</sub> long, approximately three-fifths to three-fourths *Rs*; free tip of *Sc*<sub>2</sub> and *R*<sub>2</sub> in transverse alignment, the latter more than two times the former; cell *1st M*<sub>2</sub> subequal in length to vein *M*<sub>4</sub>; *m-cu* shortly before the fork of *M*.

Abdominal tergites dark brown, their posterior borders narrowly pale; basal sternites chiefly yellow, the outer ones more brownish gray; hypopygium with the ventral dististyle yellow, the remainder more darkened. Male hypopygium with the tergite pale, transverse, the lateral lobes very low and inconspicuous; setae in three more or less distinct marginal groups, the median one concentrated. Basistyle blackened, relatively large, especially the conspicuous elongated ventromesal lobe, the latter bearing a small lateral tubercle on basal half, this provided with several long setae. Dorsal dististyle a gently curved pale rod, narrowed very gradually to an acute point. Ventral dististyle small, fleshy, its area a little less than that of the main body of the basistyle, the disk provided with unusually long setae, including a small brush or pencil on mesal face beyond base; rostral prolongation compressed-flattened, more or less cleaver-shaped, the lower outer angle an acute weakly sclerotized point;



two rostral spines, widely separated, the outer curved, the inner spine straight, the two separated by a distance nearly as long as the outer spine. Gonapophysis with the mesal-apical lobe slender, its tip acute. Aedeagus unusually slender, the tip with two appressed lobes that are separated only by a linear split.

*Habitat.* WYOMING. *Holotype*: ♂, Sunlight Valley, Shoshone National Forest, altitude 6,800 feet, September 6, 1948 (Peder Nielsen). *Allotopotype*: ♀, September 4, 1948. *Paratopotypes*: 8 ♂♀, September 4-6, 1948. The type series was secured in a marshy area.

I take unusual pleasure in naming this very distinct fly for my longtime friend and co-worker on the Tipulidae, Librarian Peder Nielsen, of Silkeborg, Denmark. Mr. Nielsen visited America in 1948 and spent nearly two weeks collecting in Wyoming. I am much indebted to Mr. Nielsen for the privilege of retaining the types of this fly. Superficially the species suggests *Limonia* (*Dicranomyia*) *ctenopyga* Alexander and L. (*D.*) *melleicauda* Alexander, but has the male hypopygium very distinct from these and from all other members of the subgenus. The fly was associated in nature with *L. (D.) vulgata* (Bergroth) which it superficially resembles, being readily separated by the closed cell 1st  $M_2$  and the entirely different male hypopygium.

***Pedicia* (*Tricyphona*) *ampla euryptera* new subspecies**

♂. Length about 16-17 mm.; wing 15.5-16 mm.; antenna 1.8-1.9 mm.

Characters as in *ampla truncata* Alexander, differing in slight details of coloration and hypopygial structure. Head and thorax clear gray, the praescutum with four narrow brownish gray stripes; scutellum obscure yellow, infuscated medially; dorso-pleural region broadly pale yellow. Wings fully-developed, as shown by the measurements, the venation normal; membrane light gray, the prearcular and costal fields more yellowed; veins brown, much darker than in *truncata*. Male hypopygium with the tergal lobe broader than in *truncata*, the caudal margin very gently emarginate, the lateral lobes thus formed low and incon-



spicuous. In *truncata* the caudal margin is truncate, without lateral lobes.

*Habitat.* ARIZONA. *Holotype*: ♂, White Mountains, Alpine, altitude 8,400 feet, June 23, 1947 (C. P. Alexander). *Paratype*: 1 ♂, Greer, on the Little Colorado River, altitude 8,800 feet, June 22, 1947 (C. P. Alexander).

**Erioptera (*Empeda*) *exilistyla* new species**

General coloration of entire body dark brownish gray; rostrum, palpi, antennae and legs black; wings whitish subhyaline, the prearcular and costal fields more whitened; stigma pale brown, inconspicuous; veins beyond cord with macrotrichia; vein  $R_3$  oblique, shorter than vein  $R_{3+4}$ ; cell 1st  $M_2$  rectangular, shorter than vein  $M_4$ ; male hypopygium with the tergite large, its caudal margin very gently concave; both dististyles unusually slender, both simple, the outer style a long slender yellow rod that narrows gradually to an acute point; gonapophyses arising close together at the midline, each terminating in an elongate blackened terminal spine.

♂. Length about 3.8 mm.; wing 4.3 mm.

Rostrum and palpi black. Antennae 16-segmented, black throughout; flagellar segments long-oval; verticils relatively short and inconspicuous. Head dark brownish gray; anterior vertex broad.

Pronotum large, brownish gray. Mesonotum brownish gray, the praescutum with a poorly indicated darker median stripe; both the tuberculate pits and pseudosutural foveae black, the former placed close together at near mid-distance between the anterior margin of the praescutum and the pseudosutural foveae. Pleura, including the dorsopleural membrane, blackened, heavily gray pruinose. Halteres with stem very light brown, knob light yellow. Legs with the coxae black, pruinose; remainder of legs black. Wings whitish subhyaline, the prearcular and costal fields even more whitened; stigma pale brown, relatively inconspicuous; veins light brown, more brownish yellow in the whitened fields. Veins beyond cord with macrotrichia. Venation:  $Sc_1$  ending nearly opposite fork of  $Rs$ ,  $Sc_2$  some distance



from its tip,  $Sc_1$  alone only a little shorter than  $R_{2+3+4}$ ; vein  $R_{3+4}$  longer than the oblique vein  $R_3$ ; distance on costa between veins  $R_{1+2}$  and  $R_3$  exceeding two-thirds the length of the latter; cell 1st  $M_2$  closed, rectangular, shorter than vein  $M_4$ ;  $m-cu$  about one-third its length beyond the fork of  $M$ ; vein 2nd  $A$  nearly straight. In the unique type, the venation of the right wing, mounted in balsam, is abnormal in the medial field.

Abdomen, including hypopygium, black, more or less pruinose. Male hypopygium with the tergite large, its caudal margin very gently concave. Basistyle not produced beyond origin of dististyles. Both dististyles unusually slender, simple; outer style a long yellow rod that narrows gradually into an acute point; inner style a little shorter and stouter, dark-colored, the tip obtuse. Gonapophyses arising close together at the midline, on either side of base of the shorter aedeagus, each apophysis expanded very slightly before narrowing into an elongate blackened terminal spine.

*Habitat.* WASHINGTON. *Holotype:* ♂, Stevens Pass, Snoqualmie National Forest, altitude 4,000 feet, July 8, 1948; swept from mountain hemlock (C. P. Alexander).

Although the male hypopygium is quite different from that of other described species, the present generic and subgeneric assignment seems correct. The fly is most like *Erioptera* (*Empeda*) *tristimonia* Alexander yet is very distinct. In its general appearance, especially the venation, the fly much resembles certain of the small species of the genus *Rhabdomastix*.

### ***Erioptera* (*Psiloconopa*) *ecalcar* new species**

♂. Length about 4–4.5 mm.; wing 4.5–5 mm.

♀. Length about 4.5–4.8 mm.; wing 5–5.2 mm.

Closely allied to *margarita* Alexander, differing in the structure of the male hypopygium. General coloration of body yellow, the disk of the head and thoracic dorsum a trifle more brownish yellow. Antennae pale basally, the outer segments pale brown. Halteres pale yellow. Legs obscure yellow or brownish yellow, the outer tarsal segments infuscated. Abdominal tergites brown, the incisures, sternites and hypopygium



yellow. Male hypopygium with the outer dististyle bifid, lacking the third or intermediate arm or point that is found in *margarita*. Lateral gonapophyses appearing as straight, entirely pale rods that narrow to the simple tips. In *margarita* these rods are broader, the tips conspicuously blackened and spinulose.

*Habitat.* UTAH. *Holotype:* ♂, Zion National Park, Weeping Rock, altitude 4,500 feet, June 21, 1942 (C. P. Alexander). *Allotopotype:* ♀, with the type. *Paratopotypes:* 5 ♂♀, May 5 and September 7, 1943 (G. F. Knowlton).

### **Erioptera (Erioptera) hohensis** new species

Allied to *villosa*; thoracic dorsum medium brown, gray pruinose, the lateral praescutal borders broadly yellow; rostrum light yellow; thoracic pleura chiefly infuscated; legs obscure yellow; wings with a strong fulvous tinge, the costal field more yellowed, veins yellow; abdomen brown, the hypopygium a trifle more yellowed; male hypopygium with the outer dististyle a flattened paddle, its tip narrowly obtuse, blackened; tip of inner dististyle an acute blackened spine; gonapophyses slender, each terminating in a long slender spine, the subterminal part with abundant microscopic spicules.

♂. Length about 5.5 mm.; wing 5.8 mm.

Rostrum light yellow; palpi brownish black. Antennae with scape and pedicel obscure yellow, flagellum brown; flagellar segments with long conspicuous verticils. Head light fulvous yellow, the center of vertex very weakly darkened and sparsely pruinose.

Pronotum light yellow. Mesonotal praescutum with the disk medium brown, gray pruinose, the margins broadly yellow; scutal lobes brownish gray, the lateral margins clear light yellow; scutellum reddish yellow; mediotergite reddish brown, sparsely pruinose, the anterolateral border yellow; pleurotergite chiefly yellow, more darkened ventrally. Pleura chiefly infuscated, the dorsopleural region broadly light yellow. Halteres yellow, the knobs moderately darkened. Legs obscure yellow, the outer tarsal segments darkened. Wings with a strong fulvous tinge,



the prearcular and costal fields somewhat more yellowed; veins yellow. Venation: Outer half of vein *2nd A* strongly sinuous.

Abdomen brown, the hypopygium a trifle more brightened. Male hypopygium with the outer dististyle a flattened paddle, the narrowly obtuse tip blackened. Inner dististyle a little shorter, a trifle expanded on the outer fourth and here produced into an acute spine on outer margin, the longer apex narrowed to an acute blackened spine. Gonapophysis narrow, blackened apically, terminating in a long slender spine, the subterminal part with abundant microscopic spicules.

In *villosa*, male hypopygium with the outer dististyle slender; inner style with apex obtuse; gonapophysis appearing as a flattened dark-colored blade that does not terminate in a spine, the entire outer end provided with microscopic spinules.

*Habitat.* WASHINGTON. *Holotype*: ♂, Hoh River, Jackson Ranger Campground, Olympic National Park, Jefferson Co., altitude 580 feet, July 22, 1948; swept from sparse vegetation on river bars (C. P. Alexander).

The closest relative of the present fly is *Erioptera* (*Erioptera*) *villosa* Osten Sacken, especially the western Nearctic race of this, *dilatata* Alexander. The present insect is readily told by the coloration of the body, legs and wings, and especially by the structure of the male hypopygium, as compared above.

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### A. D. Imms

According to a news item from Sidmouth, England, **Dr. Augustus Daniel Imms** died April 3, 1949, at the age of 68 years. He was formerly Forest Zoologist to the Government of India, and later, Chief Entomologist of the Rothamsted Experimental Station, Harpenden, England. Dr. Imms has written on a wide variety of entomological subjects and is known also through his: "A general textbook of entomology," one of the really outstanding books in its field, of which the seventh edition is to appear May twelfth of this year.



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