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

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In the present article I wish to describe three new species of the vast genus *Tipula* from the Rocky Mountain and Pacific states and provinces. Except where indicated to the contrary in the text, the types of the novelties are preserved in my personal collection of world Tipulidae. I am very much indebted to Messrs. Hallahan, Leech, Melander and Michener for their kindly interest in saving these flies.

Tipula (*Yamatotipula*) *jacintoensis* n. sp.

♂. Length about 10 mm.; wing 9-9.5 mm.; antenna about 2 mm.

♀. Length about 12-14 mm.; wing 10-11 mm.

Closest of *lanei* in the small size and darkened wings, differing especially in the highly contrasted yellow and black pattern of the thorax and abdomen.

Thorax black, variegated with light yellow, including the pronotal scutellum, pretergites, dorsopleural membrane, median region of scutum, parascutella and the broad posterior portions of the scutal lobes; cephalic two-thirds of mediotergite and the entire anapleurotergite similarly brightened. Pleura dark brown, the pteropleurite and metapleurite light yellow. Legs yellow, the femoral tips narrowly blackened, on the posterior legs including the outer sixth or seventh. Abdomen black, the broad posterior and lateral borders of the tergites, and less evidently of the sternites, bright yellow. Male hypopygium with the median tergal lobe low and broad, without lateral shoulders as in *spernax*.

Holotype: ♂, San Jacinto Mountains, CALIFORNIA, Tahquitz Valley, altitude 8,000 feet, June 3, 1940 (C. D. Michener). *Allotopotype*: ♀; pinned with type. *Paratopotype*: ♂; *paratypes*: 1 ♂, 1 ♀, Round Valley, altitude 8,800 feet, June 14, 1940 (C. D. Michener).

Further collections and study may show that this fly is a race of the northern *Tipula* (*Yamatotipula*) *lanei* Alexander (Mount Hood, Oregon).

***Tipula* (*Oreomyza*) *shoshone* n. sp.**

Allied to *pseudotruncorum*; antennae black, the apex of pedicel restrictedly yellow; mesonotal praescutum gray, with five dark brown stripes, the median one capillary; male hypopygium with the ninth tergite having a narrow rectangular median notch, the broad lateral lobes produced into a small tooth; margin of lobes with microscopic denticles; outer dististyle gradually narrowed outwardly; inner dististyle long and narrow, with both the beak and lower beak united into a single blackened structure; outer basal lobe entirely pale.

♂. Length about 13.5–14 mm.; wing 14.5–15.5 mm.; antenna about 2.9–3 mm.

Frontal prolongation of head uniformly gray; nasus small; palpi brownish black. Antennae black; scape elongate, gray pruinose; apex of pedicel restrictedly obscure yellow; flagellar segments short-cylindrical, with poorly indicated basal enlargements; verticils long and conspicuous, much exceeding the segments in length. Head gray; vertex with a brown median stripe.

Pronotum gray, with three small brown spots. Mesonotal praescutum gray, conspicuously patterned with dark brown, including five stripes, the sublateral pair broadest; intermediate stripes at anterior end with a narrower backward extension that passes through the pseudosutural foveae and almost reaches the suture behind; fifth stripe a capillary median line; posterior sclerites of notum gray, each scutal lobe with two disconnected dark brown areas; a slightly paler brown median stripe, beginning at the suture, extending almost to the abdomen, narrowly interrupted at the posterior end; parascutella dark. Pleura and

pleurotergite light gray, restrictedly patterned with somewhat darker gray; dorsopleural region buffy yellow; propleura yellow, variegated with small brown spots. Halteres yellow, knob brownish black. Legs with the coxae and trochanters gray; remainder of legs black, the femoral bases broadly yellow, more extensive on the fore legs where nearly the proximal third is included, on posterior femora with nearly the basal fifth brightened; claws (male) delicately setuliferous, with a small sub-basal tooth. Wings cream-yellow, variegated with pale brown and darker brown areas, the latter most evident at the stigma and as an arcular darkening; the paler brown clouds cover much of the remainder of wing, interspersed with pale ground areas; post-stigmal pale band broadest, especially developed in the holotype, more restricted in the paratype. Venation: R_{1+2} preserved.

Abdominal tergites dark brown, the more basal segments light gray pruinose on sides; at about tergite five and on the succeeding segments, the caudal borders of the tergites narrowly yellow; lateral tergal borders broadly yellow; sternites gray, narrowly darkened medially and sublaterally; subterminal sternites with broad areas on either side of midline; hypopygium relatively large, dark brownish gray, more or less variegated with yellow. Male hypopygium with the ninth tergite broad, transverse, narrowed posteriorly, the caudal border with a narrow rectangular median notch; behind the notch with a dorsal furrow that is provided with numerous microscopic setulae from small tubercles; lateral tergal lobes broad, the outer lateral angle produced into a small tooth; margins of lobes with additional microscopic denticles. Appendage of ninth sternite dilated at base, the outer pendulous portion bearing several long yellow setae, those at apex subequal in length to the outer lobe of the appendage. Basistyle entire, unproduced. Outer dististyle relatively long and narrow, broadest subbasally, very gradually narrowed to the obtuse tips. Inner dististyle long and narrow, the beak blackened, narrowly obtuse; lower beak apparently lacking and evidently fused with the beak; outer basal lobe entirely pale, one face covered with abundant setulae and with a submarginal fringe of longer setae; upper apical angle narrowed into a small glabrous point. Gonapophysis appearing as a flat-

tened dark-colored blade, broadly obtuse at apex. Eighth sternite at apex bearing two low hemispherical lobes that are provided with unusually long yellow setae, the lobes separated from the sclerite by pale membrane.

Holotype: ♂; Adna, Lewis County, WASHINGTON, July 10, 1917 (Melander); in Melander Collection. *Paratype*: ♂; Steelhead, BRITISH COLUMBIA, May 21, 1933 (H. B. Leech).

Although allied to *Tipula* (*Oreomyza*) *pseudotruncorum* Alexander, likewise from the Pacific and Rocky Mountain northwestern states and provinces, the present fly is well-distinguished by the details of structure of the male hypopygium, particularly of the tergite and both dististyles. The hypopygial details of *pseudotruncorum* have been described and figured by the writer in another report (Amer. Midl. Nat., 33: 410; 1945). The present fly is evidently the species described and figured by Snodgrass (Trans. Am. Ent. Soc., 30: 211, pl. 16, figs. 132, 134; 1904) as *T. (O.) truncorum* Meigen, of Europe. I had formerly believed that Snodgrass's description referred to *pseudotruncorum* (Can. Ent., 52: 229; 1920) but evidently this is not the case.

***Tipula* (*Lunatipula*) *saxemontana* n. sp.**

Size medium (wing, male, about 15 mm.); general coloration gray, the praescutum with four dark brown stripes; femora yellow, the tips infuscated; claws (male) toothed; wings with a strong brownish tinge, the stigma darker; conspicuous obliterative areas before and beyond the stigma and across the cord; abdomen orange-yellow, with a broad blackish median stripe and less conspicuous sublateral ones; male hypopygium with the tergite conspicuously notched; basistyle produced caudad into a long flattened blade, its tip obtuse; inner dististyle with the outer basal lobe a large subcircular blade that is produced into two pale points; eighth sternite sheathing, the emarginate apex fringed with abundant yellow setae.

♂. Length about 13–15 mm.; wing 14–16 mm.; antenna about 4.5–5 mm.

Frontal prolongation of head relatively long, nearly equal to the remainder of head, light brown, more pruinose at base; nasus exceedingly short to virtually lacking; first segment of

palpi brown, succeeding segments black. Antennae with scape and pedicel obscure yellow; first flagellar segment obscure brownish yellow, the tips narrowly blackened, remainder of organ black; flagellar segments rather strongly incised; longest verticils subequal in length to the segments. Head with anterior vertex buffy, posterior vertex gray, clearer gray on posterior orbits, the areas delimited internally by more blackish lines; a capillary dark brown median vitta.

Pronotum gray, with three brown spots. Mesonotal praescutum gray, with four conspicuous dark brown stripes, the intermediate pair representing the lateral borders of a slightly darker gray median area, the latter in front exceeding four times the width of the brown stripes, narrowed posteriorly; a slight darkening at the humeral region, the extreme margin of which is yellowed; scutum gray, each lobe with two brown areas; posterior sclerites of notum gray, the lateral border of the mediotergite and the pleurotergite more yellowish gray. Pleura gray, the dorsopleural membrane light yellow. Halteres with stem yellow, knob infuscated. Legs with the coxae light gray pruinose; trochanters yellow; remainder of legs variable in color, in some, including type, with the femora yellow, the tips infuscated, more broadly so on fore legs where about the outer two-thirds is included, more narrowly darkened on the fore and middle legs; in other specimens, the femoral tips are about equally darkened on all legs, including about the outer twelfth to fifteenth; tibiae yellowish brown, the tips narrowly blackened; tarsi black, the basitarsi extensively yellowish brown; claws toothed. Wings with a strong brownish tinge, the stigma darker brown; prearcular and costal fields a trifle more yellowish brown; conspicuous white oblitative areas before and beyond stigma and crossing a cord at the fork of M , the last largest; veins brown, pale in the oblitative areas. Venation: R_{1+2} entire; cell 1st M_2 pointed at outer end; m oblique, a little shorter than the petiole of cell M_1 .

Abdominal tergites orange-yellow, with a very broad blackish median stripe that is narrowly interrupted at the posterior borders and again at the similarly narrow yellowish gray bases of the segments; on intermediate segments a much less evident

sublateral dusky area, broadly interrupted on the posterior borders; lateral tergal margins broadly pale, more or less pruinose; sternites yellow, the intermediate segments broadly darkened medially, the posterior borders narrowly yellow; hypopygium dark chestnut red to almost blackish. Male hypopygium relatively large and conspicuous. Ninth tergite longer than broad, slightly narrowed outwardly, the posterior border conspicuously emarginate, including a narrow median incision and broader and shallower submedian notches; teeth adjoining the median notch acute; outer lateral angles less evidently incised. Ninth sternite with the appendage conspicuously bilobed, including a large oval lobule provided with abundant curved setae, those at apex shorter and more dense, and a small, more basal lobule that bears very elongate setae which are decussate at the midline. Basistyle entire, the outer portion produced caudad and mesad into a conspicuous flattened blade, its tip obtuse, usually broadly so, in cases approaching subacute. Outer dististyle a dark-colored flattened blade, with abundant long pale setae. Inner dististyle with the beak very obtuse, lower beak more pointed; dorsal crest narrow, its margin irregularly toothed; outer basal lobe very large and conspicuous, appearing a large subcircular blade, the outer portion produced into two conspicuous pale points; surface of blade with numerous long yellow setae. Eighth sternite sheathing but not projecting beyond the other elements of the hypopygium, the posterior border emarginate and fringed with abundant yellow setae.

Holotype: ♂; Grand Tetons, at Arizona Creek, WYOMING, altitude 6,800 feet, July 2, 1941 (C. P. Alexander). *Paratopotypes*: 4 ♂♂, altitude 6,790–6,800 feet, July 8, 1941; July 5, 1942 (C. P. Alexander); *Paratypes*: ♂, Invermere, BRITISH COLUMBIA, August 15, 1927 (A. A. Dennys); ♂♂, Yellowstone, Tower Falls, 6,400 feet, June 23, 1941, 2 ♂♂; Osprey Falls, 7,000 feet, June 25, 1941; Northeast Entrance, 7,200 feet, June 26, 1941 (C. P. Alexander); Rocky Mountain National Park, COLORADO, 11,000 feet, July 24, 1941, taken above timberline, flying above dwarf willows and mountain bog birch, *Betula glandulosa* Michx. (C. P. Alexander); Gothic, Colorado, 10,000 feet, July 15, 1934 (J. D. Hallahan).

This species has long been confused with *Tipula* (*Lunatipula*) *pleuracicula* Alexander 1915 (*arizonica* Alexander, 1916; *monochroma* Dietz, 1919) and I am particularly indebted to Dr. Alan Stone for examining the types of my species, now in the United States National Museum, and thus settling the identity of this well-marked fly. The above names all pertain to a smaller yellow crane-fly that is allied to *T. (L.) splendens* Doane, 1901, having the basistyle of the male hypopygium produced into a much more slender stiletto-like point than in the present species. In an earlier report (Amer. Midl. Nat., 30: 732; 1943) I had referred to the present fly as being *pleuracicula* and this name should be corrected to *saxemontana*.

Tick Collections at Army Installations in the Fourth Service Command

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Numerous collections of ticks have been made by Army personnel in the seven states comprising the Fourth Service Command during 1943, 1944, and 1945, and forwarded to the Fourth Service Command Medical Laboratory for identification. The states included in the Fourth Service Command are Alabama, Florida, Georgia, Mississippi, North Carolina, South Carolina and Tennessee.

The collections are summarized in Table 1. During 1943 to 1945, the following species were taken: *Amblyomma americanum* (Linnaeus), *A. dissimile* Koch, *A. tuberculatum* Marx, *Dermacentor albipictus* Packard, *D. variabilis* (Say), *Haemaphysalis leporis-palustris* Packard, *Ixodes ricinus scapularis* Say, *Rhipicephalus sanguineus* Latreille, and *Ornithodoros turicata* Duges. A total of 3,227 specimens, representing 47 localities, are included.

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