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VASCO M. TANNER, *Editor*

STEPHEN L. WOOD, *Assistant Editor*

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UNDESCRIBED SPECIES OF WESTERN NEARCTIC  
TIPULIDAE (DIPTERA). III.<sup>1</sup>

Charles P. Alexander<sup>2</sup>

The preceding parts under this general title were published in *The Great Basin Naturalist*, 4:89-100; 1943 and 5:93-103; 1944. At this time I am discussing various species and subspecies belonging to the tribe Pediciini, chiefly collected by myself but with two interesting forms taken by my friend, Mr. James H. Baker, of Baker, Oregon. The types are preserved in my extensive collection of the World Tipulidae.

*Pedicia (Tricyphona) pahasapa*, n. sp.

Belongs to the *katahdin* group; general coloration of thorax gray, praescutum with four brown stripes; antennae brownish black throughout, apparently 13-segmented, terminal segment elongate; wings weakly tinged with yellow, very restrictedly patterned with darker; male hypopygium with the dististyle unarmed.

*Male*: Length about 7-7.5 mm.; wing 6:8-8 mm.; antennae about 0.8-0.9 mm.

Rostrum dark brown, sparsely pruinose; palpi brownish black. Antennae brownish black throughout, apparently 13-segmented; basal flagellar segments subglobular, crowded, outer segments oval, terminal segment elongate, about one-half longer than the penultimate. Head brownish gray; anterior vertex broad.

Pronotum brownish gray. Mesonotal praescutum gray, with four brown stripes, the longer intermediate pair narrowed behind, virtually confluent at the suture; scutum gray, lobes patterned with brown; scutellum dark gray, mediotergite lighter gray. Pleura light gray; dorsopleural membrane buffy brown. Halteres with stem obscure yellow, restrictedly darkened at base, knob dark brown. Legs with the elongate coxae buffy, sparsely pruinose; trochanters testaceous yellow; femora light brown, tips passing into brownish black; tibiae dark brown; tarsi black. Wings weakly tinged with yellow, very restrictedly patterned with darker, including narrow seams at  $Sc_2$ , origin of  $Rs$ , cord, tip of  $Sc$ , and very vaguely at  $R_2$  and elsewhere; veins brown,  $Sc$ ,  $R$  and  $Cu$  more yellowed. Venation:  $r-m$  variable in position, from near one-third to midlength of  $R_4+5$ ; cell  $M_1$  variable in length, in cases very reduced and probably lacking in certain specimens in a large series;  $m-cu$  before the fork of  $M$ .

Abdomen dark brown, sparsely pruinose; hypopygium dark brown. Male hypopygium with the interbase as in the *katahdin* group, conspicuously setiferous on outer half. Apical lobe of basistyle low and obtuse, not extended caudad beyond the dististyle,

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2. University of Massachusetts, Amherst, Massachusetts. I am greatly indebted to the National Science Foundation for financial aid in conducting the field explorations in California in 1957.

with abundant spicules. Dististyle subrectangular, without tubercles or spines, the inner margin with about eight or nine long strong bristles.

*Habitat*: South Dakota (Black Hills).

*Holotype*, ♂, Midway Creek, Harney Peak, altitude 6,500 feet, June 16, 1953 (Alexander). *Paratopotype*, ♂.

The specific name, *pahasapa*, is derived from the Sioux, *paha* meaning hills, *sapa* black. This is the most westerly known member of the *katahdin* group and the first from west of the 100th meridian. The fly is readily told from the eastern Nearctic members of the group, including besides *Pedicia* (*Tricyphona*) *katahdin* Alexander, also *P. (T.) macateei* Alexander, *P. (T.) paludicola* Alexander, and the doubtfully distinct *P. (T.) pumila* Alexander, by the unarmed dististyle of the male hypopygium. All of the other species are provided with a strong tubercle that is tipped with from one to five spines or spinelike setae.

*Pedicia* (*Tricyphona*) *ampla cinereicolor*, n. subsp.

Generally as in typical *ampla* Doane, differing in the small size, narrow wings, general gray coloration, and in details of color and structure.

*Male*: Length about 15 mm.; wing 14x2.7 mm.; antenna about 1.8 mm.

Rostrum brownish gray; palpi brownish black. Antennae with basal four segments yellowish brown, the remainder passing into black; outer flagellar segments becoming progressively smaller, with short verticils. Head gray; anterior vertex with a small darkened spot at summit of tubercle.

Mesonotum gray, the praescutum with four brown stripes, the intermediate pair widely separated, narrowed to acutely pointed behind; scutal lobes dark; more buffy areas behind the midpoint of the suture, posterior ends of the scutal lobes and the parascutella. Pleura with propleura, mesepisternum and metapleura gray, the mesepimeron and meron paler. Halteres with stem whitened, knob infuscated. Legs with coxae more or less darkened, especially the posterior pair; remainder of legs brownish yellow, outer tarsal segments darkened. Wings narrow, as shown by the measurements, about five times as long as broad. Venation: Cell 1st  $M_2$  closed; cell  $M_1$  nearly twice its petiole; *m-cu* at fork of  $M$ .

Abdomen dark brownish gray, the sides of the tergites narrowly buffy, posterior margins of the sternites more narrowly so. Male hypopygium with the tergal lobe moderately broad, its posterior border gently concave, the margin vaguely crenulate. Apical setae of basistyle relatively small. Outer dististyle small, oval, the lower inner angle prolonged, setae well distributed over the surface, longer than the style. Inner dististyle 5-pronged, as in the *ampla* group, all arms obtuse at tip, the group broader than long.

*Habitat*: California (Inyo County).

*Holotype*, ♂, Intake Camp, Bishop Creek, altitude 8,000 feet, July 8, 1957 (Alexander).

*Pedicia (Tricyphona) ampla perangusta*, n. subsp.

Generally as in typical *ampla* Doane, differing in the small size, narrow wings, and details of structure of the male hypopygium.

*Male*: Length about 15 mm.; wing 13.5x2.9 mm.; antenna about 1.7 mm.

Antennae chiefly pale, the outer seven or eight segments blackened. Mesonotal praescutum chiefly ochreous, intermediate praescutal stripes broad, wider than the separating interspace, lateral stripes pale. Pleura chiefly ochreous, sternopleurite darker. Halteres with knob strongly darkened. Legs with all coxae pale yellow; remainder of legs brownish yellow, femoral tips narrowly but evidently dark brown; outer tarsal segments brownish black. Wings narrow, as shown by the measurements, slightly more than four and one-half times as long as broad. Venation: Cell 1st  $M_2$  narrow, open by atrophy of *m* in one wing; cell  $M_1$  deep, nearly three times its petiole; *m-cu* about one-third its length beyond the fork of *M*.

Abdomen buffy, both the tergites and sternites with a darkened central stripe, lateral tergal borders slightly more pruinose, internally with a very narrow dusky line that becomes more evident on the outer segments; a narrow subterminal black ring that includes segment eight and most of nine, remainder of hypopygium yellow. Male hypopygium with the tergal lobe moderately broad, the posterior border truncate, straight, Apical setae of basistyle of moderate length, much shorter than in some other members of the *ampla* group. Outer dististyle small, broadly oval, with numerous setae, some being short and spinoid. Inner dististyle 5-pronged, as in the group; two of the inner arms broadly joined at base, the lower point triangular.

*Habitat*: Oregon (Baker County).

*Holotype*, ♂, Spring Creek, Whitman National Forest, near Baker, in foothills of Blue Mountains, altitude 3,900 feet, May 30, 1956 (Baker).

*Pedicia (Tricyphona) aspidoptera convexa*, n. subsp.

*Male*: Length about 12 mm.; wing 1.2 mm.

Differs from typical *aspidoptera* (Coquillett, 1905) in the structure of the male hypopygium. Ninth tergite with the caudal border very gently convex (as figured by the writer in American Midland Naturalist, 29:162, fig. 16; 1943). In typical *aspidoptera*, the caudal margin of the tergite is conspicuously emarginate, forming small but distinct lateral lobes.

*Habitat*: Colorado (Gunnison County).

*Holotype*, ♂, mounted on slide. Gothic, on slopes of Gothic Mountain, altitude 9,800 feet, July 3, 1934 (Alexander).

*Pedicia (Tricyphona) steensensis*, n. sp.

Belongs to the *ampla* group; size large (length of male about 15 mm.); mesonotal praescutum brown, with three darker stripes; wings reduced to narrow straplike blades in both sexes; male hypopygium with the apex of the tergal lobe truncate or virtually so.

*Male*: Length about 15 mm.; wing about 3 mm.; antenna about 1.5 mm.

*Female*: Length about 18 mm.; wing about 3 mm.

Rostrum and palpi brownish black. Antennae short; scape light brown, the remainder black; flagellar segments short-oval, passing into oval, verticils inconspicuous. Head dark brownish gray, with a capillary darker vitta extending from the small vertical tubercle posteriorly.

Pronotum brown, darker in the male. Mesonotal praescutum brown, with three darker stripes, the pattern darker in the male; posterior sclerites of notum dark brownish gray in male, the postnotum paler in the female; parascutella yellowed in both sexes. Pleura chiefly brownish gray in male, paler in female. Halteres with stem whitened, knob dark brown. Legs with coxae brown; trochanters yellow; in male remainder of legs darker than in female, femora dark brown, yellowed basally, tibiae brownish yellow, brownish black at tips, outer tarsal segments dark brown; in female legs more uniformly medium brown, the femoral tips not darkened. Wings greatly reduced to long narrow strips, virtually equal in both sexes; basal half yellowed, outer part more infuscated; tips narrowly obtuse, more so in female.

Abdomen of male dark brown, lateral borders of both tergites and sternites very narrowly obscure yellow; in the female, abdomen reddish brown, the lateral margins not paler; posterior borders of intermediate segments very narrowly obscure yellow; hypopygium brownish black, styli brownish yellow. Male hypopygium with the tergal lobe relatively broad, about as in *ampla*, gradually narrowed outwardly, the posterior border virtually truncate, not emarginate as in *ampla*. Disistyles much as in *ampla*, the small fleshy outer style more oval, its tip obtuse.

*Pedicia (Tricyphona) aspidoptera* (Coquillett), of the southern Rocky Mountain region, has the wings even more reduced in both sexes, differing further from the present fly in details of structure of the male hypopygium, particularly the tergite.

*Habitat*: Oregon (Harney County).

*Holotype*, ♂, Fish Lake, Steens Mountains, altitude 7,200 feet, July 14, 1953 (Baker). *Allotopotype*, ♀, pinned with the type.

The only described species of the subgenus that are subapterous in both sexes are *Pedicia (Tricyphona) aspidoptera* (Coquillett), discussed before, *P. (T.) degenerata* Alexander, and *P. (T.) subaptera* Alexander. The second species belongs to a different group of the subgenus, the last is not sufficiently known at this time to make any definite statement as to its position but is very definitely distinct from the present fly. The stenopterous condition of this insect is quite different from the brachypterous type found in *aspidoptera* and *subaptera*. It may be noted that large-sized subapterous members of the subgenus have been found elsewhere in the western United States, particularly in California, but have not been critically studied to this date. Due to the absolute flightlessness of all of these flies it would seem that they must have evolved

independently in the various mountain areas where they now occur.

*Pedicia (Tricyphona) shastensis*, n. sp.

Belongs to the *townesiana* group, allied to *unigera*; size small (wing of male about 8 mm.); mesonotal praescutum buffy brown with four darker brown stripes, the intermediate pair approximated; pleura variegated obscure yellow and brown; wings weakly tinged with brown, stigma slightly darker; male hypopygium with the lateral tergal lobes relatively conspicuous; dististyle occupying the entire outer end of the basistyle, the spicules small, the outer blade narrowed at extreme tip; interbase produced into a long slender spine.

*Male*: Length about 7-7.5 mm.; wing 7-8 mm.; antenna about 0.7-0.8 mm.

Rostrum light brown; palpi brownish black. Antennae black throughout; basal flagellar segments oval, passing into long-oval, much shorter than the longest verticils. Head brown.

Pronotum light brown. Mesonotal praescutum buffy brown, with four darker brown stripes, the intermediate pair very narrow, only vaguely separated by a slightly paler vitta; scutal lobes dark brown, the median area, with the scutellum, more testaceous, vaguely pruinose; mediotergite more evidently pruinose, pleurotergite paler. Propleura, mesepimeron and metapleura obscure yellow, the mesepisternum darker; dorsal sternopleurite pale; dorso-pleural membrane obscure yellow. Halteres dusky, base of stem restrictedly yellow. Legs with the coxae and trochanters pale yellow; remainder of legs brownish yellow to pale brown; terminal tarsal segments darker. Wings weakly tinged with brown, stigmal region very slightly darker, prearcular field vaguely yellowed; veins brown. Venation:  $R_4+5$  subequal to  $r-m$ , the latter at or close to its fork; cel  $M_2$  closed or open by the atrophy of  $m$ , varying in this manner in the two wings of the holotype.

Abdomen dark brown, the apices of the sternites broadly obscure yellow; eighth and ninth segments brownish black to form a ring; styli brownish yellow. Male hypopygium most as in *unigera*, differing decisively in certain structures. Tergite with the median area of the posterior border slightly produced, lateral lobes relatively long and conspicuous. Basistyle with the apical lobe of the dististyle occupying the entire outer end of the style, broadly rounded, provided with abundant relatively short spines, the more basal ones small; outer blade of dististyle obliquely truncated, the extreme tip narrowly obtuse; interbase broad at base, slightly narrower on proximal half, the outer half produced into a long slender spine. Gonapophysis much shorter than the aedeagus, the latter expanded at apex into a small head, narrowed at its outer end. The hypopygium of *unigera* was figured at the time of the original description (American Midland Naturalist, 42:299, fig. 26; 1949).

*Habitat*: California (Shasta County).

*Holotype*, ♂, Castle Crags State Park, altitude 2,000 feet July 8, 1953 (Alexander). *Paratopotypes* 2 ♂ ♂.

The types occurred along small streamlets that flow into the Sacramento River at the Park. They occurred with many other crane-flies of unusual interest, including some further new species. At this date, the associated beautiful orchid, *Cephalanthera Austinae* (Gray), known as the phantom orchid or silver slipper, was common and in full flower. The regional members of the group include besides the typical form, *Pedicia (Tricyphona) townesiana* Alexander, also *P. (T.) fenderiana* Alexander, and *P. (T.) unigera* Alexander. The last named is the closest ally, differing evidently in the structure of the male hypopygium, including the tergite, interbase, and the dististyle.

*Dicranota (Rhaphidolabis) nooksackensis brevispinosa*, n. subsp.

Characters essentially as in typical *nooksackensis* Alexander, differing in important details of the male hypopygium.

Apices of the tergal lobes broadly rounded; lateral tergal arm very broad, its apex obliquely truncated and produced into a short lateral spine. Blackened apical spine of the basistyle short, at end of a long paler cylindrical arm that is four to five times as long as the spine itself; interbase a small simple slender blade, its tip narrowly obtuse.

In *nooksackensis*, the apices of the tergal lobes are more pointed; lateral tergal arm small and slender, narrowed outwardly. Apical spine of the basistyle long and conspicuous, longer than the basal arm.

The nature of the differences between these two subspecies is so great that it is probable that two distinct species may be involved.

*Habitat*: Washington (Cowlitz County).

*Holotype*, ♂, Toutle River, near foot of Mount Saint Helens, July 8, 1956 (Alexander).

*Dicranota (Plectromyia) nooksackiae latistyla*, n. subsp.

Similar to typical *nooksackiae*, differing especially in the details of structure of the male hypopygium.

Outer dististyle longer, with spicules on the apical fourth. Inner dististyle conspicuously broader, angularly bent, at apex with a few strong setae; surface of style with relatively numerous setae. Interbase stouter.

Typical *nooksackiae* Alexander has the outer dististyle more slender, with spicules on apical third. Inner dististyle more slender, only moderately arcuated, the surface with fewer setae.

In *nooksackiae subtruncifer* Alexander, the median lobe of the ninth tergite is truncated across apex.

*Habitat*: Alberta (Jasper National Park).

*Holotype*, ♂, Punchbowl Creek, Miette Hot Springs, east of Jasper, altitude 3,400 feet, August 21, 1947 (Alexander). *Paratopotype*, 1 ♂.