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NEW NEARCTIC TIPULIDAE (*DIPTERA*).¹

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The following crane-flies, received from various correspondents during the past few months, are believed to be new to science.

Limnobia argenteiceps sp. nov.

Antennæ 15-segmented; pleuræ yellow, with a brown band; wings spotted; Sc short, ending before the origin of Rs.

♂, Length, 4.6 mm.; wing, 5.9 mm.

Head: rostrum and palpi black; antennæ 15-segmented, with the segments all black, flagellar segments rounded-ovate; front, vertex and occiput black with a conspicuous silvery-grey bloom; genæ darker.

Thorax: pronotum light brownish-yellow; mesonotum, præscutum: in front and on the lateral margin, rather bright yellow; an indistinct broad, brown, median stripe which spreads out behind and covers the entire sclerite before the suture; scutum brown, paler, yellowish, medially; scutellum and post-notum brown. Pleuræ yellow, with a broad brown band extending from the cervical sclerites back to the halteres and base of the abdomen. Halteres, pale at base; remainder, darker, brown. Legs: coxæ bright yellow; trochanters yellow; femora yellowish-brown, darker toward the tip; tibiæ and tarsi brown.

Wings: hyaline, veins brown; a brown spot at the tip of Sc, extending around the base of the sector; a large square stigmal spot; all cross-veins and deflections of veins, narrowly marginal with brown; tip of the wing and ends of all of the veins, faintly tinged with brown. Venation (See fig. 1): Sc short, Sc₂ at the tip, ending before the base of Rs; Rs rather square at its origin; basal deflection of Cu₂ before the fork of M.

Abdomen: tergum dark brown, the extreme apice of each sclerite and a broad median patch on the base of segments 1 to 6, yellow; sternum mostly pale yellow, the lateral margins and an indistinct, sub-apical, cross-band, brown. Hypopygium yellowish: margin of the 8th tergite almost straight; pleural pieces, cylindrical, thickly beset with stout hairs, bearing apically, a large pale segment which is likewise beset with hairs, and armed at its tip with a slender, chitinized projection, curved at its ends; guard of the penis long, prominent, enlarged apically and notched.

¹Contribution from the Entomological Laboratory, Cornell University.

Holotype, ♂, Huachuca Mts., Arizona; Aug. 1905 (H. Skinner, Coll.) Type in coll. Acad. Nat. Sci. Phil.

The reference of this insect to *Limnobia* is merely provisional; I do not care to add a new genus to our already too long list, nor do I know of any genus into which this species will accurately fit. It is remarkable in possessing antennæ which are 15-segmented. The hypopygium is more like that of *Limnobia* than it is like that of *Furcomyia*, still the appearance of the insect, and its venation, are strongly suggestive of the last-named genus. It may be well to compare it with this genus; in Doane's Key (Ent. News, Jan. '08; p. 5-7) it runs down to couplet 30, but runs out because of its spotted wings. It is related to *Furcomyia signipennis* Coq. of California (J. N. Y. Ent. Soc.; vol. 13; p. 56; (1905).

Elliptera astigmatica sp. nov.

Wings without a stigmal spot.

♂ Length, 8.75 mm.; wing, 14 mm.

Head: rostrum and palpi brownish-black; antennæ, segment one, elongate-cylindrical; flagellar segments oval, similar to one another in shape, gradually smaller; antennæ black; front, vertex and occiput black; the occiput narrowed behind. (It is probable that the head is covered with a grey bloom in fresh specimens; the type is injured.)

Thorax: very convex, præscutum large, greyish-brown, clearer grey along the margins and on the pleuræ; the præscutum is very large, so that the meso-thoracic legs are very widely separated from the prothoracic pair, but close to the metathoracic; scutum, scutellum and post-notum dark grey, the caudal margin of the scutellum brown. Halteres light yellow, the knob brown. Legs: fore coxæ dark brown, yellowish at the tip; remainder lacking; middle and hind legs, coxæ yellowish-brown; femora and tibiæ obscure yellowish-brown; tarsi lacking.

Wings: hyaline, with a faint yellow suffusion in cells C, Sc, R₁ and anterior portions of R₂; stigma entirely absent; veins, brown, R₁ darker than the others; a brownish suffusion below Cu and 2nd Anal. Venation (See fig. 2.): Costa in vicinity of Sc bellied out cephalad and incrassated; Sc rather long, lying closer to C than to R; Sc₂ far retracted, so that Sc₁ is about equal to R₅; R long, ending before the wing-tip, strongly incrassated to near the origin of R₄₊₅; R₅ long, arising at an extremely acute angle, diverging only slightly from R₁; R₂₊₃ in a direct line with R₅; basal deflection of R₄₊₅ short, strongly arcuated, beyond cross-vein *r-m*, straight, parallel with R₂₊₃ to near the tip when it runs somewhat caudad; M weak, on a line with M₂ and Cu₁; deflection of M₁₊₂ almost as long as the cross-vein *r-m*; M₁₊₂ proximad of *m* longer than that portion beyond it, making cell 1st M₂ very elongate; Cu strong, Cu₁ about two-thirds as long as Cu₂; Cu₁ fuses with M just before the fork; 1st A very weak; 2nd A stronger, gently bisinuate; anal angle rather prominent.

Abdomen greyish on dorsum, pleuræ darker, blackish; sternum testaceous.

Holotype, ♂, Roger's Pass, British Columbia; July 30, 1908. (J. Chester Bradley, coll.)

Type in Cornell Univ. coll.

This species agrees with the other American species, *clausa* O. S. of California, in its possessing a median cross-vein. It differs in the entire absence of a stigmal spot. I have seen the types of *clausa* in Cambridge, thanks to the kindness of Mr. Henshaw, and find that that portion of R_1 , just underneath the stigma is bent caudad, and, beyond the stigma, regains its former level; no such condition exists in *astigmatica*.

Erioptera (*Mesocyphona*) *distincta* sp. nov.

Vertex variegated; mesonotum clear light grey; dorsal stripes rather broad, clear; pleural stripes very distinct, clear-cut; femora with two dark bands, excepting the middle pair which has one; wings greyish, spotted and dotted, on the veins and in the cells, with white.

♂, Length, 3.6—3.8 mm.; wing, 4.6 mm.

Head: palpi brown; antennæ light yellowish-brown; vertex with a large, clear grey, oval spot, surrounded by a brown border; the outer margins of the vertex, nearest the eyes, fawn-colored; occiput dark brown. Cervical sclerites pale yellow, dorsally with two dark spots.

Thorax: pronotum whitish, the scutellum interrupted medially with a dark pit; mesonotum, præscutum clear light grey, the lateral margins narrowly greyish; a brown stripe on either side, beginning near the caudal end of the pronotum, continuing backward; a brown stripe on either side of the grey median vitta. Pseudo sutural pits¹ elongate-oval, pale; the space anterior to this fovea is pale, fawn-colored; præscutal, or tuberculate, pits, distinct, black, separated from one another by a distance equal to one and one-half the diameter of one; these pits are located in the median ground stripe near the proximal edge of the dark dorsal stripes; scutum, greyish, the vittæ of the præscutum continued backward onto this; scutellum light yellowish-brown, darker anteriorly; post-notum grey, tri-vittate with dark brown. Pleuræ dark brown; a narrow yellowish-white pale stripe running from the lateral margin of the cervical sclerites, caudad; broadening out above the fore coxa and continuing to the wing basis; a broad, clear, silvery-white stripe, narrowest anteriorly, beginning back of the fore coxa, running back to the base of the abdomen; sternum clear grey. The pleura has the appearance of having three dark and two pale bands. Halteres, stem white, knob pale brown. Legs: fore and hind femur, yellow with a broad sub-basal, and a narrower, sub-apical, brownish-black ring; tibiæ and tarsi whitish; extreme tarsal segments darker; middle leg, similar, but femur has only the sub-apical dark band.

Wings greyish, browner on the cephalic half, with numerous white spots and dots, these largest along the costa and on the cord; the cells are speckled with numerous fine dots.

Abdomen light brownish-yellow; a broad, brown, median stripe.

Holotype, ♂, Highrolls, New Mexico; May 31, 1902. Paratypes, 3 ♂'s; Highrolls, New Mexico; May 31, June 2, and June 10, 1902.

Types in coll. Acad. Nat. Sci. Phil.

This species differs from its nearest ally, *caloptera* Say, in its very clearcut pattern of coloration, clear grey with distinct pleural stripes, not yellowish with indistinct pleural stripes, etc.

Trimicra pygmæa sp. nov.

Small; brown; basal half of antennæ yellow, remainder brown; wings greyish with a short pubescence in all the cells.

♀, length, 3.2 mm.; wing, 3.5 mm.

Head: rostrum and palpi dark brown; antennæ, basal seven segments light yellow, terminal segments dark brown; front, vertex and occiput dark brown.

Thorax: dark brown, the lateral margin of the mesonotal præscutum dull yellowish; scutum, scutellum and post-notum dark brown, dark stripes not evident; pleuræ dark brown, more yellowish near the dorsal margin. Halteres yellow. Legs: coxæ and trochanters yellowish-brown; femora, tibiæ and tarsi brown.

Wings: hyaline with a slight greyish tinge; stigma indistinctly grey; veins brown, R more yellowish. Wing covered in all the cells with a thick short pubescence. Venation: (See fig. 3) Sc₂ retracted far back from the tip of Sc₁; Rs leaves R₁ at an acute angle; fork of R₂₊₃ deep, R₂₊₃ being a little shorter than the basal deflection of Cu₁; cross-vein *r* just beyond the fork of R₂₊₃ and far removed from the tip of R₁. Abdomen: dark brown; in the ♀ with the valves of the ovipositor rather short, yellow.

Holotype: ♂, Woodworth's Lake, Fulton Co., N. Y. (alt. 1660 ft); Aug. 22, 1910 (Alexander, coll.). Allotype; ♀, with the type. Paratypes: ♀, Wooster, Ohio; Sept. 20, 1911, on grass-lands. (Houser, coll.) In coll. John Houser. ♂ Coy Glen, Ithaca, N. Y.; May 28, 1912; (Alexander and Sheffield.)

The types are mounted in balsam, in the author's collection. Related to *T. anomala* O. S. but much smaller and quite differently colored; Mexican specimens which I have determined as *T. anomala* may, or may not, be conspecific with *T. pilipes* Fabr. of Europe (Compare Osten Sacken, Western Dipt., p. 200.) If so, it is easily separated from *pygmæa* by its non-pubescent wings.

¹I have applied the term '*pseudosutural pits*' to the deep impressions on the antero-lateral margins of the præscutum existing in many Tipulidæ (*humeral pits* of Osten Sacken). The '*double dots*' of Osten Sacken are spoken of above as the '*tuberculate pits*.'

Limnophila laricicola sp. nov.

Small; antennæ of the ♂ elongate; color of the body light yellow; wings subhyaline.

♂, Length, uncertain, abdomen broken; wing, 5.4 mm.

Head: antennæ elongate, the segments indistinct, twisted, elongate-ovate, narrowed at the ends, brownish in color; front, vertex and occiput light brown, but discolored, and possibly different in fresh material.

Thorax: pronotum brown; mesonotum, præscutum brown on the anterior margin; a dark brown spot on the frontal third of the sclerite in a median position; remainder of the sclerite light yellow, sub-shining, with a sparse pale bloom; scutum and post-notum light yellow, the latter with an indistinct narrow brown median stripe; pleuræ yellow, darker near the dorsal margin. Halteres, stem pale, knob darker. Legs: coxæ and trochanters light yellow; remainder of the legs brown, rather darker outwards.

Wings: subhyaline, stigma indistinct, brown. Venation (See fig. 4): Sc rather long, extending to beyond the fork of Rs; cross-vein *r* at the tip of R₁; Rs short, less than M₁ or M₂ in length; R₂₊₃ rather long, as long as Rs, gently arcuated; R₂ rather oblique, cross-vein *r* near its middle; deflection of R₄₊₅ about as long as cross-vein *r-m*; petiole of cell M₁ moderately long, about three-fifths of cell M₁; basal deflection of Cu₁ beyond the middle of cell 1st M₂. Cell R₂ very acute at its proximal angle; cell 1st M₂ long and narrow.

Abdomen broken.

Holotype, ♂. Canada Lake, Fulton Co., N. Y.; June 20, 1911 (Alexander). Occurred in an extensive sphagnum bog, on vegetation growing underneath larch trees. (altitude 1550 feet)

Type in author's collection.

This species by its elongate antennæ in the ♂, is allied to *poetica* O. S. I thought that it was a small ♂ of this species until I saw the types in Cambridge. *Poetica* is conspicuously larger, with quite different antennal structure. In *laricicola*, the antennal segments are twisted, and the sutures between them indistinct, producing an appearance quite different from that which obtains in the male sex of *poetica*, *tenuipes*, *niveitarsis*, etc. Venationally, this new species differs from *poetica* in its longer R₂₊₃, shorter petiole to cell M₁, etc. Unfortunately my type, and only specimen, was recently accidentally damaged.

Eriocera albihirta sp. nov.

Antennæ short in the ♂; cell M₁ present; body densely clothed with long white hairs.

♂ Length, 15 mm.; wing, 15.6 mm.; antenna, 4.5 mm.

Fore leg, fem. 8 mm.; tibia, 10 mm.

Middle leg, fem. 9.2 mm.; tibia, 8.4 mm.

Hind leg, fem. 12 mm.; tibia 12.6 mm.

Head: rostrum and palpi dark brown; antennæ, first segment large, cylindrical, brown; remainder of antennæ black with black hairs. Front wide, the frontal tubercle not prominent; front, vertex and occiput, medium brown densely clothed with long pale hairs; a spot on the front just behind the base of the antennæ, paler, golden-yellow.

Thorax: mesonotal præscutum dark dull black without apparent stripes (though these may have been destroyed by some means or another), the entire sclerite densely clothed with elongated white hairs, very conspicuous; those on the dorsum darker and shorter, those on the lateral margin of the sclerite exceedingly conspicuous; scutum dull black; scutellum dark brown, also with numerous pale hairs; post-notum black. Pleuræ light grey with dense white hairs; the light color of the pleuræ renders it probable that the dorsum is grey with darker stripes, in living material. Halteres, stem light brown, knob darker brown. Legs: coxæ brown, with a grey bloom; trochanter brown; fore femora, basal half brownish-yellow; apical half dark brown, uniform throughout; tibia and tarsi dark brown; middle leg, femora with rather more than the basal half light-colored; hind leg, femora with only the extreme base yellowish.

Wings: subhyaline or light brown, more brownish near the veins; cells C and Sc brownish-yellow; stigma small, oval; veins brown. Venation: (See fig. 6); Sc extending beyond the fork of R_{2+3} ; R long, cross-vein r about one-half as long as that portion of R_1 beyond it; r before the middle of R_2 ; cell M_1 present. Venation almost exactly like the eastern *E. brachycera* O. S.

Abdomen: tergum uniform dark brown, the lateral margin pale yellowish, and provided with long pale hairs, these longest on the basal segments; hypopygium yellowish-orange; sternum more greyish.

Holotype: The labels read '22 California. No. 846. Coll. Hy. Edwards.' Probably from Marin Co.

Related to *E. brachycera* O. S. but darker and clothed with long pale hairs much longer than in *brachycera*. The basal segments of the antennæ in *brachycera* are very light yellowish-red, not brown; the front of *brachycera* in the vicinity of the tubercle is uniformly pale; the thoracic dorsum may or may not be similarly colored in the two species (see statement, above, concerning the condition of the thorax in *albihirta*). In *brachycera* the legs are much lighter-colored with narrow blackish tips to all the femora; in *albihirta* the femoral tips are uniform brown and very broad.

Eriocera fultpnensis sp. nov.

Antennæ short in both sexes; cell M_1 absent; body coloration dark brown; præscutum four-striped; wings light brown; cross-vein r far before the fork of R_{2+3} .

♂, Length, 9.6–10.2 mm.; wing, 9–10.4 mm.

♀, Length, 11.2–11.5 mm.; wing, 10.5–11.3 mm.

Head: palpi dark, blackish, rostrum much paler brown; antennæ short in both sexes; scapal segments dark above, reddish-yellow underneath; flagellar segments black. Front, vertex and occiput black with a grey pruinosity, most distinct behind the eyes.

Thorax: mesonotal præscutum light yellowish-brown with a dark brown stripe on either side of the paler median vitta, these stripes broadest in front, narrower behind, ending just before the suture; a shorter, curved, lateral stripe on the lateral edge of the sclerite, beginning just behind the pseudo-suture, continuing to the transverse suture; scutum, scutellum and post-notum blackish, scantily grey pruinose; pleuræ unicolorous greyish-black. Halteres, base of stem, pale, yellow; remainder of stem, and the knob, dark brown.

Legs: coxæ light brown; trochanters and basal three-fourths of the femora, light brownish-yellow; apical fourth of the femora, brown; in the fore-legs, the apical half of the femur is brown; tibia light brown, the tip black; tarsi brown.

Wings: veins dark brown; membrane rather uniformly tinged with light brown; stigma small, delimited externally by the radial cross-vein; extreme tip of the wing rather darker. Venation (See fig. 7): cross-vein r near the tip of R_1 , situated far before the fork of R_{2+3} ; R_2 much shorter than R_{2+3} ; cell M_1 absent; basal deflection of Cu_1 slightly before the fork of M .

Abdomen shiny black, including the large hypopygium; in the ♀, the valves of the ovipositor are likewise black.

Holotype, ♂, Sport Is; Sacandaga R; Fulton Co.; N. Y. June 28, 1911. (Alexander, coll.) Allotype, ♀, with the type. Paratypes, 5 ♂, 5 ♀, with the type.

Types in author's collection.

Nearest related to *E. fuliginosa* O. S. (East. U. S.), from which it is readily distinguished by the lack of a grey bloom on the thorax, the shiny jet black abdomen and genitalia, etc. In normal individuals of *fultonensis*, cross-vein r is far before the fork of R_{2+3} (See fig. 7). In rare instances, however, the cross-vein is much nearer to the fork though never quite at it. Specimens which I refer to *fuliginosa*, provisionally, show a venation similar to that described for the species (See fig. 8); the coloration is very dark, however, and comparison with the type may prove them to be novelties. *E. fultonensis* differs from *E. gibbosa* Doane¹ (Mich.) in the same venational peculiarity.

Eriocera cinerea sp. nov.

Cell M_1 absent; color of the thorax light grey; stripes on the mesothoracic præscutum indistinct; cross-vein r far beyond the fork of R_{2+3} .

♀, Length, 11.4 mm.; wing, 11.2 mm.

♀, Head: rostrum yellow; palpi yellowish-brown; antennæ, segments one

¹ Doane, Journ. N. Y. Ent. Soc.; vol. 8; p. 193; pl. 8, fig. 10. (1900)

and two, light orange-yellow beneath, light brown above; flagellar segments brown. Front and clypeus light orange-yellow; vertex and occiput light grey, more brownish medially, paler on the vertex behind the eyes, and on the genæ.

Thorax: prothorax, scutum dark brown with a grey bloom and prominent pale hairs; scutellum dark brown medially, the ends conspicuously orange-yellow. Mesothorax yellowish-grey, the præscutum with four very indistinct darker lines; the middle pair long, confluent or nearly so at their cephalic ends; lateral pair short, beginning behind the prominent rounded, black pseudo-sutural fovea; scutum and scutellum brown with a clear light grey bloom; post-notum dark brown. Pleuræ light grey; halteres, stem brownish-yellow, knob brown. Legs: coxæ and trochanters rich orange-yellow; femora light brownish-yellow, the extreme tip darker, brown; tibiæ, extreme base brown, remainder yellowish-brown, insensibly darker apically; tarsi brown.

Wings sub-hyaline or very pale brown; costal and subcostal cells light yellow; stigma ill-defined, yellowish-brown; veins brown. Venation (See fig. 9) Sc short, ending before the fork of R_{2+3} ; R_{2+3} slightly longer than that portion of R_2 before cross-vein r ; cross-vein r inserted near the tip of R_1 and far beyond the fork of R_{2+3} ; cell M_1 absent; cell 1st M_2 elongate.

Abdomen: tergum dark brown, the lateral margins of the sclerite broadly, the caudal margin narrowly, brownish-yellow; valves of the ovipositor brownish-orange; sternum greyish-brown.

Holotype. ♀, Boston, Massachusetts.

Type in author's collection.

Related to *fuliginosa* O. S. but head and thorax conspicuously grey, not brown; abdomen not uniform brown; cross-vein r situated far beyond the fork of R_{2+3} , etc. The female of *E. wilsoni* O. S. (East U. S.), of which I have seen the types in Cambridge, is unknown. This new species cannot be that sex of *wilsoni* because of its totally different body-color. *E. longicornis* Walker is quite a different species; its venation seems never to have been figured (The figure in Needham's 23rd Rep't of the N. Y. State Entomologist, is not *longicornis*, but *spinosa*.) so I include a drawing. (See fig. 10.)

Rhaphidolabis neomexicana sp. nov.

Cross-vein m of the wings absent; wings pearly-white with a distinct dark brown stigmal spot.

♀, Length, 5.4 mm. wing, 7.6 mm.

Head: rostrum and palpi dark brownish-black, antennæ black; head dark brown, sparsely grey pruinose. Thorax: mesonotal præscutum dark brown, very sparsely grey pruinose without distinct darker stripes, though rather deeper-colored medially; scutum, scutellum and post-notum dark brown with a faint grey

dust. Pleuræ dark brownish-black, grey-dusted. Halteres, stem pale, knob brown. Legs: coxæ brownish-yellow, more greyish anteriorly; trochanters brownish-yellow; femora and tibiæ uniform medium brown; tarsi gone.

Wings: hyaline or sub-pearly; a prominent elongate dark brown stigmal spot; veins brown, the longitudinal veins rather paler at the wing-root. Venation: (See fig. 5): Sc long extending beyond the fork of R_{2+3} ; R_1 long, cross-vein r very near its tip; R_s short, oblique; R_{2+3} very short, only a little longer than cross-veins r or $r-m$; cross-vein r beyond the middle of R_2 ; M_1 about as long as R_s ; no cross-vein m ; basal deflection of Cu_1 beyond the fork of M .

Abdomen: dark brown, the pleural sutures lighter brown; valves of the ovipositor light colored, brownish-yellow.

Holotype, ♀, Beulah, New Mexico: June 29, 1902.

Type coll. Acad. Nat. Sci. Phil.

Most closely allied to *R. tenuipes* O. S. of the Eastern United States, but differs in its wing coloration, apparent lack of thoracic stripes, dark stigmal spot and venational details, *i. e.*, more oblique R_s , shorter and more divergent M_1 and M_2 , etc.

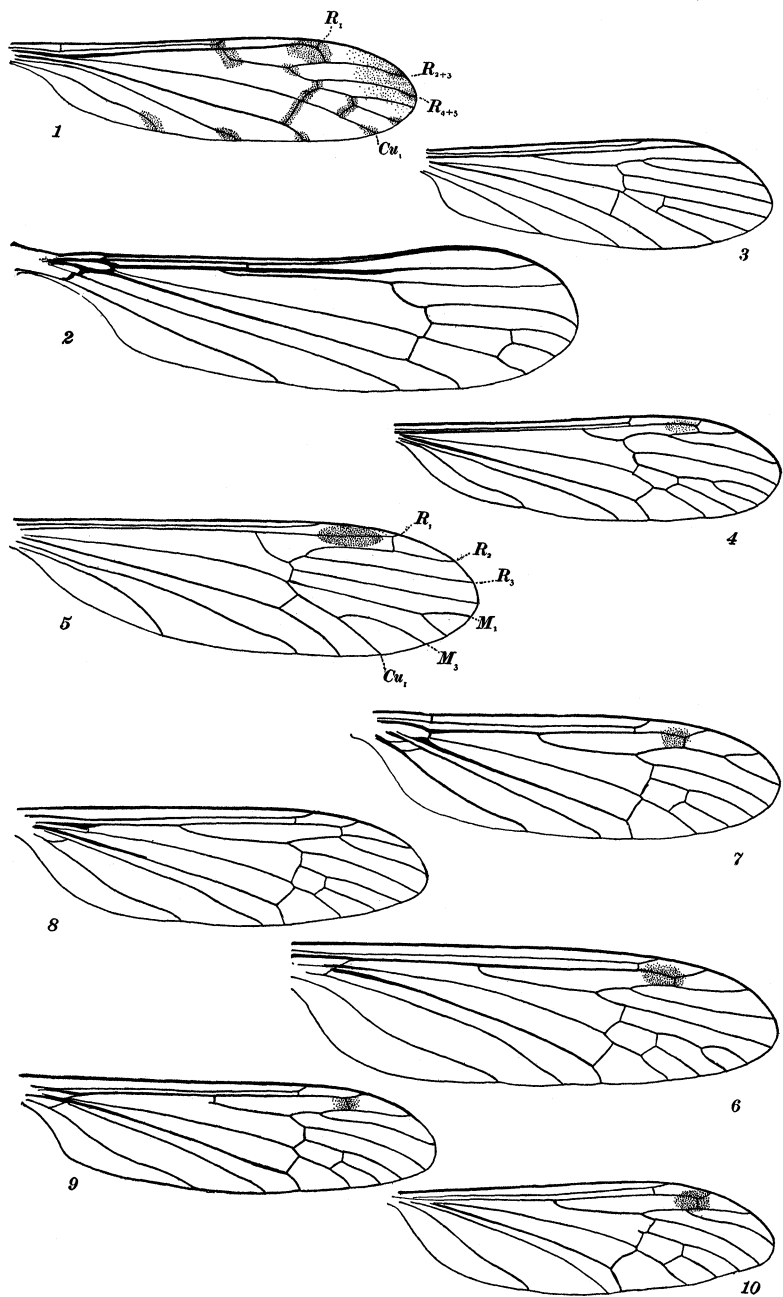
R. debilis Will.¹ appears to be a *Tricyphona* by its venation (R_{2+3} fused and R_4 and R_5 separate). It agrees most closely with *T. vitripennis* Doane.

The members of this tribe, *Pedicini*, require careful study at the hands of some competent student who has access to an abundance of Western material. The West appears to be the center of distribution for the members of this group, which, in other parts of the continent, are represented only by a few species, or else, as in the tropics, quite lacking. I surmise that such a study, based on sufficient material, would show congenerousness of *Plectromyia* O. S. and *Rhaphidolabis* O. S., with *Dicranota* Zett.

Explanation of the Plate 13.

1. Wing of *Limnobia argenteiceps*, sp. n.
2. “ “ *Elliptera astigmatica*, sp. n.
3. “ “ *Trimicra pygmaea*, sp. n.
4. “ “ *Limnophila larvicola*, sp. n.
5. “ “ *Rhaphidolabis neomexicana*, sp. n.
6. “ “ *Eriocera albihirta*, sp. n.
7. “ “ *E. fullonensis*, sp. n.
8. “ “ *E. fuliginosa* O. S. (or related species)
9. “ “ *E. cinerea*, sp. n.
10. “ “ *E. longicornis* Walker.

¹ Williston, Kans. Univ. Quart.; vol. 2; p. 62; Oct. 1893.



Alexander—New Nearctic Tipulidae



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