



**THE GENUS EUPHALERUS IN AMERICA NORTH OF MEXICO (PSYLLIDAE: HOMOPTERA)**

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The Psyllidae (Chermidae) upon which this paper is based were very kindly loaned to the writer from the Snow Entomological Collection at the University of Kansas by Dr. R. H. Beamer. The genus **Euphalerus** is represented in North America north of Mexico by seven species, four of which are described for the first time in this paper. The type of the genus **E. nidifex** Schwarz is included although it has not been recorded from the mainland of North America.

**Key to North American Species of Euphalerus.**

1. Color reddish brown, including wings, male forceps not simple ..... 2.

- Color not as above (mostly greenish in appearance); male forceps simple and acute at apex ..... 3.
2. Large species (3.75 mm. in length), genal cones longer than vertex; male forceps with a heavy, slightly T shaped tooth medially at apex .....  
 ..... **adustus** n. sp.  
 Small species (2.50 mm. in length), genal cones shorter than vertex, male forceps appearing folded ..... **tantillus** n. sp.
3. Entire body including wings speckled with brown or black dots and spots ..... **nidifex** Schwarz.  
 Body not speckled with brown or black spots ..... 4.
4. Forewings rounded at apex ..... 5.  
 Forewings distinctly rhomboidal. **propinquus** Crawf.
5. Wings with one or more prominent maculae ..... 6.  
 Wings not maculated ..... **rugipennis** Crawf.
6. Veins of forewings extremely prominent, strongly raised, distinctly marked with rather regularly spaced white spots ..... **jugovenosus** n. sp.  
 Veins of forewings normal, without white spots .... 7.
7. Forewings covered with a white, waxy powder, with a single prominent black spot at extremity of clavus ..... **beameri** n. sp.  
 Forewings hyaline, whole apical margin more or less maculated ..... **vermiculosus** Crawf.

**Euphalerus adustus** n. sp.

Resembling **E. rugipennis** Crawford but a larger, reddish species without the characteristic white spots; wings less rugose. Length to tip of folded wings 3.75 mm.

**Color.** Uniformly yellowish red, some white vermiculations on head and thoracic dorsum. Wings brown, apical portion faintly cloudy. Abdomen sometimes greenish.

**Structure.** Body large, finely punctate. Vertex twice as wide as long, flat, smooth, pubescent on anterior margin. Antennae one and one half times as long as width of head, genal cones large, as long as vertex, rounded, swollen in appearance, rather acute, prominently pubescent, thorax strongly arched. Forewings rugose, about two and one half times as long as wide, pterostigma large, vein Rs sinuate. Abdomen large, extending almost to apex of wings.

**Genitalia.** Male proctiger large, typical in shape.

Forceps large, almost as long as proctiger, straight and very broad in either lateral or caudal view; anterior margins heavily pubescent to roundly truncate apex; postero-medial margins produced into heavy, slightly bifid, somewhat T shaped teeth, extending barely beyond apex. Female genital segment about half as long as rest of abdomen, evenly narrowed to rather acute apex.

Holotype male, allotype female, and one female paratype, Weber Canyon, Utah, July 4, 1931, R. H. Beamer; one female paratype Maybell, Colorado, June 30, 1931, R. H. Beamer; one male paratype Fks. Logan Can., Utah, Aug. 21, 1934, C. F. Smith and T. O. Thatcher.

Holotype, allotype and one female paratype in Snow Entomological Collection, Univ. of Kansas; one female paratype in author's collection; male paratype in U. S. N. M., Washington, D. C.

#### ***Euphalerus tantillus* n. sp.**

Resembling *E. adustus* n. sp., but much smaller and with distinctive genitalia, the female genital segment subglobose at base with a styliform prolongation, the male forceps folded in appearance. Length to tip of folded wings 2.50 mm.

**Color.** Brownish red with some indistinct, lighter markings on head and thorax. Forewings reddish fumate.

**Structure.** Head large, strongly deflexed. Vertex twice as wide as long, with prominent impression on each side, somewhat bulging in front, very slightly pubescent on anterior margin. Antennae slightly longer than width of head. Genal cones moderately large, two thirds as long as vertex, quite conical in shape, with sparse, short pubescence. Forewings slightly more than twice as long as wide, rugose, pterostigma small.

**Genitalia.** Male proctiger large, heavy, parallel sided to truncate apex; forceps about two thirds as long as proctiger, in lateral view broad and much enlarged at apices, in caudal view very broad at base, sharply narrowed and moderately broad to apices, medio-posterior margins produced anteriorly to give an appearance of a folded structure which appears bifurcate from dorsal view. Female genital segment slightly longer than rest of abdomen, very large at base, suddenly narrowed to a slender, acuminate process, with very long prominent

hairs on basal portion.

Holotype male, allotype female, six male and three female paratypes, Salt Lake City, Utah, July 3, 1931, R. H. Beamer.

Holotype, allotype and paratypes in Snow Entomological Collection, University of Kansas; one pair of paratypes in author's collection.

**Euphalerus nidifex** Schwarz

**Euphalerus nidifex** Schwarz, Proc. Ent. Soc.  
Wash., VI, p. 153, 1904

This West Indian species is greenish white, covered over the entire surface, including legs and wings, with brown or black spots. In this it differs from all species found in the United States, but resembles **E. championi** and other Central American species. I have not seen any specimens of this species.

**Euphalerus vermiculosus** Crawford.

**Euphalerus vermiculosus** Crawford, U. S. N. M.  
Bull. 85, p. 121, 1914.

This insect is quite typical of a number of species found in the western United States. Its general color is greenish white to yellowish white, the thorax darker. The wings are semihyaline, fumate in apical part, the apical margin alternately black and white. The forceps of the male are slender, with a sharp, black hook at the apex, the proctiger is simple. The female genital segment is short, heavy and acute at apex.

Specimens have been examined from Siskyou National Forest, Dunsmuir, Dales and Eureka, California; Hood River and Biggs, Oregon; Haugan, Montana.

**Euphalerus propinquus** Crawford

**Euphalerus propinquus** Crawford, U. S. N. M.  
Bull. 85, p. 122, 1914.

This species may readily be distinguished from all other members of the genus by the rhomboidal shape of the wings. Its color is very much like that of **vermiculosus**.

Specimens are at hand from the Huachuaca and Chiricahua Mountains of Arizona.

**Euphalerus rugipennis** Crawford

**Euphalerus rugipennis** Crawford, U. S. N. M.  
Bull. 85, p. 120, 1914.

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## THE GENUS *EUPHALERUS* IN AMERICA NORTH OF MEXICO (PSYLLIDAE: HOMOPTERA)

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### (Concluded from Vol. 10, No. 2)

This small white spotted species was described as yellowish orange to reddish brown in general color. The specimens at hand are green with the exception of three specimens from San Diego County, California, which are partially red, principally on the thorax.

Examples from the Santa Rita Mountains, Arizona, were compared with the type from Oracle, Arizona, in the U. S. N. M. by Mr. P. W. Oman. In addition the writer has specimens from Yarnell, Arizona; Upper Lake, Big Bear Lake, Lockwood, Dales, Anza, San Diego, and Siskyou National Forest, California; Grants Pass and Kerby, Oregon.

### *Euphalerus beameri* n. sp.

Resembling *E. vermiculosus* Crawford, in size and general appearance but forewings white to clear with a single black spot at apex of clavus; genal cones larger, broader and less conical. Length to tip of folded wings 3.00—3.25 mm.

**Color.** General body color red to whitish red. Vertex and genal cones white, with more or less red vermiculation. Thorax and legs reddish. Forewings typically covered with a white bloom, with a prominent black spot at extremity of clavus. Abdomen green.

**Structure.** Head large, deflexed, vertex flat, slightly pubescent. Genal cones large, rather flat contiguous basally, broadened slightly below juncture with vertex, conspicuously pubescent, very coarsely rugose. Antennae one fourth longer than width of head. Thorax strongly arched. Forewings twice as long as broad, rugose, the pterostigma moderately large.

**Genitalia.** Male very similar to *vermiculosus*. Proctiger somewhat sinuate on posterior margin, forceps longer, almost as long as proctiger, with large tooth on apex. Female genital segment larger than in *vermiculosus*, almost as long as rest of abdomen, stout, dorsal valve slightly longer than ventral.

Holotype male, allotype female, three male and twelve female paratypes, Big Bear Lake, California, July 26, 1932. Other paratypes as follows: twenty-one males and twenty-two females, San Jacinto Mountains, Calif-

ornia, July 21, 1929, R. H. Beamer; two males and two females, San Diego County, California, July 4, 1929, R. H. Beamer; two males and four females, Laguna Mountains, California, July 6, 1929, R. H. Beamer; one male San Diego County, California, July 4, 1929, L. D. Anderson; one female, Campo, California, August 10, 1935, R. H. Beamer.

Holotype, allotype and paratypes in Snow Entomological Collection, University of Kansas; three pairs of paratypes in author's collection.

This species is named in honor of Dr. R. H. Beamer of the University of Kansas.

***Euphalerus jugovenosus* n. sp.**

Resembling *E. beameri* n. sp., but smaller, veins of forewing much more prominent; color markings very different. Length to tip of folded wings 2.50-3.00 mm.

**Color.** Head, pronotum and praescutum white, with more or less vermiculate red markings; remainder of thorax dark red; legs somewhat lighter. Forewings hyaline except apex dark through cell Cu, latter black, apical margin alternately black and white; veins with rather regular opaque whitish areas and irregular red spots. Abdomen green, male genitalia and tip of female genital segment red.

**Structure.** Vertex twice as wide as long, posterior margin almost straight, with large discal impressions. Genal cones large, shorter than vertex, very broad, somewhat divergent, moderately pubescent. Thorax very strongly arched. Forewings short, about twice as long as broad, veins extremely prominent, the pterostigma moderately large.

**Genitalia.** Male genital segment moderately large. Proctiger large, much produced on posterior margin into a broad lobe, narrowing to truncate apex. Forceps slender, straight, shorter than proctiger, evenly narrowed to large black medially projecting apical teeth. Female genital segment about as long as rest of abdomen, stout, quickly narrowed to acute apex; dorsal valve longer than ventral and very sharp and upcurved at tip.

Holotype male, allotype female, three male and four female paratypes, Lockwood, California, July 24, 1935, R. H. Beamer; one female paratype, Monterey, California, July 22, 1935, Jack Beamer.

Holotype, allotype and paratypes in Snow Entomological Collection, University of Kansas. One pair of paratypes in author's collection.