

**EPHEDRODOMA, A NEW GENUS OF ORTHOTYLINE MIRIDAE
(HEMIPTERA) FROM WESTERN UNITED STATES**

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Abstract.—*Ephedrodoma* n. gen. and *Ephedrodoma multilineata* n. sp. are described. The new genus is compared with *Argyrocoris* Van Duzee. The new species occurs in California, Nevada, Utah, Arizona, New Mexico, and Texas. Host plants are *Ephedra trifurca* and *Ephedra aspera*.

Our collections of Miridae in western United States over the past several years have revealed a species of Orthotylineae that inhabits *Ephedra* (Mormon Tea) and cannot be placed in any described genus. We thus propose a new genus, *Ephedrodoma*, for this insect.

Specimens treated in this paper are held in various collections with abbreviations as follows; we are indebted to the curators or individuals as noted for permission to study their collections. Gary M. Stonedahl Collection, Oregon State University (GS); R. T. Schuh, American Museum of Natural History (AMNH); J. T. Polhemus Collection (JTP).

***Ephedrodoma*, NEW GENUS**

Description.—Head broad, short, triangular when viewed from above; eyes protrusive, large; vertex wide, more than twice the dorsal width of an eye; vertex with distinct carina, occasionally obscure medially; antennae long, slender, segments III and IV somewhat thinner than preceding two. Pronotum large, convex, posterior angles acute; calli not prominent. Mesoscutum well exposed; scutellum flat. Hemelytra long, macropterous, extending to tip of abdomen. Legs long, slender; femora robust; claws large, parempodia minute, pulvilli large, convergent. Rostrum long, extending past hind coxae. Male genitalia of orthotyline-type; right clasper club shaped, small, with 1-3 spinose projections apically; left clasper small, spatulate, with long curving projection on lower margin. Pubescence distinctive, consisting of black bristle-like hairs interspersed with patches and longitudinal lines of silvery scale-like hairs.

Discussion.—Superficially, *Ephedrodoma* n. gen. resembles *Argyrocoris* Van Duzee (1912). Both genera are placed in the subfamily Orthotylineae on the basis of genitalia and pretarsal structure, and both possess longitudinal lines of silvery scales on the head and pronotum. The major point of separation between the two genera lies in the structure of the head. In *Ephedrodoma* the head is strongly produced vertically, with the gena extending below the eye for a distance equal to the vertical height of the eye, in contrast to *Argyrocoris* where the head is

essentially horizontal and the gena barely evident. In *Argyrocoris* the antennal socket contacts the inner margin of the eye, while in *Ephedrodoma* the socket is separated from the eye by a distance equal to the width of the second antennal segment. The head of *Ephedrodoma* is strongly carinate basally, and the eyes extremely protrusive; in *Argyrocoris* the head is nearly acarinate basally and the eyes, though bulging, are not strongly protrusive. The antennae of female *Ephedrodoma* possess long, pilose setae, a character lacking in *Argyrocoris*.

The two genera may also be separated on the basis of habitus, *Argyrocoris* having a narrower, more elongate form and uniformly pallid coloration (see figure in Carvalho and Schaffner, 1973 for comparison). The erect pubescence of the hemelytra of *Argyrocoris* is fine and pallid, in contrast to *Ephedrodoma* where it is stout, black, and bristle-like.

Within the Orthotylinae, *Ephedrodoma* appears to belong in the tribe Orthotylini; in Knight's (1968) key it runs to *Hadronema*, from which it may be immediately separated by its pale legs and antennae, and by the distinctive scaly pubescence on the dorsum.

Etymology.—The name *Ephedrodoma* (Gr., L.) is derived from *Ephedra*, the host plant, and *domus* meaning house, with change of ending. The gender is feminine.

Ephedrodoma multilineata, NEW SPECIES

Figs. 1–2

Description.—*Male*: Of moderate size, ovate; length 3.86 mm; maximum width 1.26 mm. Head black; lorum, gena, and gula reddish, eyes red, antennae pallid; frons set with fine pallid setae, tylus not anteriorly produced, frons with parallel lines of flattened silvery hairs, one pair (1 + 1) extending from inner edges of eyes to bases of antennae, another pair (1 + 1) reaching from outer margins of vertex across frons and jugae, a longitudinal median line on frons extending onto tylus split posteriorly to form a V enclosing vertex; a pair (1 + 1) of lines of silvery hairs extending from genae to lorae; another pair of silvery hair patches (1 + 1) on buccula; vertex wide, .51 mm, exceeding twice the dorsal width of an eye; eyes protrusive, dorsal width .20 mm. Antennae pallid, segment I stout, set with pallid setae equal in length to diameter of segment, interspersed with several longer, stouter, upright pallid setae; segment II slender, with short, pallid, recumbent setae; segments III and IV dusky, with fine, recumbent, pallid setae; lengths of antennal segments I–IV (in mm): .31; 1.23; .74; .37.

Pronotum black; basalar plate, epimeron, and area surrounding ostiolar peritreme pallid, propleura reddish; collar narrow; lateral margins weakly concave, posterior angles acute, posterior margin weakly sinuate; calli indistinct; surface set with stout black bristles, with five longitudinal lines of scaly silvery hairs, one pair (1 + 1) along margins, another pair (1 + 1) extending caudad from margins of vertex, one single line medially; a fringe of silvery hairs also present along posterior margin; a single stout setae present at each anterior angle; pleural region with two longitudinal lines of flattened silvery hairs, one extending from middle of posterior eye margin across propleura to base of fore coxa, the other originating near bottom of eye and extending across lower propleuron and episternum to bases of coxae, contiguous with similar line on head. Scutellum black, lighter laterally; mesoscutum well exposed, covered with flattened silvery hairs; scutellum

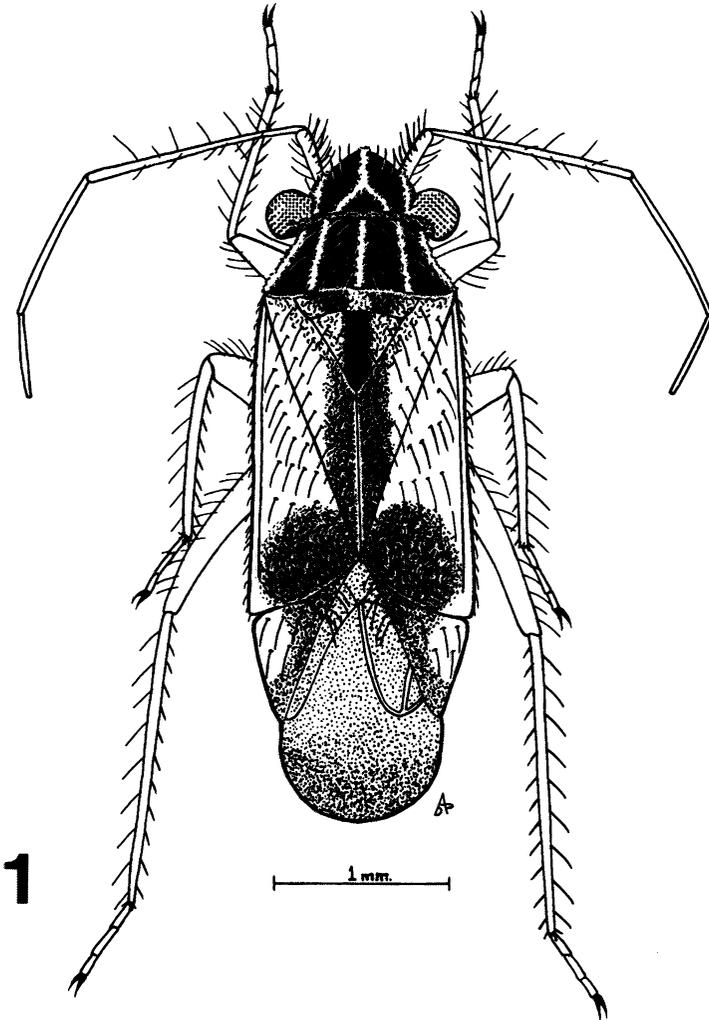


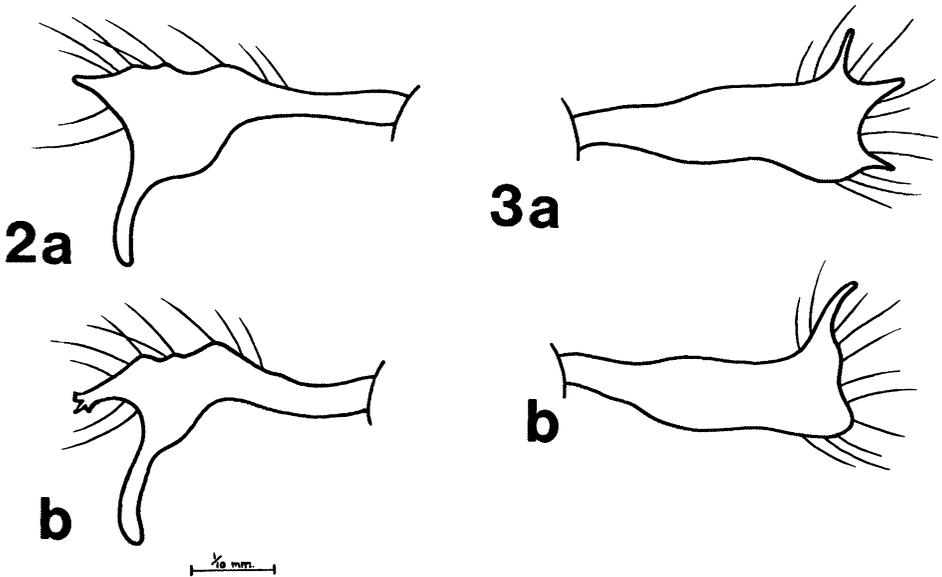
Fig. 1. *Ephedrodoma multilineata* n. sp., dorsal habitus.

with flattened silvery hairs medially and bordering clavus, also with scattered black bristles.

Hemelytra pallid, claval commissure and distal area of corium infuscated, cuneus mottled with red at least along inner margin; surface set with stout black bristles, interspersed with silvery scale-like hairs along claval commissure, basal and distal area of corium, and base of cuneus; cuneus with fine pallid setae; membrane orange, often infuscated on distal half; veins red.

Venter red, covered with fine pallid setae; abdomen covered with slender scaly white hairs. Legs pallid, coxae red basally, tips of tarsi infuscated; all segments covered with fine pallid setae, tibiae with pallid spines; tarsal joints subequal in length. Rostrum pallid, infuscated at tip, length 1.29 mm, reaching beyond hind coxae.

Genital segment with slender, pointed tergal process above base of left clasper;



Figs. 2-3. *Ephedrodoma multilineata* n. sp., male parameres, showing range of intraspecific variability. 2a-b, Left paramere. 3a-b, Right paramere.

claspers small, variable; right clasper club-like, with one to three spinose projections apically (see Figs. 3a, b); left clasper spatulate, with elongate, blunt process extending ventrally from bottom margin and a shorter process dorsally near apex with one to three small lobes at tip (see Fig. 2a, b).

Female: similar to male in coloration and structure; length 3.79 mm; antennal segment II also with long pilose hairs of length subequal to three times the diameter of the segment.

Discussion.—*Ephedrodoma multilineata* n. sp. inhabits *Ephedra* (Mormon Tea) growing on the outwash plains below desert mountain ranges. The insects are uncommon, with at most one or two specimens ever taken on a single plant. A notable feature of this species is the variability of the male claspers. The differences in structure between extremes in a population are equivalent to those that define many species, yet within a series of specimens a continuous intergradation of forms may be seen. Another notable feature is the sexual polymorphism involving pilose hairs on the antennae; these structures are present only in the females and perhaps serve as pheromone receptors.

Etymology.—The name *multilineata* refers to the color pattern of the insect.

Material examined.—Type, male, and allotype, female: NEVADA, Clark Co., Mount Charleston 5500', VII-19-82, J. T. Polhemus (JTP). Paratypes: NEVADA; 3 ♂♂, 5 ♀♀, same data as types (JTP). CALIF.; 1 ♂ Inyo Co., along California Hwy. 141 nr. 9 Mile Canyon, NW of Inyokern, CL 1631, VII-15-82, J. T. Polhemus (JTP); 4 ♂♂, Inyo Co., 2 mi. E of Westgard Pass summit, 2072 m (6800'), VII-12-80, G. M. Stonedahl (GS). UTAH; 1 ♂, 17 ♀♀, Washington Co., 3.5 mi. E of LaVerkin, VI-25-80, R. T. Schuh (AMNH); 3 ♂♂, 8 ♀♀, Millard Co., 23.5 mi. E of Nevada border on U.S. 50, 1981 m (6500'), VII-18-80, G. M. Stonedahl (GS). ARIZ.; 9 ♂♂, 25 ♀♀, Cochise Co., .5 mi. E of Portal, 1450 m (4757'), VI-13-80,

R. T. Schuh, K. & R. Schmidt (AMNH); 1 ♂, 6 ♀, Mojave Co., Purgatory Can., .35 mi. S of m.p. 24 on I-15, along Virgin Riv., 792 m (2600'), V-24-81, M. D. Schwartz (AMNH). N. MEX.; 1 ♂, 4 ♀, Hidalgo Co., 2 mi. N of Rodeo, 1300 m (4265'), VI-11-80, R. T. Schuh, K. & R. Schmidt (AMNH). TEXAS, 3 ♂♂, 2 ♀♀, Brewster Co., Pine Canyon, Big Bend Nat. Park, V-1-82, D. A. & J. T. Polhemus (JTP).

Host plants.—*Ephedra aspera*, *Ephedra trifurca*.

LITERATURE CITED

- Knight, H. H. 1968. Taxonomic Review: Miridae of the Nevada Test Site and the Western United States. Brigham Young Univ. Sci. Bull. 9: 1-281.