

New Nearctic crane-flies in the United States national museum (Diptera, Tipulidae)

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Insecutor Inscitiae Menstruus

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NEW NEARCTIC CRANE-FLIES IN THE UNITED STATES NATIONAL MUSEUM

(*Diptera, Tipulidæ*)

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The following species of crane-flies are for the most part contained in the collection of the National Museum. The species will be figured in reports by the author now in course of completion. I am indebted to Mr. Frederick Knab for the privilege of studying the crane-flies of the National Collection.

A number of the names of crane-flies of the genus *Tipula* of the eastern United States and Canada are preoccupied by earlier names in this genus and are renamed below. There is considerable difference of opinion as to what constitutes a preoccupied name, but the rules of the nomenclatural codes are clear upon this point, and if we are ever to have stability we must conform to these rules. In the International Code of Zoological Nomenclature (1905), article 35, is stated, "A specific name is to be rejected as a homonym when it has previously been used from some other species of the same genus." The Entomological Code (1912), paragraph 61, is as follows: "In case of primary homonyms the later name shall be changed, no matter to what genus they are now referred." The papers cited below are Gmelin's "System"² and de Villers' "Entomologia."³

¹Contribution from the Entomological Department of Cornell University.

²Gmelin. Systema Naturæ von C. Linnæus. Edition 13, Tom. 1, pars. 5, 1792.

³de Villers, Carolus. Caroli Linnæi Entomologia Faunæ Suecicæ descriptionibus aucta, vol. 3, 1789.

Tipula illinoiensis, n.n., for *T. versicolor* Loew (1863), non *T. versicolor* Gmelin (1792), p. 2819.

Tipula ignota, n.n., for *T. discolor* Loew (1863), non *T. discolor* Gmelin (1792), p. 2819.

Tipula iroquois, n.n., for *T. cincta* Loew (1863), non *T. cincta* Gmelin (1792), p. 2820.

Tipula labradorica, n.n., for *T. tessellata* Loew (1863), non *T. tessellata* de Villers (1789), p. 397.

Tipula senega, n.n., for *T. pallida* Loew (1863), non *T. pallida* de Villers (1789), p. 389.

Tipula ultima, n.n., for *T. flavicans* Fabricius (1805), non *T. flavicans* de Villers (1789), p. 403.

***Stygeropis unimicra*, new species.**

Male.—Length, 10 mm.; wing, 12.3 mm.

Palpi dark brownish black. Frontal prolongation of the head short, light gray, the nasus long, slender. Antennæ rather long, the basal segments dull yellow soon passing into dark brown; the third to fifth segments are produced apically to give a subserrate effect; terminal segment tiny, attenuated. Head dull, dusky gray, narrowly lined with black, clearer on the sides of the occiput; a shallow depression behind the antennal bases; front produced cephalad between the antennal bases as a slender tongue.

Mesonotal præscutum dull grayish brown with three dark brown stripes, the middle one of which is indistinctly bisected by a gray line; scutum with the lobes gray marked with brown; scutellum and postnotum gray. Pleura clear light gray with the dorso-pleural membranes brownish yellow. Halteres short, light yellow, the knobs elongated, brown. Legs with the coxæ pale, densely gray pruinose; trochanters yellow; femora dull yellow, the apical half browner; tibiæ dull yellow passing into brown toward the tip; tarsi brown. Wings brownish gray, the costal region slightly brighter; stigma brown; veins dark brown; a broad vitreous band before the cord extending into the base of cell M_4 .

Abdominal tergites dark brown with a sparse gray bloom; segments 3 to 9 with the caudal margin narrowly ringed with silvery yellow; lateral margins of the segments almost white; sternites light gray, broadly ringed with paler caudally. Hy-

hypopygium with the ninth tergite very reduced, hidden, the lateral margins pale, the median area dark brown, shiny; eighth sternite unarmed.

Holotype, male, Colorado. (From the collection of C. V. Riley.)

Type, Cat. No. 19979, U. S. Nat. Mus.

Tipula satyr, new species.

Male.—Length, 13 mm.; wing, 15.3 mm.

Palpi short, dark brown. Frontal prolongation of the head short, light brown, the dorsal surface light gray, the nasus prominent. Antennæ with the first segment brown; the second segment brighter, more yellowish; flagellum with the segments almost unicolorous, dark brown, the basal enlargement a little darker. Head light gray with a distinct frontal tubercle that is indistinctly impressed medially.

Mesonotal præscutum very dull yellow with three broad dark brown stripes; pseudosutural foveæ low down on the lateral margin of the sclerite; thoracic interspaces with abundant long pale hairs; scutum, scutellum, and postnotum dull gray. Pleura gray, the dorso-pleural membranes more yellowish. Halteres brown, the knobs darker. Legs with the coxæ light gray provided with abundant long pale hair; trochanters brownish gray; femora yellow at the base, soon passing into dark brown; tibiæ and tarsi brown. Wings light brownish gray, the costal cells similar, not brightened; stigma brown; veins dark brown; a broad vitreous band before the cord extending into the base of cell M_4 .

Abdominal tergites hairy, dull orange with three brown stripes, the lateral pair clearer; segments 2 to 8 broadly ringed with silvery around the caudal margin, broadest and clearest on the second to fourth segments. Hypopygium with the ninth tergite having the lateral angles prominent, obliquely truncated, the outer lobe subacute, the inner lobe much shorter, blunt; the angles separated by a double median notch; from the outer margin of the base of the produced angles arises a prominent, acute, conical, orange-colored horn that is directed

caudad; ninth pleurite and sternite largely concealed by the prominent eighth sternite; eighth sternite prominent, the dorsal surface with a flesh lobe on each side near the apex, densely white pubescent, bearing at the apex sharp, reddish spines.

Holotype, male, Colorado. (From the collection of C. V. Riley.)

Type, Cat. No. 19980, U. S. Nat. Mus.

Tipula pleuracicula, new species.

Male.—Length, 11.3 mm.; wing, 13 mm.

The type is teneral and the colors are not deep. Palpi light brown. Frontal prolongation of the head rather short, dull yellow, the extreme base with a slight gray bloom; the nasus prominent, upturned. Antennæ dull yellow, the flagellar segments probably darkened at the base in fully-colored specimens. Head light gray with a delicate interrupted median line.

Thoracic dorsum dull yellow without distinct darker stripes. Pleura with a sparse grayish bloom. Halteres long, slender, light brown, the base more yellowish. Legs with the coxæ and trochanters dull yellow; femora yellowish brown; tibiæ and tarsi brown. Wings subhyaline; costal region and the stigma darker; veins brown.

Abdomen brownish yellow, the segments narrowly ringed with silvery around the caudal margin. Ninth tergite of the hypopygium broad, conspicuous, the caudal margin subtransverse, the sublateral angles prominent, short, directed caudad and strongly ventrad, the apices truncated and sparsely toothed; ninth pleurite small, complete, produced caudad as a long needle-like point; eighth sternite prominent, the caudal margin almost straight across and with a broad fringe of coarse golden hairs.

Holotype, male, Colorado. (From the collection of C. V. Riley.)

Type, Cat. No. 19981, U. S. Nat. Mus.

Tipula stalagmites, new species.

Male.—Length, 14 mm.; wing, 15.5 mm.

Palpi with the first segment dull yellow; the second segment

light brown; the two distal segments dark brown. Frontal prolongation of the head rather elongated, light brown, the nasus prominent. Antennæ with the first two segments light yellow; the third segment light brown; remainder of the antennæ black, the segments slightly excised. Head pale brownish yellow with a sparse blue-gray bloom, less distinct on the sides of the occiput; an indistinct brown median vitta.

Pronotal scutum yellowish gray with a brown median spot. Mesonotal præscutum light gray with four narrow dark brown stripes, the middle pair divided by a subequal vitta of the ground-color and beginning behind the anterior margin of the sclerite; a yellowish spot before the pseudosutural foveæ; scutum with the lobes gray, indistinctly marked with brown; scutellum pale brown, the postnotum gray, both with a very indistinct median brown vitta. Pleura with a light gray bloom, the dorso-pleural membranes and a blotch before the base of the halteres yellow. Halteres yellowish brown, the knobs darker. Legs with the coxæ light gray; trochanters dull yellow; femora and tibiæ yellow, the apices indistinctly darkened; tarsi brown. Wings subhyaline to grayish, the costal region more yellowish; stigma indistinct; veins dark brown; a vitreous band before the cord extending into the base of cell M_4 .

Abdominal tergites dull yellow, indistinctly trivittate with brown, the sclerites narrowly ringed with yellowish silvery on the caudal margin; ninth tergite light brown narrowly margined with yellow; sternites dull yellow with the median area darker, this pattern broadest on the terminal sclerites. Hypopygium with the ninth tergite large, transverse, with short, subacute, lateral lobes, the caudal margin with three notches, the median one shallowly concave, the lateral notches deeper, subrectangular; ninth pleurite complete; ninth sternite deeply notched medially beneath, the base of the notch on either side with a sharp, elongated appendage that is directed dorsad; eighth sternite with prominent fleshy lobes directed proximad, provided with finger-like projections that almost meet on the median line beneath; the caudal margin with a median submembranaceous shield bearing a weak tuft of pale hairs.

Holotype, male, Dripping Spring, Organ Mountains, New Mexico, April 23, 1898 (T. D. A. Cockerell) ; at light.

Type, Cat. No. 19982, U. S. Nat. Mus.

This species suggests *T. subtilis* Doane, *T. flavicoma* Doane, and related species, but is readily separated by the structure of the male genitalia.

Tipula rotundiloba, new species.

Male.—Length, 12 mm. ; wing, 14 mm.

Palpi dark brown. Frontal prolongation of the head dull yellow with a sparse grayish bloom ; nasus short but distinct. Antennæ with the three basal segments yellow, the third a little darkened at the tip ; flagellar segments quite elongated, very slightly excised beyond the basal enlargement, dark brown passing into brownish yellow at the tip of each segment, the terminal segments more uniformly dark brown. Head dull gray with an indistinct median line.

Thoracic dorsum with the præscutum dull gray with four dark brown stripes, the lateral pair shorter, the middle pair narrowly bisected by a gray line ; pseudosutural foveæ a dusky point ; scutum grayish brown ; scutellum and postnotum light gray. Pleura yellow with a dull gray bloom. Halteres pale brownish yellow, the knob darker brown. Legs with the coxæ light gray ; trochanters light yellow ; femora and tibiæ dull yellow, narrowly tipped with brown ; tarsi brown. Wings with a strong grayish yellow tinge, the costal area dull yellow, the stigmal area brown ; vein *Cu* yellowish, the remaining veins brown ; a broad vitreous band before the cord, largest before the stigma in cell *1st R*₁ and as a conspicuous blotch at the tip of cell *R* and base of cell *1st M*₂, extending into the base of cell *M*₄ ; in the left-hand wing of the type, the base of vein *M*₃ persists as a slight spur.

Abdominal tergites dull brownish yellow with a dark brown dorsal line that broadens out at the end of the second segment so as to cover most of the sclerite ; segments 3 to 6 dark brown, narrowly margined caudally, and broadly laterally, with dull brownish yellow, this margin becoming still broader on the

terminal segments so as to include most of segments 7 and 8; sternites with segment 2 yellowish and having a dark brown subterminal ring; segments 4 to 6 dark brown basally, the caudal margin broadly dull yellow, this area becoming broader on the terminal segments so as to include most of segments 7 and 8. Hypopygium with the ninth tergite rather extensive, the lateral lobes very broad, rounded, the caudal margin chitinized, shiny; the median notch is very deep and narrow, U-shaped; ninth pleurite complete; the outer pleural appendage subspatulate, enlarged distally; eighth sternite broad, rather narrowed toward the apex, the caudal margin slightly concave, bearing a dense tuft of short, golden hairs on each side of the median line and a few scattered hairs on the short, lateral lobes.

Holotype, male, College Station, Texas, March 16, 1908 (E. S. Tucker).

Type, Cat. No. 19983, U. S. Nat. Mus.

Tipula georgiana, new species.

Male.—Length, 11.8–14 mm.; wing, 11.5–15.3 mm.

Palpi dull brownish yellow, the two terminal segments a little darker. Frontal prolongation of the head dull yellow with a sparse yellowish bloom; nasus obliterated. Antennæ comparatively short, the scapal segments yellow; third segment dull yellow, the apical portion infuscated; remainder of the organ brown, the flagellar segments with the basal enlargement a little darker, the pedicel lighter brown; flagellar segments rather short, slightly constricted beyond the basal enlargement. Head light brown, the front and a narrow margin adjoining the eyes pale whitish gray.

Thoracic dorsum very light brownish yellow, the præscutal stripes only a little darker, pale brown, the median vitta bisected by a delicate dark brown line; lateral stripes indistinct; pseudosutural foveæ reduced to small colorless pits; scutum, scutellum, and postnotum dull yellow with a sparse whitish gray bloom. Halteres pale yellow, the base of the knobs brown. Legs with the coxæ dull yellow, slightly gray pruinose; trochanters and femora dull yellow, the latter passing into

brown; tibiæ and tarsi brown. Wings hyaline or nearly so, the costal region and the stigma light yellow; veins brown; a vitreous band before the cord, extending from the end of vein *Sc*, brightest and largest before the stigma, passing into the basal portion of cell *M*₄; very little or none of the vitreous area beyond the stigma.

Abdominal tergites yellow without distinct darker markings, the caudal margins of the segments narrowly ringed with silvery; sternites bright yellow, on segments 6 to 8 rather more brownish. Hypopygium with the ninth tergite moderate in size, the lateral angles conspicuous, directed caudad and slightly proximad, the apices bluntly rounded and the margin narrowly chitinized; the median lobe broad, highly convex to obtusely pointed, shiny chestnut brown to yellow; ninth pleurite large, complete; outer pleural appendage somewhat spatulate with a very narrow base, the knobs clothed with sparse elongate hairs; eighth sternite rather extensive, the caudal margin broadly concave with a brush of long golden hairs on each side of the base of the concavity and slightly smaller tufts behind them, these hairs concealing a very long, delicate, decussate, reddish bristle.

Holotype, male, Georgia.

Paratype, male, topotypic; male, New Rochelle, New York; male, Cambridge, Massachusetts.

Type, Cat. No. 19984, U. S. Nat. Mus.

The topotypic and the New York paratypes are in the collection of the author. The Massachusetts paratype is in the collection of the Museum of Comparative Zoology. The New York specimen appeared in the Loew collection of the Museum of Comparative Zoology under the manuscript name of "*inornata*" in Loew's writing; the specimen has the antennal flagellum very pale, more yellowish than the type. The Massachusetts specimen is the largest and here the antennal flagellum is a very dark brown.

Tipula catawba, new species.

Male.—Length, 12.8 mm.; wing, 12.7 mm.

Palpi with the first segment pale brownish testaceous, the

apical segments dark brown. Frontal prolongation of the head dull light yellow with a sparse pale whitish bloom. Antennæ short, the first scapal segment elongate, dull yellow; second segment very short, brownish yellow; flagellar segments very short, dark brown, little constricted beyond the basal enlargement which occupies about a third to a quarter of the total length of the segment. Head light gray, the occiput browner, a very indistinct, narrow, median, brown line.

Pronotum dull brownish yellow. Mesonotal præscutum light gray with three very broad brown stripes which suffuse most of the dorsum, the lateral margins clear light gray; pseudosutural fovea a semilunar subshiny pit; scutum clear light gray throughout; scutellum and postnotum dull brownish yellow with a sparse grayish bloom. Pleura pale brownish yellow with a clear light gray bloom. Halteres brownish yellow, the knobs dark brown. Legs with the coxæ dull yellow, sparse-gray pruinose; trochanters light yellow; femora brownish yellow becoming darker toward the tip; tibiæ and tarsi dark brown. Wings grayish subhyaline, the costal area and stigma brownish yellow; a slight yellowish suffusion along vein *Cu*; veins dark brown; a narrow vitreous band before the cord extending from the end of vein *Sc*, largest and brightest before the stigma, passing into the base of cell *M*₄.

Abdominal tergites with the first two segments yellowish, the remaining tergites darker brownish; the sclerites with the caudal margin ringed with silvery; sternites brownish yellow, their caudal margins very narrowly silvery. Hypopygium rather enlarged, the ninth tergite quite similar to that of *T. georgiana*, the lateral angles produced caudad and slightly proximad into truncated lobes whose inner margin is subacutely angular, not evenly rounded; the median convexity rounded, shiny; ninth pleurite rather large, complete; the inner pleural appendage produced caudad in an elongate, subacute, pale, fleshy lobe, somewhat as in *translucida* Doane; eighth sternite with a broad median membranaceous shield on the caudal margin, the lateral angles produced proximad into fleshy lobes which bear dense tufts of rather coarse golden-yellow

hairs and including one very long slender bristle on each side.

Holotype, male, North Carolina. (From the collection of C. V. Riley.)

Type, Cat. No. 19985, U. S. Nat. Mus.

Tipula winnemana, new species.

Male.—Length, 19.5 mm.; wing, 22.8 mm.

Female.—Length, 20 mm.; wing, 20.5 mm.

Palpi dark brown, the tips of the segments somewhat paler. Frontal prolongation of the head quite short, light brown. Antennæ rather short, the two basal segments dull yellow; the third segment light brown, passing into dark brown at the apex; remainder of the antennæ dark brownish black. Head yellowish brown, the inner margin of the eyes narrowly grayish; a delicate, indistinct, brown median vitta.

Pronotum light gray, the scutum with three broad brownish stripes; scutellum light grayish white. Mesonotal præscutum dull brownish yellow with three indistinct stripes, the median one very broad, narrowed behind, indistinctly bisected by a paler vitta; lateral stripes more grayish, reduced in area; the thoracic interspaces with abundant long yellow hairs; scutum yellowish brown with a slight grayish bloom, densely provided with long yellow hairs and with two small areas unfurnished with hairs; scutellum and postnotum brownish yellow. Pleura pale with a sparse grayish white bloom. Halteres yellow, the knobs dark brown. Legs with the coxæ pale, whitish pollinose; trochanters dull yellow; femora yellowish brown, the apex narrowly dark brown; tibiæ and tarsi brown. Wings light gray, the costal region and seams along veins *Cu* and *2nd Anal* yellow; stigma and the veins dark brown; a broad vitreous band before the cord extending into the base of cell M_4 .

Abdominal tergites dull brownish yellow, indistinctly and narrowly trivittate with dark brown; sternites yellowish brown. Hypopygium with the ninth tergite black, deeply notched medially, in the type-specimen the lateral angles bent strongly ventrad; ninth pleurite complete; ninth sternite bearing a subpendulous lobe which is practically hairless, tapering toward

the apex and bearing on the ventral inner side a chitinized knob; guard of the penis and the subtending gonapophyses remarkably developed, the latter appearing as widely spreading arms, densely pale-hairy on the outer face, the apex cylindrical, naked; the penis-guard long, needle-like, extending dorsad into the notch of the ninth tergite; eighth sternite with the broad median lobe abruptly truncated, chitinized, bearing beneath two tufts of long whitish hairs; lateral lobes short, bearing a small tuft of long whitish hairs and two or three long, curved, reddish bristles, one of which is more powerful than the others.

The female is referred to this species with considerable doubt because of the very different color of the wings. The specimen is, in general, similar to the male, the antennæ shorter, the flagellar segments paler brown but unicolorous as in the male; wings strongly yellowish including the veins; stigma dark brown, prominent; valves of the ovipositor extremely shortened, the tergal valves chitinized, short and broad, blunt, the sternal valves longer, broad, acutely pointed.

Holotype, male, Plummers Island, Maryland, June 13, 1914 (W. L. McAtee).

Allotype, female, topotypic, June 7, 1914 (W. L. McAtee).

The type is in the collection of the author, the allotype in the collection of the United States Biological Survey.

***Tipula costaloides*, new species.**

Male.—Length, 11.5 mm.; wing, 12 mm.

Female.—Length, 12.8–13 mm.; wing, 12.5–12.8 mm.

Palpi dark brown. Frontal prolongation of the head light brown, the dorsal surface with a clear blue-gray bloom, the nasus elongate, distinct. Antennæ with the three basal segments dull yellow, remainder of the flagellum with the segments rather short, the basal enlargement dark brown, the remainder of each segment brown, on the terminal segments becoming darker, the sclerites unicolorous. Head light gray, on the occiput more suffused with brown; an indistinct delicate brown median line.

Thoracic dorsum with the præscutum dull light gray with a very broad brown median stripe, broadest in front, narrowed behind; lateral stripes indistinct; a few scattered brown spots on the interspaces indicating the position of hairs; scutellum light gray, the middle of each lobe indistinctly brown; scutellum and postnotum light gray. Pleura clear blue-gray with the dorso-pleural membranes dull yellow. Halteres pale with the knobs brown. Legs with the coxæ light gray; the trochanters pale; femora yellowish brown, scarcely darkened at the tip; tibiæ yellowish brown, the apices narrowly dark brown; tarsi dark brown. Wings subhyaline, the costal area dark brown; the stigma and a small spot at the origin of *Rs* brown; veins brown; a broad vitreous band from before the stigma, including the cord and extending into the base of cell M_4 .

Abdominal tergites dark brown, the caudal and lateral margins paler, on the sixth to ninth segments brighter, more yellowish; the eighth segment and the apices of the lobes of the ninth segment rather bright yellow; sternites dull yellowish brown. Hypopygium with the ninth tergite rather conspicuous, the lateral angles prominent, these lobes narrowed to the blunt apex, the median notch U-shaped and bearing a slender, subacute, median lobe which is directed caudad; ninth pleurite complete, moderate in size; eighth sternite with the caudal margin shallowly concave, the tiny lateral lobes bearing three to four stout, reddish, decussate bristles.

The female is similar to the male, with the flagellar segments not excised, the segments ranging from the yellow scape through two or three basal segments of the flagellum which are light yellowish brown to the dark brown of the terminal segments. Ovipositor with the tergal valves transverse form an opaque subrectangular plate, the blades acutely pointed, the dorsal surface with a prominent ridge extending from the apex backward; the sternal valves are very slender, not reaching the tips of the tergal valves, bent strongly outward at about midlength, the tips bent inward and approximated.

Holotype, male, Wolfe City, Texas, April 12, 1906 (F. C. Bishopp).

Allotype, female, topotypic.

Paratype, female, topotypic.

This insect bears a remarkable superficial resemblance to *Tipula sayi* Alex., but the subunicolorous antennæ, the obliteration of the lateral præscutal stripes, and the very different structure of the hypopygium of both male and female offer abundant points of difference.

The type and paratype are in the collection of the United States National Museum, Cat. No. 19986; the allotype is in the collection of the author.

Tipula megalabiata, new species.

Male.—Length, 11 mm.; wing, 13.5 mm.

Palpi pale brown. Frontal prolongation of the head brownish yellow with a very sparse grayish bloom toward the base; nasus distinct. Antennæ pale yellow, the first flagellar segment a little darker; remaining segments dark brown at the base, dull yellow beyond, the apical segments more brownish. Head light gray, the front more whitish.

Thoracic dorsum light brown with the præscutal stripes dull gray, not clear-cut; the scutellum slightly brownish on the sides. Pleura light yellow with a sparse whitish bloom. Halteres light brown, the knobs darkened. Legs with the coxæ yellow with a sparse whitish bloom; trochanters light yellow; remainder of the legs broken. Wings with a gray tinge, darkest at the apex; costal area light brown; a large brown stigmal spot; smaller brown spots at the base of *Rs* and the tip of *Sc*; a broad vitreous band before the cord, extending from before the stigma into the base of cell *M*₄; no vitreous spot beyond the stigma.

Abdomen with the tergites rather bright yellow, the terminal segments more brownish yellow; a broad dark brown dorsal line, narrowest anteriorly, broadened out on the posterior segments; tergites narrowly ringed caudally with silvery; segments 2 to 5 with a large rounded dark brown spot on each side, on the last three segments basal in position, on the second segment at about midlength; first sternite dark brown; re-

remaining segments dull brownish yellow without darker markings. Hypopygium with the ninth tergite rather small and restricted, the narrow median area membranaceous; the lateral angles of the tergite produced into enormous finger-like lobes which extend caudad, the apices bent inward and slightly ventrad, the tips truncated; eighth sternite with the caudal margin produced into two elongate fleshy lobes, the median area with a tuft of elongate reddish hairs.

Holotype, male, Ormsby County, Nevada, July 6 (C. F. Baker), No. 961.

Type, Cat. No. 19987, U. S. Nat. Mus.

Tipula bigeminata, new species.

Male.—Length, 17 mm.; wing, 19 mm.

Palpi very dark brown. Frontal prolongation of the head elongated, light brown, the impressed lateral line slightly darker brown; nasus very small, subobsolete. Antennæ with the first segment brownish yellow; second segment bright yellow; flagellar segments with the basal enlargement slight, dark brown; the remainder of the segments almost concolorous or a little lighter. Head light gray with a delicate, subimpressed, median line.

Thoracic dorsum light gray, the præscutum with four dark brown stripes, the lateral stripes a little broader than the very narrow median stripes which are indistinct in front but clear-cut posteriorly; an indistinct brown cloud on the sides of the sclerite just back of the pseudosutural foveæ; scutum clear light gray with three brown marks on each lobe, a small rounded spot on the anterior lateral portion of the lobe, and two elongate marks, one of which adjoins the median area of the sclerite; scutellum and postnotum brown with a sparse light gray bloom. Pleura light gray. Halteres brown, the base yellowish, the knob dark brown with a pale apex. Legs with the coxæ yellow, sparsely light gray pruinose; trochanters dull yellow; femora brownish yellow, the apex narrowly dark brown; tibiæ dull yellow, the apex narrowly dark brown; tarsi dark brown. Wings light gray; a dark brown spot at the

arculus; brown spots at the stigma and end of vein *Sc*; base of *Rs* and the apex of vein *Cu* and vein *Cu*₂ seamed with brown; costal area not brighter; a broad vitreous band before the cord extending from before the stigma including the base of cells *1st M*₂ and *M*₄; a small vitreous spot at the apex of cell *1st A* near the vein *2nd A*.

Abdomen brown, indistinctly trivittate, the lateral stripes being the more distinct; caudal margins of the segments paler, this color becoming broader and clearer on the terminal segments; it is probable that fresh specimens exhibit a sparse gray bloom on the segments; sternites brown, segments 4 and 5 broadly ringed with paler on the caudal margin, segments 6 and 7 much more narrowly ringed. Hypopygium powerful, compressed; ninth tergite very small and long; a deep dorsal median groove; lateral angles produced caudad into long, subacute lobes which lie parallel, narrowly separated by a very deep U-shaped notch; eighth sternite with the lateral lobes bent strongly dorsad, at the apex with a strong, matted bunch of reddish bristles which are directed proximad and are decussate; a median lobe directed caudad and bearing at the apex a dense, rather short, fringe of golden hair.

Holotype, male, Ormsby County, Nevada, July 6 (C. F. Baker), No. 960.

Type, Cat. No. 19988, U. S. Nat. Mus.

Tipula alticola, new species.

Male.—Length, 15.5 mm.; wing, 16.8 mm.

Palpi short, black. Frontal prolongation of the head black with a dark blue-gray bloom; nasus distinct, hairy. Antennæ black, the second segment a little paler; flagellar segments exceedingly deeply incised, the distal enlargement of each segment only a little smaller than the basal swelling. Head dark blue-gray, more brownish on the sides of the occiput and vertex behind the eyes; a narrow median brown line.

Thoracic dorsum light gray with three very broad, dark blue-gray stripes, the median broadest, narrowly bisected by a delicate brown line; præscutal interspaces with abundant

brown dots surrounding the bases of the numerous long pale hairs; scutum blue-gray; scutellum and postnotum gray with a narrow dark brown median line. Pleura dark blue-gray, the dorso-pleural membranes dark brown; sternites a little more brownish. Halteres pale at the base, the stem brown, the knob darker. Legs with the coxæ dark, blue-gray pruinose; trochanters dark colored with a sparse blue-gray bloom; femora deep brownish yellow passing into dark brown on the apical third; tibiæ and tarsi dark brownish black. Wings light gray, the costal area brownish yellow, the membrane of the disk with dark brown and subhyaline blotches, arranged as follows: dark brown at the stigma, along the cord, along vein *Cu* and at the base of *Rs*; subhyaline blotches near the base of cells *M*, *Cu* and *1st A*; near the tip of cell *M*, most of cell *R*, a large blotch in the middle of cell *1st R*₁; beyond the cord in cell *2nd R*₁, base of *R*₂, *R*₃, *R*₅, and in *1st M*₂.

Abdominal tergites dull orange-yellow, trivittate with slate-gray to dark brown, the orange colors brightest on segments 2 to 4 and the base of 5; extreme lateral margins of the segments paler; caudal margins of segments 3 and 4 pale yellow except along the median area; segments 6 to 8 dark brown; sternites with segments 2 to 4 dull orange, on the terminal segments passing into dark brown. Hypopygium with the ninth tergite reduced to a narrow, transverse, chitinized band whose caudal margin is heavily chitinized, smooth, black, and very shallowly concave; eighth sternite subcarinate, unarmed.

Holotype, male, Baldy Mountain, Boulder County, Colorado, July 24, 1915 (T. D. A. Cockerell); above timber line.

Paratype, male, Manitou Pass, Colorado (F. H. Snow); from the S. W. Williston collection.

The type is in the collection of the United States National Museum, Cat. No. 19989; the paratype is in the collection of the American Museum of Natural History.