

LECTOTYPE DESIGNATIONS AND REDESCRIPTIONS FOR TWO SPECIES OF NORTH AMERICAN *ATRICHPOGON* (DIPTERA: CERATOPOGONIDAE)¹

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ABSTRACT: Lectotypes are designated for *Atrichopogon websteri* (Coquillett) and *A. peregrinus* (Johannsen) and the species are redescribed and illustrated.

Because of the difficulty of determining species of the genus *Atrichopogon* Kieffer from external characters, it is almost essential that descriptions be made at least in part from slide-mounted material. The purpose of this brief note is to select lectotypes for two species described in less complex times from pinned material and to present redescriptions based on characters best seen in slide mounts.

Atrichopogon websteri (Coquillett) (Fig. 1)

Ceratopogon websteri Coquillett, 1901: 603 (female; Louisiana).

Atrichopogon websteri (Coquillett); Thomsen, 1937: 63 (combination; immature stages; habits); Boesel and Snyder, 1944: 42 (in key to larvae and pupae); Johannsen, 1952: 156 (*websteri* of Thomsen, not Coquillett, in key); Wirth, 1952: 123 (male female redescribed; figs.; distribution); Boesel, 1973: 207 (male, female redescribed; Ohio).

Types. — Described from four females from Ashwood, Tensas Parish, Louisiana, 17.iv.1887, F.M. Webster (Type no. 5467, USN.). One pinned syntype has been lost off the point. Two of the remaining three syntypes have been mounted on slides, and one of these has been labeled Lectotype. From it the following notes are made:

Female. — A relatively small species for *Atrichopogon*, length 1.1 mm; wing damaged, length not measured. Eyes broadly contiguous, pubescent. Antenna (fig. 1a) with lengths of flagellar segments in proportion of 27-20-20-18-18-19-19-19-50-50-54-54-73; antennal ratio 1.75, last segment with apical papilla short and tapering, not subapically constricted. Palpus (fig. 1b) with lengths of segments in proportion of 10-30-50-26-22; palpal ratio 3.1; third segment slightly swollen, spindle-shaped, with moderately deep round sensory pit. Proboscis short; mandible (fig. 1d) slender and pointed, with 20 fine teeth, the teeth somewhat smaller toward tip. Mesonotum with distinct impressed translucent lines (fenestrae); scutellum with four marginal bristles and 2-4 small setae. Hind tarsal ratio 2.8. Wing as in fig. 1c. Spermatheca (fig. 1e) single, short oval with short slender neck, measuring 0.101 mm by 0.072 mm. Membranes of face and pleural membrane of abdomen with close-set microscopic black spicules set in lines as in fig. 1f.

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Male. — Genitalia (fig. 1g) with ninth sternum transverse on posterior margin, bearing about ten long caudomesal setae arranged in a line along margin. Aedeagus with rounded caudomedial point and a single deep fold on each side in the posterior margin of the rounded caudolateral portion.

New Records. — ILLINOIS: Cairo, 14 June 1961, R.B. Selander, on caged *Epicauta*, 5 males, 7 females.

Discussion.— Wirth's (1952) description of this species from California applies to a closely related species or a complex of species. *A. websteri* can readily be distinguished by its pubescent eyes; relatively short antenna; shining, blackish brown mesonotum and scutellum, the former with conspicuous sublateral translucent lines (fenestrae) extending from humeri to ends of scutellum; mandible with rather uniform small teeth, and a single ovoid spermatheca with short slender neck. A diagnostic character is the pattern of microscopic spicules arranged in close-set lines on the abdominal pleura, and in short linear patches on the facial membranes.

I am indebted to R.B. Selander of the University of Illinois for the following notes on his collection of the specimens reported above: "The collection was made in the city park in Cairo, Alexander Co., Illinois, June 14, 1961, about an hour before dusk. I had some cages of live adult meloids sitting on a park table. In the cage containing *Epicauta fabricii* I noticed some tiny flies buzzing around and alighting on the bodies of the beetles. In a cage next to this cage I had some *Nemognatha nemorensis*, but these were not bothered. In another cage containing *Epicauta lemniscata* I saw a few of the flies but most of the flies were attracted to the *E. fabricii* cage. At first I thought the flies had been in the cage since the beetles were collected, but by collecting the specimens periodically, I determined that the flies were definitely coming in to the cages in the park."

In Europe Görnitz (1937) reported *Atrichopogon brunnipes* (Meigen), along with *Notoxus* beetles, *Perilitus* wasps, and *Anthomyia* flies, attracted to the blister-beetle extract cantharidin. *A. brunnipes* is closely related to *A. websteri*, differing notably in its longer proximal antennal segments, hairier wings, more tapering neck on the spermatheca, and distinct caudomedial excavation on the male ninth sternum (Havelka, 1976).

Atrichopogon peregrinus (Johannsen)

(Fig. 2)

Ceratopogon peregrinus Johannsen, 1908: 266 (female; New York).

Types. — Described from an unspecified number of females from Old Forge, New York. Johannsen's syntype series was borrowed from Cornell University through the courtesy of L.L. Pechuman. There were seven pinned females labeled "Old Forge, N.Y., Aug. 1905, J.G. Needham." Johannsen had selected one female and labeled it "Holotype, Cornell U. No.

2287". This specimen is hereby designated "Lectotype." Johannsen labeled the remaining specimens paratypes, nos. 2287-2 to 2287-7. Of these I mounted the two in best condition on microscope slides in Canada balsam and with Dr. Pechuman's permission have retained specimen no. 2287-3 for the collection of the USNM. The four remaining pinned paratypes are somewhat damaged. The following notes are presented from the two slide-mounted paratypes:

Female. — A relatively large uniformly brownish species, wing length 1.55 mm, breadth 0.68 mm. Radial cells (fig. 2d) spacious, first radial cell 0.16 mm long, second radial cell 0.40 mm long; macrotrichia relatively slender and sparse on distal third of cells R5 and M1, at tip of cell M2, in mid portion of cell M4, and along posterior half of anal cell. Halter strongly infuscated. Eyes pubescent. Antenna (fig. 2a) short and stout, proximal segments slightly broader than long; lengths of flagellar segments in proportion of 36-25-25-25-25-25-25-60-60-65-65-92; antennal ratio 1.62. Palpus (fig. 2b) short, third segment relatively short and stout, sensory pit near tip, small and moderately deep, opening by a slightly smaller pore; lengths of segments in proportion of 25-45-45-35-32; palpal ratio 1.88. Mandible (fig. 2f) with 19 fine teeth, the distal teeth slightly stronger. Mesonotal fenestrae absent, scutellum with four primary bristles and about ten secondary hairs. Hind tarsal ratio 2.40. A single large ovoid spermatheca (fig. 2e) gradually tapering to a slender, slightly oblique neck; measuring 0.177 mm by 0.108 mm.

Male. — (Braddock Bay, New York). — Wing length 1.47 mm; breadth 0.43 mm; costal ratio 0.66. Antenna with lengths of last three segments in proportion of 77-63-86. Palpus as in fig. 2c. Hind tarsal ratio 2.68. Genitalia (fig. 2g): Ninth sternum with moderately deep, broadly V-shaped caudomedial excavation, three small setae on each side of the excavation near hind margin; ninth tergum broadly rounded caudad. Basistyle short and broad, simple; dististyle slightly longer than basistyle, nearly straight, gradually tapering to moderately slender, slightly bent, simple tip. Aedeagus as figured, posterior margin with well-developed, rounded medial lobe.

Distribution. — Northeastern North America from Alberta to Labrador and south to New York and Massachusetts.

Specimens Examined. —

ALBERTA: Brooks, 6.vii.1955, J.A. Downes, 1 female (Canadian National Collection). Kananaskis, Envir. Sci. Centre, 21.vii.1973, J.A. Downes, on dead insects, 4 females (CNC).

LABRADOR: Goose Bay, 14.viii.1950, J.J. Tibbles, 1 female (CNC).

MANITOBA: Churchill, 31.vii.1953, J.A. Downes, 1 female (CNC).

MASSACHUSETTS: Concord, 27.vii.1961, W.W. Wirth, swept near marshy pond, 1 female.

NEW YORK: Braddock Bay, Monroe Co., 12.vi.1963, W.W. Wirth, near marsh, 1 male, 2 females. Brantingham Lake, Lewis Co., 22.vi.1963, W.W. Wirth, lake margin, 2 females. Portageville, Genesee River, 13.vi.1963, W.W. Wirth, 1 female. Ringwood Reserve, Tompkins Co., 16-17.vi.1963, W.W. Wirth, from swamp, 1 female.

ONTARIO: Algonquin Park, 20.vi.1958, J.A. Downes, on dead insect, 3 females (CNC); 25.vi.1966, S. Smith, spider web, 1 female (CNC); 8.vi.1960, W.W. Wirth, 1 female.

QUEBEC: Gatineau Park, 22.vi.1966, S. Smith, on spider web, 1 female (CNC). Hull, 10.viii.1965, Malaise trap, 1 female. Rowanton Depot, 1.viii.1954, J.A. Downes, 1 female (CNC).

Discussion. — This large, uniformly dark brown species is readily distinguished by its robust build, pubescent eyes, moniliform proximal antennal segments and relatively short distal segments, short and relatively stout third palpal segment with shallow round pit, rather uniform sized,

numerous distinct mandibular teeth; broad, rather hairy wing; dark halter; numerous fine hairs on the scutellum; lack of mesonotal fenestrae, and large ovoid spermatheca tapering to slender, slightly oblique neck.

In Boesel's (1973) key this species will run to *A. titanus* Boesel in couplet 4. The species Boesel keyed out as *peregrinus* is a smaller species, wing length 1.30-1.46 mm, mesonotum and scutellum blackish brown, the former without fenestrae or impressed lines, the latter with 4 marginal bristles and 10 secondary hairs; antennal ratio 2.1, proximal segments transverse; legs olive to light brown; wing with second radial cell 2.2 times length of first; macrotrichia present on about 2/3 of cell R5, in cell M1, M2, and sparsely or not at all in cells M4 and anal cell. Characters of the palpal pit, mandibular teeth and spermathecae were not stated, but the short transverse proximal antennal segments and general features of coloration, vestiture, wing venation and macrotrichia indicate that Boesel's *peregrinus* is probably *A. lucorum* (Meigen) or another species of the subgenus *Meloehalea*. *A. titanus* is apparently close to *peregrinus* but differs according to the characters given by Boesel by its larger size (adjusted wing length 1.7 mm), bare eyes, antennal ratio 2.0, wing with numerous macrotrichia on apical and posterior third; intercalary fork (veins R4+5 of (Boesel) distinctly petiolate but anterior branch of fork weak; second radial cell 2.0 times length of first.

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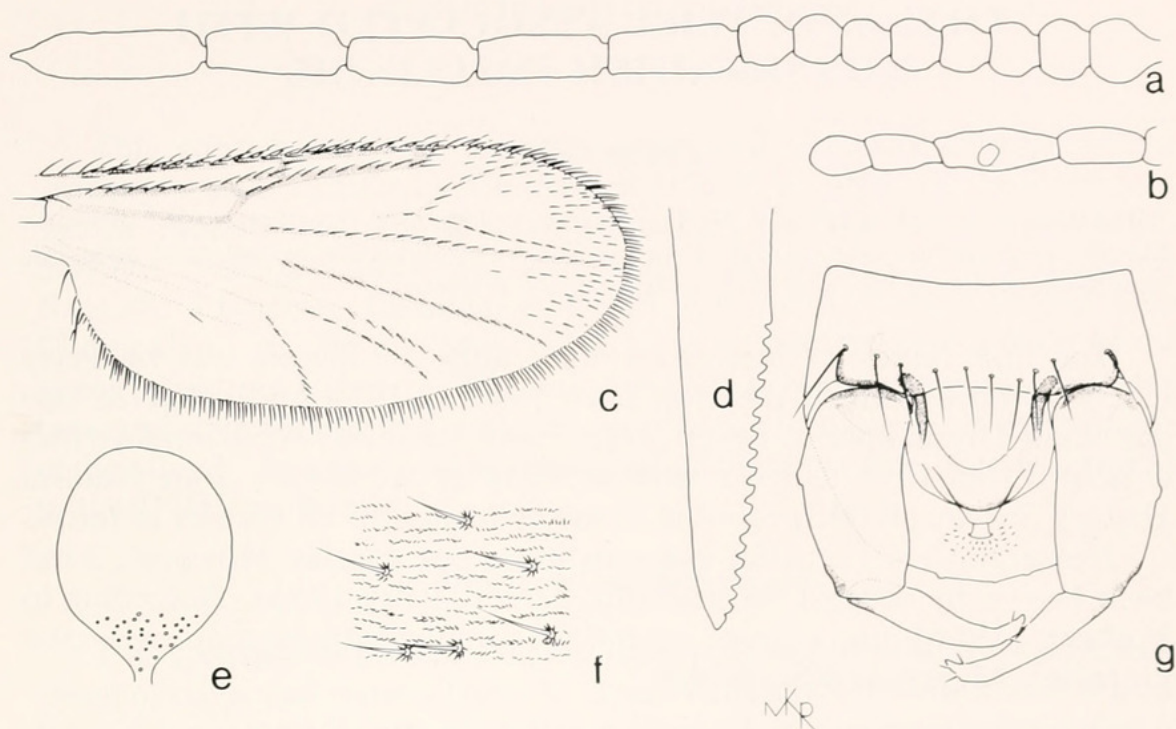


Fig. 1. *Atrichopogon websteri*, a-f, female; g, male: a, antenna; b, palpus; c, wing; d, mandible; e, spermatheca; f, detail of spicules on integument of pleural membrane of abdomen; g, genitalia.

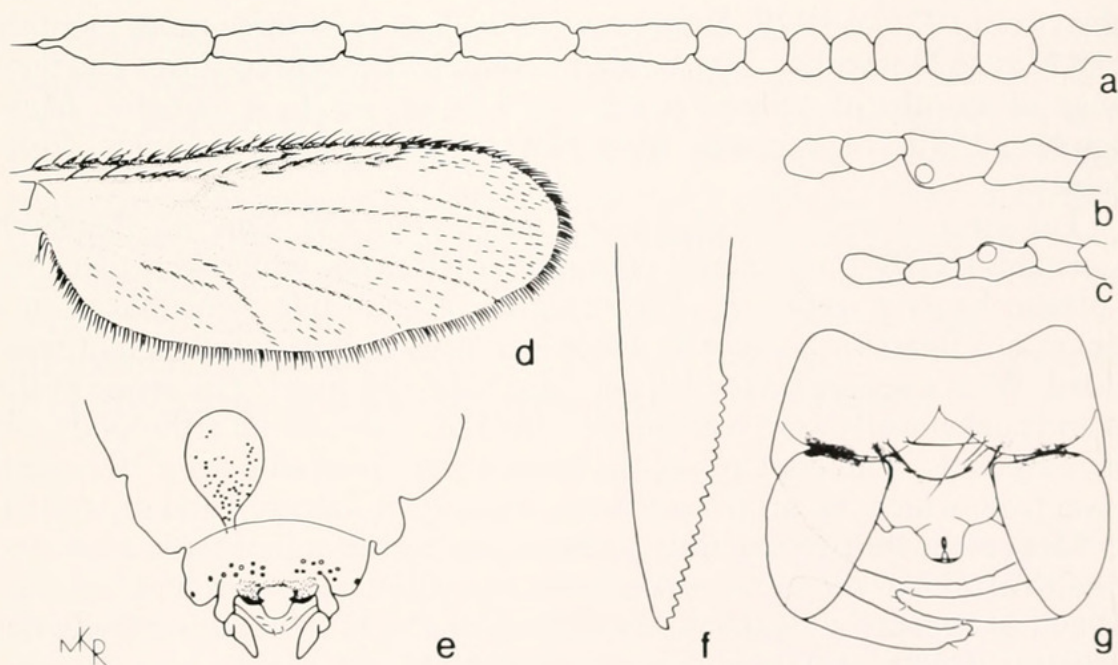


Fig. 2. *Atrichopogon peregrinus*, a-b, d-f, female; c, g, male: a, antenna; b-c, palpus; d, wing; e, genital sclerotization and spermatheca; f, mandible; g, genitalia.



Wirth, Willis Wagner. 1979. "Lectotype Designations And Redescriptions For 2 Species Of North american Atrichopogon (Diptera, Ceratopogonidae)." *Entomological news* 90, 231–235.

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