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

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The preceding part under this general title was published in 1944 (Can. Ent. 76: 166 - 172). At this time I am characterizing some Eriopterine crane-flies from the three Pacific Coast states that were collected and sent to me by Messrs. Otto Degener, James A. Macnab, Axel L. Melander, Herman A. Scullen, and the late Millard C. Van Duzee. Except where indicated to the contrary later in the text, the types of the novelties are retained in my collection through the generosity of the collectors.

### **Erioptera (Psiloconopa) melanderi** n. sp.

General coloration dark brown; antennae black throughout; wings with a strong blackish tinge, the oval stigma still darker; sparse but strong macrotrichia in outer ends of cells  $R_2$  to 2nd  $A$ , inclusive;  $R_s$  shorter than distal section of  $R_5$ ;  $R_{1+2}$  nearly twice  $M_{3+4}$ .

*Female.* Length about 5 mm.; wing 6 mm..

Rostrum brownish gray; palpi brownish black. Antennae black throughout; flagellar segments oval, the verticils subequal in length to the segments. Head brownish gray; anterior vertex relatively wide.

Pronotum brownish gray. Mesonotal praescutum brownish gray, somewhat darker in front; praescutal setae pale and sparse; posterior sclerites of notum brown, sparsely pruinose. Pleura brown, heavily gray pruinose; meral region large. Halteres weakly darkened. Legs with coxae dark brown, sparsely pruinose; trochanters brownish yellow; remainder of legs dark brown, the terminal tarsal segments still darker. Wings with a strong blackish tinge, the oval stigma still darker; veins darker brown. Sparse but strong macrotrichia in extreme outer ends of cells  $R_2$  to 2nd  $A$ , inclusive, as well as the outer ends of cells  $R$  and  $R_1$ ; a very few trichia in base of cell  $R_4$ ; trichia of outer cells more sparse than in *pilipennis* and not continued as far basad in the cells. Venation:  $Sc_2$  faintly preserved, subequal to or only a trifle shorter than  $Sc_1$ ;  $R_s$  shorter than in *pilipennis*, less than the distal section of  $R_5$ ;  $R_{2+3+4}$  nearly twice the arcuated  $R_{1+3}$  and distinctly longer than  $M_{3+4}$ ;  $R_{1+2}$  long and gently sinuous, nearly twice  $M_{3+4}$ ; *m-cu* shortly before fork of  $M$ ; discal section of  $Cu_1$  deflected very slightly cephalad at its outer end. In *pilipennis*,  $Sc_2$  is atrophied or only vaguely preserved;  $R_s$  equal to or slightly longer than distal section of  $R_5$ ;  $R_{2+3+4}$  nearly straight, only about one-fourth longer than  $R_{2+3}$  and shorter than  $M_{3+4}$ ;  $R_{1+2}$  straight, subequal to or only a trifle longer than  $M_{3+4}$ ; *m-cu* at fork of  $M$ ; distal section of  $Cu_1$  straight.

Abdomen dark brown, with sparse, scattered yellow setae. Ovipositor with the slender valves horn-yellow, darkened basally.

*Habitat.* California.

*Holotype:* ♀, Yosemite, June 12, 1935 (Melander). Type in my collection through kindness of Dr. Melander.

I am very pleased to name this species for Dr. Axel Leonard Melander, who has permitted me to study his extensive collection of Nearctic Tipulidae and related families. As indicated above, the closest relative is *Erioptera (Psiloconopa) pilipennis* Alexander, of northern Oregon, which differs in the pale wings and in the venation, as discussed above. It is evident that these two flies, with macrotrichia in the outer cells of the wings, are allied to other species that lack these trichia or have them much reduced. Such species center about *E. (P.) aperta* (Coquillett) and various allied flies in western North America. All of these species combine to form an isolated group of forms best distinguished by the unusually far distad position of  $Sc_2$  when this latter element is preserved, in the latter case  $Sc_1$  and  $Sc_2$  being not greatly unequal in length. In the subgenotype of *Psiloconopa, meigenii* (Zetterstedt),  $Sc_2$  is unusually retracted so that  $Sc_1$  is almost as long as  $R_s$ .

***Ormosia (Ormosia) perspectabilis* n. sp.**

Size very large (wing, male, 8 mm. or more); antennae elongate, the flagellar segments only feebly dilated at bases; segments with an abundance of long pale erect setae; general coloration brownish gray; wings weakly tinged with brown, stigma darker brown but ill-defined; cell  $M_2$  open by the atrophy of the basal section of  $M_3$ ; anal veins convergent, 2nd  $A$  strongly sinuous on its outer third; male hypopygium with the tergite at apex produced into two conspicuous lateral lobes that are separated by a circular notch; inner dististyle terminating in a slender black spine; two pairs of blackened apophyses, one simple, the other unequally bispinous.

*Male.* Length about 6-6.5 mm.; wing 8-9 mm.; antenna about 6.5-6.8 mm.

Rostrum and palpi dark brown. Antennae elongate, about as long as the body, dark brown; flagellar segments elongate cylindrical, only feebly dilated at base; segments with basal and subbasal verticils that are shorter than the segments; an abundant, very long erect pale pubescence scattered over the segments, these hairs about one-half the length of the longest segments. Head gray.

Pronotum grayish brown; pretergites restrictedly yellow. Mesonotum chiefly brownish gray, the praescutum with the usual stripes confluent; humeral region restrictedly obscure yellow, enclosing the large, pale brown pseudosutural foveae. Pleura reddish or brownish gray; dorsopleural region obscure yellow. Halteres yellow, the knobs a little more darkened. Legs with coxae and trochanters obscure yellow; remainder of legs brown, the tarsal segments somewhat darker. Wings broad, weakly tinged with brown; stigma darker brown but ill-defined; costal border a trifle darkened; veins brown. Venation:  $Sc_1$  ending beyond level of  $R_2$ ,  $Sc_2$  at near two-fifths the length of  $R_3$ , the latter straight, subequal to  $R_4$ ;  $R_2$  variable in position, in the type being very close to fork of  $R_2+3+4$ , obliterating  $R_2+3$ ; in the paratype, nearly its own length beyond this fork; cell  $M_2$  open by the atrophy of basal section of  $M_3$ ; petiole of cell 2nd  $M_2$  subequal to or shorter than  $m-cu$ , the latter at or close to the fork of  $M$ ; anal veins convergent, 2nd  $A$  strongly sinuous on its outer third.

Abdomen dark brown, in the type with the more proximal sternites a little more brightened; hypopygium slightly paler brown than the remainder of abdomen. Male hypopygium with the tergite large, narrowed outwardly, at apex produced into two conspicuous lobes that are separated by a rounded notch; lobes pale at distal ends, provided with abundant dense setae. Basistyle relatively stout, at apex on outer side produced into a short lobe. Outer dististyle relatively small, flattened, its lower surface filled with pale membrane, the outer portion blackened. Inner dististyle about twice as long, widened outwardly, the apex truncated, the outer angle further produced into a long slender black spine, at base of which is a fingerlike lobe. Phallosome consisting of a shield-shaped central mass that is produced at apex into a short acute point; two pairs of apophyses, one a simple black rod arising from an expanded base, the other strongly but unequally bispinous at apex.

*Habitat.* Oregon.

*Holotype:* ♂, Boyer Station, near McMinnville; shrub association, September 20, 1936 (Macnab); Collector's No. 24. *Paratopotype:* 1 ♂, swept from low western hemlock, Sept. 29, 1934 (Macnab).

*Ormosia (Ormosia) perspectabilis* is very distinct from all other regional species having elongate antennae in the male sex. From all such, including *O. (O.) monticola* (Osten Sacken) and *O. (O.) taeniocera* Dietz, it is readily told by the unusually large size and by the structure of the male hypopygium.

***Ormosia (Ormosia) sequoiarum* n. sp.**

Belongs to the *flaveola* group; general coloration, including body, antennae, halteres and legs, uniformly black; wings relatively broad, strongly tinged with blackish; male hypopygium with the outer dististyle acutely pointed at apex; phallosome broadly obtuse at tip, the aedeagus stout.

*Male.* Length about 3.5-3.6 mm.; wing 3.8-4 mm.

*Female.* Length about 4 mm.; wing 4 mm.

Rostrum and palpi black. Antennae short, black; flagellar segments very short-oval to subglobular; verticils longer than the segments. Head dull black.

Thorax uniformly black, the surface subnitidous; praescutal setae erect, relatively short and stout. Halteres and legs black throughout. Wings relatively broad, with a strong blackish tinge, the veins a little darker than the ground; macrotrichia black. Macrotrichia of cells relatively sparse but distributed uniformly over the surface, very sparse or lacking near the wing base. Venation:  $R_2$  at fork of  $R_{2+3+4}$ , variable in length, from about one-third to two-thirds as long as  $R_{2+3+4}$ ; cell  $M_2$  open by atrophy of  $m$ ;  $m-cu$  at fork of  $M$  or a short distance beyond; anal veins divergent, cell *2nd A* wide.

Abdomen, including hypopygium, black, the surface subnitidous. Male hypopygium of the general type of this group. Ninth tergite with central portion moderately produced, truncate, the oblique sides with unusually long and dense erect setae. Outer dististyle rather broadly flattened, its tip acute, the whole outer face microscopically roughened. Inner dististyle longer than the outer, nearly parallel-sided, the tip very obtuse to subtruncate; surface of style with numerous scattered pale setae over the entire length of the lower half. Phallosome with apex broadly obtuse; what seems to represent the aedeagus is a stout black central rod, its tip rather narrowly obtuse.

*Habitat.* California.

*Holotype:* ♂, Sequoia National Park, one-fourth mile northwest of Beetle Rock, June 8, 1942 (Degener). *Allotopotype:* ♀, with the type. *Paratopotypes:* ♂♂, ♀, June 6-8, 1942.

*Ormosia (Ormosia) sequoiarum* is readily told from other regional species of the group by the uniform black coloration of the body and appendages. The nearest relative is *O. (O.) absaroka* Alexander, of the central and northern Rockies, which differs especially in the coloration, the longer and narrower wings, and in slight details of structure of the male hypopygium.

***Ormosia (Rhypholophus) hoodiana* n. sp.**

Mesonotum chiefly gray or brownish gray; rostrum, basal segment of palpus and scape of antenna yellow; knob of halteres infuscated; femora and tibiae yellow; wings faintly yellow, the oval stigma brown; male hypopygium with the outer dististyle unusually expanded, the two arms subequal, the lower one unusually long and narrow; inner dististyle relatively narrow, boomerang-shaped; gonapophyses blackened, appearing as powerful straight rods that are unequally bifid at their tips, the mesal end of the rod further produced into a slender, strongly curved hook; arms of aedeagus relatively short.

*Male.* Length about 6.5 mm.; wing 7 mm.; antennae about 1.4 mm.

*Female.* Length about 6.5-7 mm.; wing 7-8 mm.

Rostrum obscure yellow; first segment of palpi yellow, succeeding segments dark brown. Antennae with scape obscure yellow; pedicel light brown; flagellar segments passing through light brown to darker brown or brownish black; basal flagellar segments short-oval, the outer ones elongate, with conspicuous verticils. Head dark gray.

Pronotal scutum obscure yellow, more pruinose in front; scutellum and pretergites yellow. Mesonotal praescutum with a broad central brownish gray

stripe, the lateral portions lighter gray; humeral region more obscure yellow; pseudosutural foveae and tuberculate pits black; posterior sclerites of notum gray, the scutal lobes more darkened; posterior margin of scutellum and region of wing-root brighter. Pleura and pleurotergite yellow or testaceous yellow, weakly patterned with brown on ventral sternopleurite. Halteres with stem yellow, knob infuscated. Legs with coxae and trochanters yellow; femora and tibiae yellow, the tarsi passing into brown. Wings with a faint yellowish tinge, the oval stigma brown; a vague darkening along the cord, best evidenced by a deepening in color of the otherwise brown veins; veins in prearcular and costal fields clearer yellow. Venation:  $Sc_1$  ending nearly opposite  $R_2$ , close to or just beyond the fork of  $R_2+3+4$ ; cell 1st  $M_2$  closed; vein 2nd  $A$  sinuous on distal third.

Abdominal tergites brown, sternites yellow; hypopygium brown. Male hypopygium with the outer dististyle unusually expanded, the two arms unequally developed, the lower one unusually long and narrow; vestiture of style relatively short and inconspicuous though abundant. Inner dististyle a slender boomerang-shaped structure. Gonapophyses powerfully developed, unusually divergent, to form a transverse bar; apophyses nearly straight, blackened, unequally bifid at tips, the inner angle a powerful spinous point, the outer or axial spine smaller to much reduced; mesal end of each apophysis further produced into a slender, very strongly curved black hook. Arms of aedeagus relatively short.

*Habitat.* Oregon.

*Holotype:* ♂, Hood Rapids, Mount Hood, July 29, 1921 (Melander); Melander collection. *Allotopotype:* ♀ *Paratopotypes:* 1 ♂, 1 ♀

*Ormosia (Rhypholophus) hoodiana* is quite different from the other known regional species of the subgenus, differing especially in the hypopygial characters, as the outer and inner dististyles and the gonapophyses. These latter somewhat suggest the condition in *O. (R.) bifidaria* Alexander, of the central and southern Rockies, yet are quite distinct in all their details. Edwards has revived the subgenus *Rhypholophus* Kolenati to receive the species of the so-called *varia* group of species (type, *phryganopterus* Kolenati), based almost entirely on the bifurcate aedeagus of the male. For convenience of grouping, at least, it seems advisable to recognize this subgeneric name, though, as I have pointed out elsewhere, there are numerous other groups of *Ormosia* that show fully as well-marked characters, yet would be almost impossible to define in the female sex. In *Rhypholophus*, as here recognized, there are four or five species in Europe and more abundant species in western North America, yet none has as yet been discovered in the very rich *Ormosia* fauna of China and Japan, nor does any species occur in eastern North America.

### ***Ormosia (Rhypholophus) oregonica* n. sp.**

Allied to *suffumata*; general coloration of thoracic notum dark brownish gray, restricting the pale ground color; legs pale brown, the terminal tarsal segments black; wings light brown, the stigma darker, preceded and followed by somewhat paler areas; cell 1st  $M_2$  closed; vein 2nd  $A$  very strongly sinuous; male hypopygium with the inner dististyle slender; gonapophyses with outer angle of outer plate unequally bidentate; arms of aedeagus relatively short.

*Male.* Length about 6 mm.; wing about 6.7 mm.

Head broken.

Prothorax brown, heavily gray pruinose; pretergites yellow. Mesonotal praescutum with the buffy yellow ground color restricted to the humeral and lateral portions, the remainder of disk almost covered by three brownish gray stripes, the interspaces slightly paler and barely indicated except by dark setigerous punctures; pseudosutural foveae dark reddish brown, tuberculate pits black; posterior sclerites of notum dark brownish gray, the scutellum more red-

dened, darker medially at base. Pleura with ground color reddish, most evident as a central longitudinal stripe, the dorsal and ventral regions more pruinose; conspicuous yellow setae on dorsal sternopleurite. Halteres with stem pale, knob broken. Legs with coxae yellow, sparsely pruinose, especially the fore coxae; trochanters yellow; remainder of legs pale brown, the outer ends of tibiae and tarsi passing into black. Wings with a strong light brown tinge, the stigma darker brown, preceded and followed by somewhat clearer yellow areas, involving the outer portion of cell  $Sc_1$ ; prearcular field a little brightened; veins pale brown. Macrotrichia of cells abundant, becoming somewhat sparser in the bases of cells  $R$ ,  $M$  and  $Cu$ . Venation:  $Sc_1$  ending opposite  $R_2$ ,  $Sc_2$  about opposite one-fourth the length of  $Rs$ ;  $R_2$  close to fork of  $R_2+3+4$ ; cell 1st  $M_2$  about as long as vein  $M_3$  beyond it;  $m-cu$  a short distance beyond fork of  $M$ ; vein 2nd  $A$  very strongly sinuous, cell 1st  $A$  widest just beyond mid-length.

Abdominal tergites dark brown, sternites yellow, the incisures of the outer segments slightly darker; ninth segment and hypopygium yellow, the outer dististyles blackened. Male hypopygium relatively short and broad, the caudal border emarginate, the sclerite very constricted at this point. Outer dististyle as in the subgenus, widely expanded outwardly. Inner dististyle unusually slender, narrower than in *suffumata*, especially at apex. Gonapophyses with outer angle prolonged into a broad plate that is unequally bidentate at apex; the inner spine large and strong, directed mesad; outer spine small, appearing as a shoulder on outer edge of plate; inner angle of apophysis produced into a long slender curved spine; in *suffumata*, the outer angle of the apophysis is a simple acute blackened spine. Arms of aedeagus shorter than in *suffumata*.

*Habitat.* Oregon.

*Holotype:* ♂, Crater Lake National Park, near Headquarters, altitude 6,400-6,600 ft., August 29, 1930 (Scullen); Oregon State College Collection.

The most nearly related species are *Ormosia (Rhypholophus) bicuspidata* n. sp. and *O. (R.) suffumata* Alexander, which differ especially in the genitalic characters, as above discussed.

### ***Ormosia (Rhypholophus) bicuspidata* n. sp.**

General coloration of mesonotum brownish gray, the pleura chiefly gray; antennae with scape and pedicel brownish yellow, flagellum black; halteres yellow; femora and tibiae obscure yellow, the tips a little darker; wings brownish yellow, stigma medium brown; male hypopygium with the gonapophyses conspicuously bispinous, the outer spine relatively slender, at near midlength split into two very conspicuous, divergent, black spines; spine of mesal angle of apophysis long and slender; arms of aedeagus relatively short.

*Male.* Length about 5-6 mm.; wing 5.8-6.8 mm.; antenna about 1.5-1.7 mm.

Rostrum dark gray; palpi black. Antennae moderately long; scape and pedicel brownish yellow, flagellum black; flagellar segments oval, the outer segments more elongate; longest verticils unilaterally distributed. Head dark gray.

Pronotum dark brownish gray; pretergites very restrictedly obscure yellow. Mesonotum brownish gray, without clearly defined stripes, the lateral border and humeral region slightly more reddish yellow; pseudosutural foveae and tuberculate pits black; posterior sclerites of notum dark gray. Pleura brownish gray to clear gray, vaguely patterned with obscure yellow, especially around the wing-root and near the sutures. Halteres yellow. Legs with the coxae reddish brown, sparsely pruinose; trochanters obscure yellow; femora and tibiae obscure yellow, the tips, especially of the latter, a trifle darker; tarsi passing into black. Wings brownish yellow, the stigma medium brown, relatively distinct; veins light brown, more yellowed in the basal portion. Venation:  $R_2+3$  shorter than  $R_2$ ;

cell 1st  $M_2$  normally closed, in cases open by the atrophy of  $m$  (both wings of one paratype).

Abdominal tergites dark brown, sparsely pruinose; sternites yellow; hypopygium more orange-yellow, the appendages darkened. Male hypopygium with the outer dististyle strongly expanded outwardly, the lower angle stout, with the usual rows of spinous setae especially well developed. Inner dististyle moderately stout, the ventral edge paler than the remainder. Gonapophyses with outer angle a relatively slender stem that splits midlength into two very conspicuous black spines, these slightly unequal in length and thickness, strongly divergent; mesal outer angle of apophysis produced into a longer, more slender spine that is strongly curved at base. Arms of aedeagus relatively short.

*Habitat.* Washington.

*Holotype:* ♂, Castle Rock, Cowlitz Co., August 28, 1921 (Melander); Melander Collection. *Paratopotypes:* 3 ♂ ♂.

*Ormosia (Rhypholophus) bicuspadata* is quite distinct from the other species of the subgenus so far made known. The nearest ally seems to be *O. (R.) oregonica* n. sp., which is most readily told by the structure of the male hypopygium, specifically of the gonapophyses.

### ***Molophilus (Molophilus) millardi* n. sp.**

Allied to *nitidus*; size medium (wing, male, under 5.5 mm.); general coloration, including body, palpi, antennae and legs, black; head gray; knobs of halteres light yellow; wings with a strong blackish tinge;  $m-cu$  strongly arcuated; male hypopygium with the mesal lobe of basistyle bearing two slender spines; arms of both the outer and inner dististyles relatively short and stout.

*Male.* Length about 4.5-4.6 mm.; wing 5-5.3 mm.

*Female.* Length about 5.5 mm.; wing 6 mm.

Rostrum and palpi black. Antennae black throughout, relatively short; flagellar segments oval. Head gray.

Thorax almost uniformly black, the surface subnitidous; anterior lateral pretergites very restrictedly reddened; praescutal setae sparse, erect; pronotal bristles very long. Halteres with stem dusky, knob light yellow. Legs with coxae and tronchanters black; remainder of legs more brownish black; Wings with a strong, virtually uniform blackish tinge; veins and trichia still darker. Venation:  $R_2+3$  relatively long,  $R_2$  lying some distance beyond the level of  $r-m$ ;  $m-cu$  strongly arcuated, the inner end of cell  $M_4$  lying proximad of the other elements of the cord; vein 2nd  $A$  relatively long, ending about opposite the basal section of  $M_3+4$ .

Abdomen, including hypopygium, black. Male hypopygium of the general type of *nitidus*; furcula of ninth tergite with margin smooth. Basistyle with spines of mesal lobe two in number, small and slender; in *nitidus*, with a single powerful spine from a broad base. Outer dististyle with the arms relatively short, especially the more expanded outer blade which is roughly oval in outline, the slender inner arm also less elongate than in *nitidus*. Inner dististyle shorter and stouter, the apex suddenly narrowed into an acute point, not elongate and gradually produced. Gonapophyses (phallosomic plates) shorter and broader.

*Habitat.* California.

*Holotype:* ♂, Alpine, San Diego Co., April 8, 1915 (M. C. Van Duzee).

*Allotopotype:* ♀, April 11, 1915; *paratopotype:* 1 ♂, with the allotype.

I name this species for the collector, the late Mr. Millard C. Van Duzee, to whom I am indebted for many fine Tipulidae. It has become evident that there are several western Nearctic species of *Molophilus* that center about *nitidus* Coquillett. These species are best told by the details of structure of the male hypopygium, as above described. The Rocky Mountain and Great Basin *Molophilus (Molophilus) harrisoni* Alexander is even more distinct in its hypopygial characters.