

**ORTHOTYLUS AESCULICOLA: A NEW PLANT BUG FROM MISSOURI (HETEROPTERA: MIRIDAE: ORTHOTYLINAE)**

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*Abstract.*—*Orthotylus aesculicola* is described as new from Missouri. This mirid was found breeding on Ohio buckeye, *Aesculus glabra* Willd. (Hippocastanaceae). The adult male and genitalia of the male and female are illustrated.

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The genus *Orthotylus* is a large group, with more than 100 species world-wide and 45 North American species listed in Carvalho's (1958) Catalog. Henry (1979) described 3 new species from the United States. In addition, a number of Palearctic species have been recognized for North America: *O. concolor* (Kirschbaum) from Massachusetts (Knight, 1922), *O. nassatus* (Fab.) from Pennsylvania (Henry, 1977), and *O. viridinervis* (Kirschbaum) from Ontario, Canada (Henry and Wheeler, 1979).

In this paper a new species of *Orthotylus* is described to provide a name to be used in a forthcoming paper on the life history of the plant bug fauna associated with *Aesculus glabra* Willd.

The following abbreviations are for institutions and collections cited in this paper: AMNH, American Museum of Natural History, New York; EMUM, Wilbur R. Enns Entomology Museum, University of Missouri-Columbia; RLB, Robert L. Blinn collection; TAM, Texas A&M University, College Station; USNM, U.S. National Museum of Natural History, Washington, D.C. All measurements are in millimeters.

***Orthotylus aesculicola*, new species**

Figs. 1-7

*Diagnosis.* The general black color, with contrasting yellowish green to pale green lateral margins of the pronotum and hemelytra, and the male parameres will separate *aesculicola* from all other North American *Orthotylus*.

*Description.* Holotype male: Length 4.90-5.10, width 1.30-1.40, generally black with lateral margins of pronotum and hemelytra yellowish orange to pale green, dorsum with recumbent pale setae.

Head: Length 0.38-0.43, width 0.76-0.80, vertex 0.35-0.38, shiny black with lora, gena, antennal fossae and narrow area bordering eyes yellowish orange. Rostrum: Length 1.15-1.33, attaining mesocoxae, pale green, apex darkened. Antennae: Black; I, length 0.44-0.50; II, 1.55-1.75; III, 0.85-0.93; IV, 0.49-0.58.

Pronotum: Length 0.63-0.68, humeral width 1.06-1.21, yellowish orange, posterior margins of calli (some paratypes with entire calli), area between calli and rays posterior of calli extending to basal margin black; propleura shiny black, ventral margin and xyphus pale green; mesoscutum black, lateral margins appearing paler; scutellum

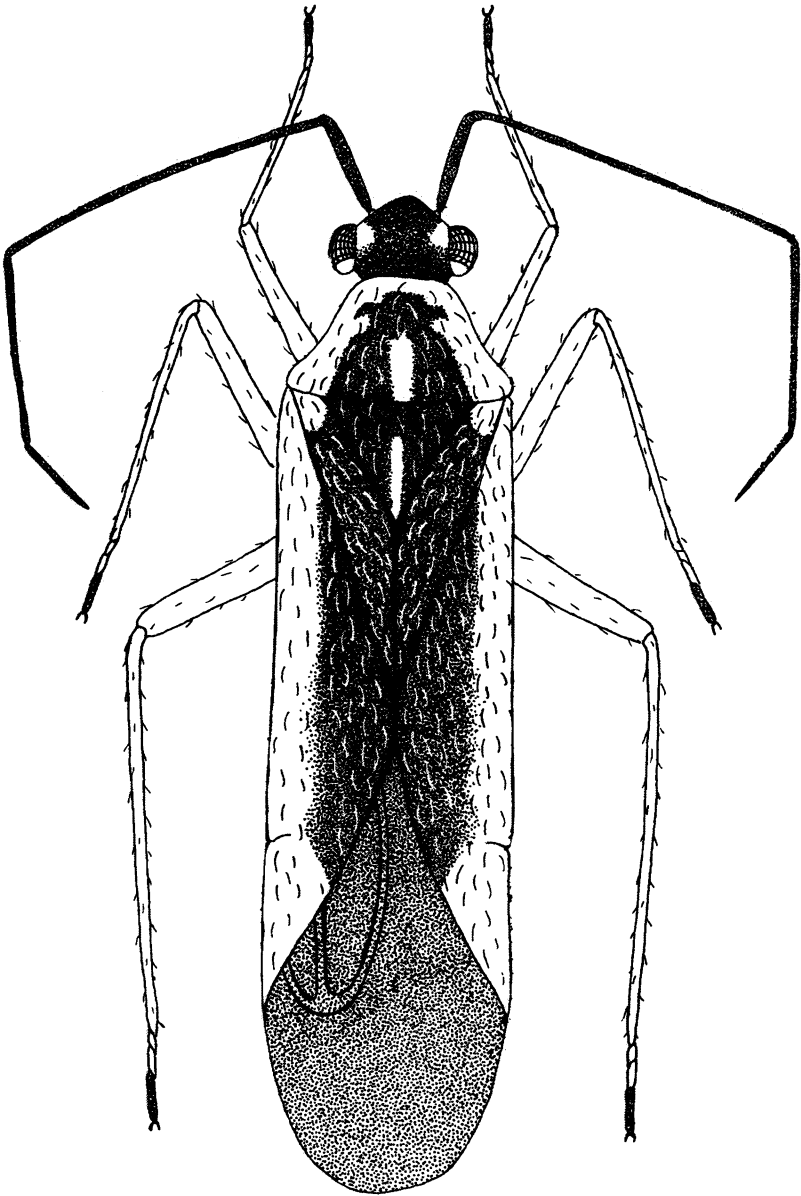
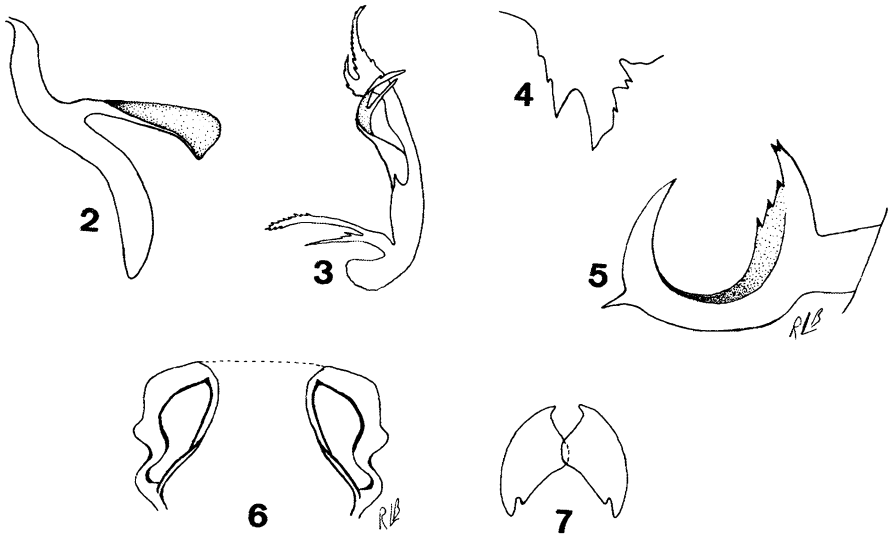


Fig. 1. *Orthotylus aesculicola*, male habitus.



Figs. 2-7. *Orthotylus aesculicola*. 2-5. Male genitalia. 2. Left paramere, dorsal-lateral view. 3. Spiculum. 4. Tergal process. 5. Right paramere, dorsal lateral view. 6, 7. Female genitalia. 6. Posterior view of sclerotized rings. 7. Posterior view of posterior wall.

rugulose, black, with yellowish green median line (some paratypes lacking pale median line).

**Hemelytra:** Black, lateral margins yellowish orange basally, distinctly pale green on apical  $\frac{2}{3}$ ; cuneus pale green with inner margin infuscated; membrane and veins translucent infuscate. Mesosternum yellowish orange with dorsal lateral area black; metasternum black, scent gland peritreme pale green; abdomen yellowish orange to brown, dorsal lateral margin shiny black. Legs pale green, spines light brown; tarsi dusky, 3rd tarsal segments and claws brown.

**Genitalia:** Right paramere C-shaped, distal arm acute with perpendicular median spinous process; proximal arm bifurcate with several short median spines along inner edge (Fig. 5). Left paramere deeply bifurcate, similar to that of other species of genus (Fig. 2). Spiculum (Fig. 3). Small tergal process on posterior margin of genital aperture left of the median line (Fig. 4).

**Female:** Similar to male in color and pubescence; dark areas less extensive. Length,  $N = 9$ , 4.70-5.30, width 1.20-1.48. Head: Length 0.41-0.46, width 0.76-0.81, vertex 0.39-0.43. Rostrum 1.28-1.38. Antennae: I, length 0.45-0.50; II, 1.63-1.78; III, 0.88-0.98,  $N = 7$ ; IV, 0.51-0.58,  $N = 7$ . Pronotum: Length 0.64-0.70, humeral width 1.11-1.21. Genitalia: Sclerotized rings (Fig. 6); posterior wall (Fig. 7).

**Holotype.**  $\delta$ : Missouri, Boone Co., Columbia, May 17, 1985, R. L. Blinn coll., taken on *Aesculus glabra* (USNM).

**Allotype.**  $\text{?}$ : same data as for holotype, May 30, 1985 (USNM).

*Paratypes.* Same data as for holotype: 1♂, May 23, 1984 (EMUM); 1♂, May 24, 1984 (EMUM); 1♀, June 11, 1984 (EMUM); 1♀, May 3, 1985 (AMNH); 1♀, May 7, 1985 (TAM); 1♂, May 17, 1985 (AMNH); 1♂, 3♀♀, May 21, 1985 (RLB, EMUM); 5♂♂, 3♀♀, May 25, 1985 (EMUM); 2♂♂, June 1, 1985 (EMUM, TAM).

*Etymology.* The specific epithet *aesculicola* refers to the host plant, *Aesculus glabra* (Hippocastanaceae).

*Remarks.* *Orthotylus aesculicola* is the only species of the genus known to breed on *A. glabra* in North America; this early-season, univoltine species is the second plant bug known only from Missouri that breeds exclusively on *A. glabra*, the other being *Lygocoris aesculi* (Knight, 1953). Additional collecting early in the season in other states where *A. glabra* grows will undoubtedly increase the known range of *O. aesculicola* and *L. aesculi*.

*Orthotylus aesculicola* appears closely related to *O. affinis* Van Duzee (1916) based on the similarity of the right parameres. *Orthotylus aesculicola* is recognized by the black antennal segments, the nearly black head, and smaller size. In *affinis*, the antennal segments are pale and the head is pale with the black areas reduced to two triangular marks on the vertex, two arcuate marks on the frons, and a spot at the base of the clypeus.

*Orthotylus aesculicola* keys to *dorsalis* (Provancher) in Knight (1923, 1941) and Blatchley (1926); however, the color pattern and genital parameres of *aesculicola* will easily distinguish it from *dorsalis*.

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