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NEW SPECIES OF PTYCHOPTERIDAE (DIPTERA). PART III.

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The preceding parts under this title were published in the BULLETIN OF THE BROOKLYN ENTOMOLOGICAL SOCIETY, 32: 140–143, 1937, and 38: 37–42, 1943. At this time I wish to describe three further new species from Western North America, as well as a further novelty from Burma. A few additional records of distribution for certain rare and little-known Nearctic species of Ptychopteridae are given. The types of the new species herewith described are preserved in my personal collection of Tipuloidea.

Ptychoptera uta sp. n.

Male.—Length, about 9–9.5 mm.; wing 8–8.5 mm.; antenna about 5 mm.

Generally similar to *Ptychoptera lenis coloradensis* Alexander (Bull. Brooklyn Ent. Soc., 32: 141–142, 1937), differing especially in details of structure of the male hypopygium.

Ninth tergite with the lateral lobes distad of the outer spine very small, exceeded by the spine; subtergal spinulose lobe large and clavate; lowermost tergal lobe reduced. Dististyle longer and more slender, sinuous, blackened, the tips pale. Gonapophyses large and massive, blackened, the apex broadly obtuse. Ninth sternite with the setae of the median spatula long and slender; subtending lobes nearly parallel-sided, the tips truncated or weakly expanded.

Habitat.—Utah.

Holotype, ♂, Willard, April 29, 1939 (Knowlton & Harmston). *Paratopotypes*, ♂♂; *paratype*, ♂, May 1, 1939 (Knowlton & Harmston).

I am greatly indebted to George Knowlton and Fred Harmston for these specimens and for many other Tipuloidea from Utah. The detailed record for the state is in press (Amer. Midl. Nat., 1947).

Ptychoptera sculleni Alexander.

Described from Washington and Oregon. Additional records:

Oregon: Peavine Ridge, near McMinnville, Station 3 (605 feet). September 10–24, 1945 (K. M. Fender); Bald Mountain, Coast Range, Yamhill Co., July 19, 1942 (K. M. Fender).

California: Orick, Humboldt Co., June 21, 1935 (A. L. Melander).

Ptychoptera pendula Alexander.

Utah: Kimballs Fort, June 29, 1943 (G. F. Knowlton).

Wyoming: Yellowstone National Park—Roosevelt Station, July 5, 1923; Old Faithful, July 14, 1923; Spring Creek, July 15, 1923; Turbid Lake, July 20, 1923 (all A. L. Melander).

Ptychoptera townesi Alexander.

Washington: Everett, July 6, 1924; Pluvius, July 16, 1922; Puget, August 4, 1925; Swauk Creek, June 28, 1924; Toledo, June 27, 1935 (all A. L. Melander).

Oregon: Hood River (Leroy Childs).

Ptychoptera monoensis sp. n.

Allied to *pendula;* general coloration of body polished black, the pronotum and mesonotal scutellum yellow; antennae with scape and pedicel yellow; all coxae yellow; wings with a weak brownish tinge, the prearcular field yellow; male hypopygium with the ninth tergite deeply notched, each lobe bearing two blackened lobules, in addition to the apical point; dististyle conspicuously trilobed, the outer one a very large flattened yellow blade, the intermediate arm a darkened subcylindrical rod; innermost arm more compressed, bearing four or five powerful spinous setae.

Male.—Length about 8.5 mm.; wing 8 mm.; antenna about 4.1 mm.

Rostrum and mouthparts yellow; palpi yellow, the terminal segment brownish black. Antennae of moderate length, approximately one-half as long as wing; scape and pedicel yellow, flagellum black; flagellar segments cylindrical, the verticils shorter than the segments. Head polished black.

Pronotum obscure yellow. Mesonotum polished black, the central portion of the scutal region and the scutellum obscure yellow, the parascutella blackened; postnotum black, the dorsal portion of the suture between the mediotergite and pleurotergite more reddened; dorsal pleurotergite with conspicuous setae. Pleura black, sparsely pruinose, more heavily so on the pteropleurite; dorsopleural region buffy yellow. Halteres yellow, the knobs weakly darkened. Legs with all coxae and trochanters yellow; femora yellow, the tips rather narrowly but conspicuously blackened, the amount subequal on all legs; tibiae obscure yellow, the tips narrowly blackened; tarsi brownish black to black, the narrow proximal portions of the basitarsi

vaguely obscure yellow. Wings with a weak brownish tinge, the prearcular field yellow; a very restricted brown pattern, especially evident over the central cord; very restricted darkenings at forks of veins R_{1+2} and R_{4+5}; veins brownish black, yellow in the prearcular field. Macrotrichia of cells relatively abundant, including all cells beyond the general level of fork of R_{4+5} and as restricted series in cell *R*, basal portions of cells R_3 and R_5 and as even more restricted groups in cells *C*, R_1 and *M;* no trichia in bases of cells M_2 or M_3. Venation: *Rs* relatively long; *r-m* connecting with *Rs* at fork or in R_{4+5} shortly beyond; cell *2nd A* broad.

Abdomen polished black, the posterior borders of the second and third tergites narrowly pale; hypopygium chiefly black. Male hypopygium of the general type of *pendula* but differing in important regards, especially of the tergite and dististyle. Ninth tergite with an unusually deep U-shaped notch, the lateral lobes produced into small conical points, on mesal edge of apex further produced into two blackened hairy lobules, the outer one more slender and elongate. Dististyle trilobed, the outer lobe a very large flattened yellow blade, on inner margin near base bearing a small tubercle; intermediate arm a darkened subcylindrical rod, the distal half and especially the apex with conspicuous dark-colored setae; innermost or lowest arm a flattened-compressed blade that bears four or five strong spinous setae, in cases the terminal one isolated and slightly larger; in other instances the spines arranged more definitely in pairs.

Habitat.—California.

Holotype, ♂, Coleville, Slinkard's Canyon, Mono County, May 28, 1939 (Mont Cazier & T. H. G. Aitken).

Ptychoptera monoensis is most nearly allied to *P. pendula* Alexander and *P. townesi* Alexander, being somewhat closer to the former yet very distinct in the structure of the male hypopygium, particularly the tergite and dististyle.

Ptychoptera persimilis sp. n.

Male.—Length, about 8 mm.; wing 7 mm.

Color characters almost as in *P. annandalei* Brunetti, 1918, that is, the mesonotum uniformly black excepting the yellow scutellum and adjoining portion of the mediotergite. Pleura yellow, apparently darker on the mesepisterum. Femora yellow, the tips narrowly and inconspicuously infuscated, the amount subequal on all legs; tibiae clearer yellow, the tips still

more narrowly darkened; basitarsi obscure yellow, the tips and remainder of tarsi blackened. Wings with the outer darkened crossband broken, most distinct at stigma and over each of the forks. Venation: *Rs* short and straight. Abdominal tergites yellow, the caudal borders ringed with brownish black; basal tergite uniformly blackened; a dark ring on proximal half of tergite two; darkened areas on outer tergites more extensive; sternites and hypopygium yellow. Male hypopygium with the tergite profoundly bifid, as in *annandalei* and allied species, but the arms much stouter, especially at bases; arms bent at near midlength, the apical portion stout, provided with abundant pale setae, before apex with a small tubercle. Dististyle of entirely different conformation; basal half expanded into a broad lobe, additional to the two basal lobules in *annandalei;* outer lobes not forceps-like, as in *annandalei,* the main lobe with the outer blackened setae long and abundant; separated from the outer group and nearer the base of style a linear row of about five shorter and stronger spines; outer lobe of dististyle pale, clavate, provided with long slender setae. Sternal lobes long and pale, densly hairy, the setae of inner margin near base of unusual length, the more proximal ones progressively longer. In *annandalei,* the tergal arms are long and slender, provided at apex with a dense brush of blackened setae. Dististyle more or less forceps-shaped, the two outer lobes being opposed to one another at their free ends; no dilation on basal portion of style; spines of the axial portion all short and stout. Sternal lobes much more slender and fingerlike.

Habitat.—Burma.

Holotype, ♂, Shwenyaung, Southern Shan States, August 1930.

For the most recent consideration of the Oriental Ptychopteridae, see Alexander, Arkiv för Zoologi, 38 A, No. 2: 1–10, map, 1946.

Bittacomorphella fenderiana sp. n.

Generally similar to *sackenii;* antennae black throughout; mesonotal praescutum with the disk chiefly black, the four stripes being divided only by paler gray interspaces; ventral pleurites darkened; legs with the basitarsi black, the tips not or but narrowly whitened, tarsal segments two and three snowy white; male hypopygium with the tergal lobes produced caudad into small slender points; lateral tergal arms almost glabrous; dististyles two, there being a small cylindrical style or lobe at the base of the major one; phallosome without blackened parts, the outer lateral angles produced into obtuse hairy lobes.

Male.—Length, about 11–13 mm.; wing 7–8 mm.; antenna about 6–8 mm.

Female.—Length, about 10–13 mm.; wing 7–9 mm.

Frontal prolongation of head yellow, the basal portion silvery; palpi brown basally, passing into black. Antennae black throughout. Head behind black, gray pruinose.

Pronotum very restricted, pale yellow. Mesonotal praescutum with the disk chiefly black, produced by four conspicuous stripes and only slightly paler gray interspaces; humeral and lateral regions pale yellow, sparsely pruinose; scutum pale yellow, each lobe with two separate black areas, the posterior one very small; posterior sclerites of notum yellow. Pleura silvery, the ventral sternopleurite and meron restrictedly brownish black; a more or less distinct darkened area on the anepisternum, sometimes obscured by pruinosity; in cases, the mesopleura even more extensively darkened. Halteres pale, knobs weakly infuscated. Legs with the coxae and trochanters yellow; femora brownish yellow, the tips passing into black; tibiae dirty whitish, the tips narrowly infuscated; basitarsi brownish black, the tips very narrowly to scarcely whitened; tarsal segments two and three snowy-white, four and five black. Wings with a faint grayish tinge, unpatterned; veins brown, those at extreme base more yellowed. Venation: *r-m* variable in position, from shortly before the fork of *Rs* to about an equal distance beyond on R_{4+5}; *Rs* variable in length, in cases only as long as *r-m,* in other specimens nearly twice this vein.

Abdomen of both sexes brownish black, in male the subterminal segments a trifle paler. Male hypopygium with the lobes of the tergite produced caudad into slender spinous points; lateral tergal arms almost glabrous, with only a few long setae just before the acute apical spine. Dististyles two, there being a small cylindrical style or lobe at the base of the major one. What appears to represent an interbase is a slender curved horn, the apical half very attenuated. Phallosome stout, without sclerotized points; outer angles produced laterad into obtuse hairy lobes; apex obtuse.

In *sackenii,* the lobes of the tergite are low and obtuse, hairy, not produced; lateral tergal arms relatively stout, with scattered setae over the entire length, more concentrated about the acute black terminal spine. A single dististyle, provided with numerous setae, broadest at base, narrowed outwardly. The supposed interbase has the basal half thickened, the apical spine

nearly straight. Phallosome with heavily blackened, sclerotized armature, the long simple unblackened lobe with coarse setae.

Habitat.—Northwestern North America (Vancouveran).

Holotype, ♂, Peavine Ridge, near McMinnville, Oregon, Station 3 A, May 15, 1946 (K. M. Fender). *Allotype*, ♀, Albright's Ranch, Dayton, Oregon, September 19, 1946 (K. M. Fender). *Paratopotypes*, 4 ♂♂, Stations 3 and 3 A, May 5–26, 1945, August 22, 1946, September 17, 1946 (K. M. Fender); *paratypes*, 1 ♂, with the allotype; 1 ♂, Massett, Queen Charlotte Island, British Columbia, 1898 (J. H. Keen); 1 ♀, Stanley Park, Vancouver, British Columbia, September 3, 1930 (H. B. Leech); ♂♀, Ashford, Washington, August 18, 1940 (H. & M. Townes); ♂, Keyport, Washington, July 1905 (R. W. Doane); Lewis and Clark State Park, Washington, September 28, 1946 (K. M. Fender). Certain of the above paratypes were earlier (Bull. Brooklyn Ent. Soc., 38: 41; 1943) recorded as being *Bittacomorphella sackenii* and the change should be noted.

Mr. Kenneth M. Fender, keen student of the Cantharid beetles, first called to my attention the fact that there were two distinct species of *Bittacomorphella* occurring at his study stations on Peavine Ridge, near McMinnville, Oregon. From a study of the male genitalia there is no question but that two distinct species are involved. I am most pleased to name this new species for Mr. Fender, in appreciation of invaluable co-operation in the study of our western Tipuloidea. Von Röder's description of *sackenii* (Wiener Entomol. Zeitung, 9: 230; 1890), for a copy of which I am indebted to Mr. George Gyrisko, is short but quite sufficient for purposes of identification of the species. It is evident that *sackenii* is a somewhat more southern species, its known range including Nevada and California, as well as Washington and Oregon, as far north as Mount Rainier, Washington. The type was from the Sierra Nevada, in Nevada, presumably from the Lake Tahoe section, taken by Herbert K. Morrison, who collected in the state in 1878 and again in 1884. Aldrich (Psyche, 7: 200–201; 1895) re-described what he considered to be *sackenii* (from Lake Union, Seattle, Washington, August–September 1894, John M. Aldrich) but which is very evidently the new species, *fenderiana*.