

NEW AMERICAN DIPTEROUS INSECTS OF THE FAMILY PIPUNCULIDÆ

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While residing in Medicine Hat, Alberta, last autumn, I collected a number of specimens of Diptera, which I have turned over to the United States National Museum. Among them were some specimens of Pipunculidæ, which an examination proved were unrepresented in the collection and were also undescribed. It has always been my desire to make my specimens more useful by having them identified before turning them over to any museum, and I am taking this opportunity to describe the three new species of *Pipunculus* from Alberta, Canada, together with some of those undescribed in the collection of the United States National Museum from other parts of America.

I may mention here that I consider that Dr. Garry de N. Hough was mistaken in supposing that *reipublicæ* Walker is identical with *fuscus* Loew, which view was also adopted by Cresson. It is far more likely, and I believe it to be, the species described by Cresson as *atramontensis* Banks. Reference to Walker's original description discloses the fact that he describes it as having the "abdomen brassy black, thinly clothed with white down, poisers pale yellow" and "legs tawny with a black band at base of each thigh."¹ In the original description of *fuscus* Loew the legs are given as having the femora black except at bases and apices, which is very different from Walker's interpretation if he had the same species before him. In the case of *atramontensis* Banks, there is a spot (which may be a more or less complete ring in some cases) at the base of each femur, which is what Walker very probably had before him in *reipublicæ*. This is the only American described species with that peculiar coloration.

PIPUNCULUS OCCIDENTALIS, new species.

Male.—Eyes rather widely separated, the frontal stripe wider at midway between antennæ and ocelli than frons at above antennæ, no raised central frontal ridge, frons silvery, the silvering gradually

¹ Walker, *List of Dipt.*, vol. 3, 1849, p. 639.

disappearing on upper part of lower half, upper half of frontal stripe polished, occiput shining black above, silvered on lower portions, antennæ black, third joint elongate and sharply acuminate, whitish on apical acuminate portion, arista swollen at base, brownish black, thorax gray-dusted, particularly on margins, very few hairs present, pleuræ distinctly gray-dusted, scutellum shining except at base, a few very weak marginal hairs present, abdomen ovate, shining, except on lateral margins of all segments, first segment very short, gray dusted dorsally, comb black, bristles not very long nor numerous, hypopygium viewed from above nearly as long as fifth segment, symmetrical, only the terminal lobe visible, ventral organs concealed; legs black, extreme apices of femora, apices and bases of tibiæ and tarsi yellowish, no noticeable bristles present, the pubescence short and not particularly thick nor noticeable, tibiæ and femora more or less gray dusted; wings grayish, inner cross vein at just beyond end of first vein, and at rather less than one-third from base of discal cell, stigma colored; halteres fuscous.

Length, 2 mm.

One male, Medicine Hat, Alberta, Canada. October, 1911, (Malloch).

Type.—Cat. No. 14800, U.S.N.M.

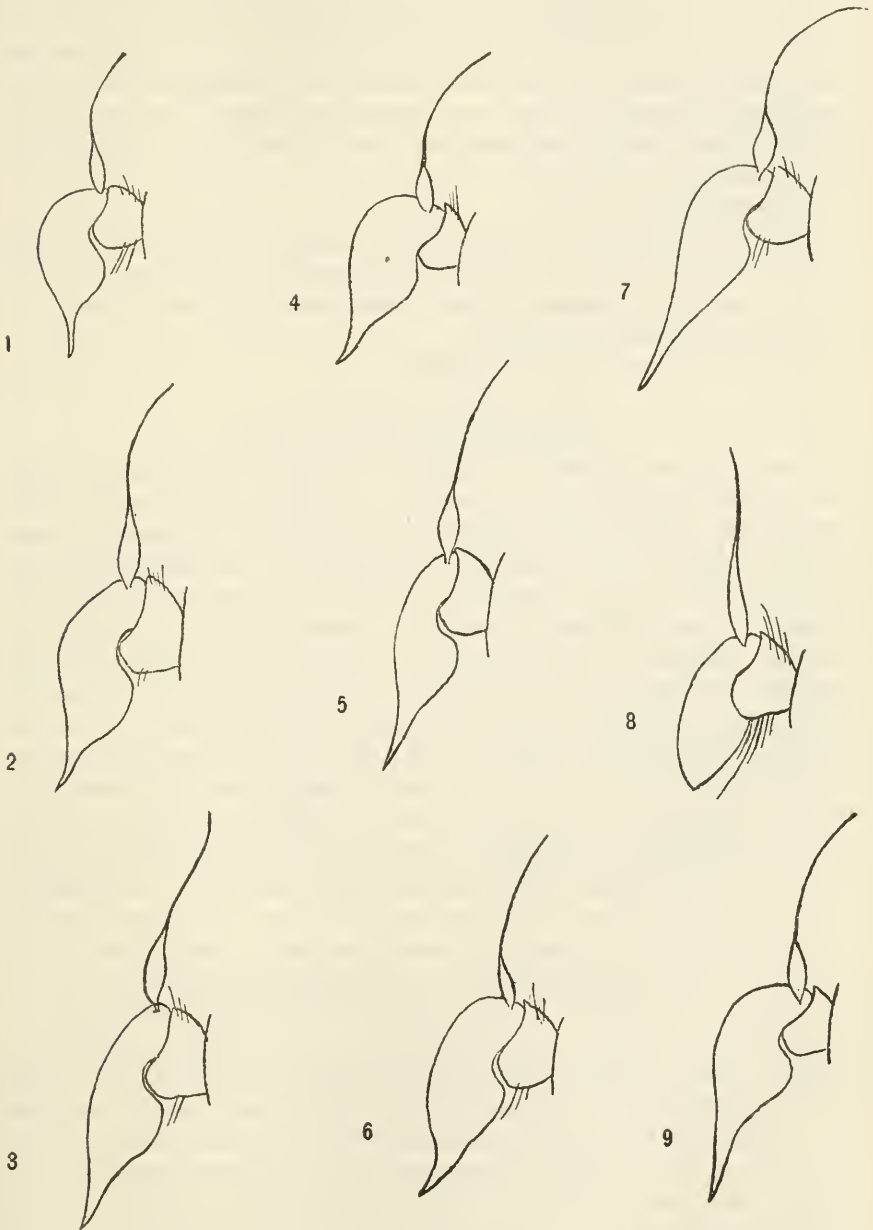
Allied to *affinis* Cresson, *loewii* Kirby, and *dubius* Cresson, but in the descriptions of these species by Cresson¹ there are many distinctions from the above, one of which lies in the distinctly separated eyes in the male of this species.

PIPUNCULUS TOWNSENDI, new species.

Male.—Eyes confluent for a longer distance than the length of the frons, frons without distinct silvering, face silvered, as broad as frons at above antennæ, nearly parallel-sided, antennæ black-brown, third joint not twice as long as broad, very little acuminate at apex, arista lanceolate at base and distinctly tapering for the greater part of its length, occiput much less swollen than in most of the species in the group, and descending rather abruptly behind vertex, silvered on lower portions, but not above, thorax shining black, with distinct white hairs which are longest and most numerous on the lateral margins, humeri yellow; pleuræ brown, gray-dusted; scutellum shining black, without distinct hairs; abdomen shining black, the bases of all segments except first with broad, dull, velvety brown fasciæ, that on fifth segment produced centrally on posterior margin, fifth segment gray-dusted low down on lateral margin, second segment with a comb of numerous long, soft pale hairs, second segment narrower than first and tapering posteriorly, not more than two-thirds as wide at apex as third segment at apex, third segment one-third

¹ Trans. Amer. Ent. Soc., vol. 36, 1910, pp. 282-285.

broader at apex than base, fourth and fifth of equal width with apex of third, all segments with distinct, soft, white hairs, more distinct



ANTENNAE OF 1, *PIPUNCULUS TRICHÆTUS*; 2, *P. STIGMATICA*; 3, *P. CAUDELLI*; 4, *P. METALLESSENS*; 5, *P. EXILIS*; 6, *P. INCONSPICUUS*; 7, *P. OCCIDENTALIS*; 8, *P. TOWNSENDI*; 9, *P. TROCHANTERATUS*.

and longer laterally, hypopygium rather more than half as long as fifth segment, with a distinct depression to right, ventral processes

indistinct, femora black-brown except at extreme apex, tibiæ yellow, tarsi yellow, except bases of joints 2-4 and all of last joint which are brown, all femora with a double row of short blunt spines on apical third of ventral surfaces, mid and hind femora with long, soft, pale hairs on posterior surfaces and the femora with a group of bristles on same surface at apical third; wings clear, stigma distinct, third and fourth costal divisions of about equal length, inner cross vein slightly before end of auxiliary vein and at less than one-third from base of discal cell; halteres yellow.

Length, 4 mm.

One male, White Mountains, Rio Ruidoso, New Mexico, 6,500 feet, July 30 (collector, C. H. T. Townsend).

Can not be confounded with any other described species, because of the peculiarly shaped abdomen.

Type.—Cat. No. 14801, U.S.N.M.

PIPUNCULUS STIGMATICA, new species.

Male.—Eyes confluent for as long as length of frons, frons silvery, face as broad as frons above antennæ, parallel-sided, silvery, antennæ black, third joint elongate and distinctly acuminate, silvered, arista elongate oval at base, and shining black, occiput silvered, less distinctly so on upper portion, thorax silvery gray-dusted on anterior margin, brownish dusted on disk, humeri brownish, pleuræ and lateral margins of thorax distinctly whitish dusted, thoracic hairs weak, scutellum dusted at base, the usual hairs very indistinct; abdomen subopaque, first segment gray-dusted dorsally, lateral comb represented by very numerous, weak, pale hairs, other abdominal segments without distinct dusting but all with scattered short pale hairs, longer and more numerous laterally, hypopygium without cleft, rather longer on right side, ventral processes small, inconspicuous, yellowish; legs black, extreme apices of femora and bases of tibiæ yellow, tarsi tawny, claws, except at apex, and pulvilli yellow, no distinct bristles, those on ventral surface of mid femora very short and inconspicuous, tibiæ with pubescence, especially the ventral surface of hind pair; wings clear, costa thickened slightly at from end of auxiliary vein to end of first vein, stigma dark brown but very short, and looking like a swelling of costa, third division of costa but little more than half as long as fourth, small cross vein at distinctly beyond end of auxiliary and at less than one-third from base of discal cell, outer cross vein at three-fourths its own length from end of fifth vein, outer portion of fourth vein not much bent; halteres brown.

Length, $3\frac{1}{2}$ mm.

One male, Kaslo, British Columbia, 16-7-'03 (A. N. Caudell).

Allied to *P. loewii*, Kertesz, but easily separable by the characters given above.

Type.—Cat. No. 14802, U.S.N.M.

PIPUNCULUS EXILIS, new species.

Male.—Eyes distinctly separated, the frontal stripe nearly as wide as frons above antennæ, glossy black with a raised central ridge which projects wedge like into the upper half of the silvered frons, face broader than frons at above antennæ, silvered, antennæ with basal joints black, third joint elongate acuminate, the apical acuminate portion rather longer than the thick basal portion, the whole joint with silvery pubescence which gives it, especially toward the tip, a white shining appearance, arista swollen and shining black at base; occiput silvered on lower portion but shining black on upper third and without any silvering at the vertex; thorax with a few pale scattered hairs, distinctly shining, no noticeable dusting anywhere, pleuræ distinctly-gray dusted; abdomen shining, elongate, slightly broader apically, first segment entirely gray-dusted, the lateral comb of hairs long and yellowish, remaining segments only indistinctly gray-dusted low down on lateral margins, hypopygium small, symmetrical, viewed from above only about one-fourth as long as fifth segment, a distinct depression on right side, ventral processes small and inconspicuous; legs black, only the extreme apices of femora and bases of tibiæ yellowish, tarsi paler, noticeably so beneath except the terminal joint, all tibiæ with pale pubescence, the ventral surfaces of hind tibiæ very thickly covered with short pale hairs, a few pale hairs on ventral surface of hind femora at apical third, no noticeable bristles anywhere; wings clear, inner cross vein distinctly before end of first vein and about one-fifth from base of discal cell, outer cross vein about one-half its own length from end of fifth vein, halteres with stalk brown and knob yellow.

Length, 3 mm.

One male, Medicine Hat, Alberta, Canada (Malloch).

Type.—Cat. No. 14803, U.S.N.M.

Allied to *subvirescens* Loew, but this has the eyes in contact; *subnitens* Cresson, which has the fourth and fifth segments noticeably gray-dusted, but not the first especially, and *scoparius* Cresson, which has the lateral comb on first segment long and black.

PIPUNCULUS INCONSPICUUS, new species.

Female.—Frons widest at middle, where it is about one and one-half times as broad as at above antennæ, nearly as broad at vertex as at antennæ, silvered at lower half, dull black above, face dis-

tinctly silvered, narrower than frons and of nearly uniform width. Occiput silvered below but on upper portion black, antennæ black, third joint elongate and distinctly acuminate, silvered, especially apically, arista swollen and glossy black at base; thorax slightly gray-dusted, with scattered pale hairs, humeri whitish, with distinct, long, downy, pale hairs, pleuræ gray-dusted, scutellum gray-dusted and with very few weak hairs, squamæ white; abdomen short and broad, tapering toward apex, subopaque, first segment gray-dusted laterally, and with distinct lateral comb, other segments only indistinctly gray-dusted low down laterally, a few scattered hairs in the last three segments, ovipositor long, reaching to second ventral segment, distinctly longer than its base; legs black, only knees, bases of tarsi, claws and pulvilli yellowish, no distinct leg bristles and but little pubescence present, wings clear, inner cross vein distinctly beyond end of first vein and middle of discal cell, outer cross vein slightly shorter than last portion of fifth vein; halteres with brown pedicel and whitish yellow knob.

Length, barely 2 mm.

One female, Medicine Hat, Alberta, Canada, October, 1911 (Malloch).

Type.—Cat. No. 14804, U.S.N.M.

Very close to *subnitens* Cresson, which is represented by a female from Victoria, Texas, in collection. This latter stood as *aridus* Williston, in collection, but it agrees with Cresson's description of *subnitens*. The above species differs from that of Cresson in having no distinct bristles at base of fore femora, in venation, and in color of legs.

PIPUNCULUS TRICHÆTUS, new species.

Female.—Frontal stripe broadest at middle, distinctly silvered on lower two-thirds, a distinct raised central tuberculate central point on lower third of frons, face nearly as wide as frons at above antennæ at upper edge, widening toward mouth edge, antennæ black-brown, third joint with its apical third forming an elongate acuminate point, grayish on acuminate portion, arista swollen at base, elongate oval, occiput silvered below and on sides; thorax opaque, distinctly gray pollinose anteriorly, humeri brown, lateral margins of thorax with several long pale hairs in front of wing base, pleuræ distinctly gray pollinose, scutellum shining black, two or three weak, black hairs on posterior margin, postnotum gray pollinose; abdomen subopaque, short and broad, basal segment gray pollinose, the lateral comb consisting of numerous long black hairs, second segment nearly entirely gray pollinose, other segments with very distinct lateral gray pollinose spots forming shortly interrupted hind marginal fasciæ, only a few very short pale hairs scattered over abdomen, ovipositor of medium

length, reaching to apex of second segment, as long as its globose base; legs black, trochanters, bases and extreme apices of femora, bases of tibiæ, and tarsi yellow, remainder of tarsi brown, all legs distinctly gray pollinose, especially the femora posteriorly, mid femora with distinct white hairs posteriorly, femoral bristles short but distinct, all tibiæ and tarsi with distinct, pale, strong hairs, hind tibiæ with a slight bend, thickened on apical two-thirds, three very distinct, long, pale, serial bristle-like hairs on antero-dorsal surface at middle; wings clear, stigma brown, the small cross vein at slightly beyond end of auxiliary vein and at two-fifths from base of discal cell, third and fourth costal divisions of nearly equal length, outer cross vein at nearly its own length from end of fifth vein; halteres brown.

Length, $2\frac{1}{2}$ mm.

One female, Mount Washington, New Hampshire (Mrs. Slosson).

Type.—Cat. No. 14808, U.S.N.M.

Easily known by the hind tibial bristles from any other species.

PIPUNCULUS TROCHANTERATUS, new species.

Male.—Eyes touching for a short space, less than half the length of frons, frons silvered, face silvered, as wide as frons at above antennæ, parallel-sided, antennæ black, paler and rather whitish toward tip of third joint, third joint acuminate, more than twice as long as broad at broadest part, arista swollen at base, glossy brown, occiput black above, slightly silvered on lower portion; thorax shining, with two rows of weak hairs on disk, humeri whitish yellow, with several long hairs, pleuræ slightly gray pollinose, a rather distinct gray pollinose patch on lateral margin of thorax anterior to base of wing, scutellum shining, nearly bare; post-notum very distinctly gray pollinose laterally; abdomen black with a slight bronze tinge, subshining, first segment very short dorsally, lateral margins whitish, the lateral comb consisting of long pale hairs, fifth segment slightly gray pollinose laterally, last two segments with scattered hairs, those on the fifth rather numerous and strong, hypopygium in type specimen exerted and contorted so that it is impossible to state what its normal appearance is, but it is entirely black and devoid of long hairs; legs black, extreme apices of femora, bases of tibiæ and tarsi yellow, last joint of tarsi brown, hind trochanter with a distinct tubercule on the postero-ventral surface, the femora with 2-3 weak bristles at base, fore and mid femora normal, hind femora much thickened on apical half, with a few hairs on antero-ventral surface, hind tibiæ bent, thickened ventrally at middle, then distinctly hollowed ventrally before apex, pubescent on ventral surface at near tip, hind metatarsi thickened; wings clear, third section of costa less than one-third the length of fourth, small cross vein at slightly beyond end of

first vein and middle of discal cell, outer cross vein at two-thirds its own length from tip of fifth vein, third and fourth veins parallel for about one-third the length of last section of fourth vein; halteres entirely yellow.

Length, $2\frac{1}{2}$ mm.

One male, Kaslo, British Columbia (R. P. Currie).

Allied to *unguiculatus* Cresson.

Type.—Cat. No. 14806, U.S.N.M.

PIPUNCULUS METALLESCENS, new species.

Male.—Black; eyes touching for as long a space as half the length of frons, frons silvered, face silvered, as broad as frons at above antennæ, parallel-sided, antennæ black-brown, third joint barely twice as long as its greatest breadth, shortly but sharply acuminate and not distinctly paler at apex, arista with glossy brown, oval swelling at base; occiput very distinctly silvered, except just behind ocelli; thorax gray brown pollinose, whitish on the lateral margins, nearly bare, pleuræ yellow, with short pale hairs, scutellum glossy black except at base, and almost bare, post-notum distinctly gray pollinose especially laterally; abdomen short and broad, with a distinct greenish luster, lateral comb on first segment strong and black, all segments with scattered short hairs, hypopygium with distinct cleft to right, viewed laterally longer than fifth segment, but from above only half as long, ventral processes concealed; legs black, trochanters slightly, extreme apices of femora, basal third and extreme apices of tibiæ, and all tarsi except last joint yellowish, no large bristles anywhere, those on mid femora on apical half of ventral surfaces very small; wings clear, third division of costa above one-half as long as fourth, small cross vein at opposite midway between end of first and second veins and distinctly beyond middle of discal cell, outer cross vein at nearly its own length from end of fifth vein; halteres yellow.

Length, 2 mm.

One male, Chinandega, Nicaragua (C. F. Baker).

Belongs to the *subvirescens* group.

Type.—Cat. No. 14807, U.S.N.M.

PIPUNCULUS CAUDELLI, new species.

Male.—Eyes separated by a narrow, black frontal stripe which at its narrowest part is about one-third as broad as frons at above antennæ, the raised central ridge narrowly intersecting the upper half of the silvered frons, face broader than frons, silvery, widening toward mouth, antennæ black except the apical half of third joint which tapers to an acuminate apex and is yellowish white, occiput silvered except above and the ocellar region which is shining black,

thorax shining black, the usual hairs very indistinct, pleuræ gray-dusted, scutellum with distinct pale pubescence, longest and most distinct on posterior margin; abdomen shining black, broader toward apex, first segment very short, dorsally only one-fourth as long as second, silvered on lateral margins, lateral comb pale, all segments, but especially the fourth and fifth, with scattered short hairs which are most distinct on sides, hypopygium short, symmetrical, with a large central depression, ventral process exposed, yellow; legs yellow, femora black except at extreme apex, all tibiæ with a ring-like mark on middle which does not extend completely over dorsal surface, and extends to about one-third the length of tibiæ, all tibiæ with distinct, short, pale pubescence, especially noticeable on hind pair which are rather bent, hind femora with only a few pale short hairs, no noticeable bristles anywhere; wings clear, small cross vein before the end of auxiliary vein, and at about one-seventh from base of discal cell, outer cross vein nearly its own length from end of fifth vein; halteres yellow except at extreme base.

Length, $3\frac{1}{2}$ mm.

Two males, Kaslo, British Columbia, July 16, 1903 (A. N. Caudell).

Near to *flavomaculatus* Hough, but the abdomen is not anywhere yellow as in that species. Easily separated from any of the other species in the *subvirescens* group by its neuration, the inner cross vein being very near to the base of the discal cell.

Type.—Cat. No. 14805, U.S.N.M.