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Author(s): W. V. Miller

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TWO NEW SPECIES OF *HETERO CERUS* FABRICIUS  
FROM MEXICO (COLEOPTERA: HETERO CERIDAE)

W. V. MILLER

1718 Ohio Avenue, Modesto, CA 95358 U.S.A.

ABSTRACT

*Heterocerus unituberculosis*, new species, a peculiar horned heterocerid, and *H. crossi*, new species, both from Mexico are described and illustrated.

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*Heterocerus unituberculosis*, new species

Fig. 1a-f

**DESCRIPTION.** Length 4.0-5.0 mm. Stout, compact; body dark brown with paler elytral markings and sternal areas, legs slightly paler, more rufous; lateral and basal margins of pronotum noticeably paler, epipleura and margins of elytra paler, elytral markings as in figure 1d. Head convex, punctures dense, fine; setae fine, denser on clypeus; clypeus of male broadly emarginate, outer areas sharply defined, heavily sclerotized, right prominent area with small sclerotized horn projecting forward, inward and upward (Fig. 1f), horn visible at (10×), occasionally obscured by surrounding setae; mandibles of male with large lateral projections (Fig. 1a, b); mandible of female with small lateral projection (Fig. 1c); mandibles short, stout; labrum wider than long, densely setose, especially apically, apex slightly produced, rounded, not emarginate. Pronotum convex, wider than long in both sexes, wider than elytra, margins narrowing slightly apically; surface punctures fine, dense; setae fine; apical angles sharp, basal angles well-defined, acute, prominent. Elytra densely, uniformly punctate, setae fine, sparse, small, dispersed between punctures; striations present, difficult to observe because of granular appearance of surface; flattened near apical angles, otherwise surface convex; apical angles acute; lateral margins with fine crenulate appearance caused by setation; elytral markings as in figure 1, d); epipleural line absent. Sternal areas punctate, coarser than above, setae sparse; mesocoxal line present, well defined; stridulatory ridge well developed. Male genitalia (Fig. 1e), with parameres longer than wide, triangular, more-or-less hooked but blunt apically; tip of median strut with deep, prominent notch.

**TYPE SERIES.** Holotype (male) and allotype (female): Mexico. Sonora, km. 1714, Hwy 15, elevation 46 m., July 8, 1967, W. H. Clark. Paratypes (30). Mexico. Sonora, km. 1714, Hwy 15, elevation 46 m., July 8, 1967, W. H. Clark (6); Sonora, 5 mi. E. Navajoa, viii 22, 1967, A. R. Hardy (1); Sináloa, 34 mi. N. Los Mochis, viii 27 1963, F. D. Strange & L. A. Strange (23). Holotype, allotype and 3 paratypes, University of Idaho, Boise, Idaho; 1 paratype, University of California, Riverside; 14 paratypes, University of California, Davis; 10 paratypes, W. V. Miller Collection.

**DISCUSSION.** Pacheco (1964) described clypeal horns in the Chilean *Heterocerus rivularis* Germain and Miller (1988) reported that *H. tristis* Mannerheim, a very common species of the United States, Canada and Europe, also has clypeal horns.

Variation of the clypeal horn of 23 specimens of *H. unituberculosis* is as follows.

- 6 males: 1 clypeal horn on right side
- 3 males: 2 clypeal horns, large on right, small on left

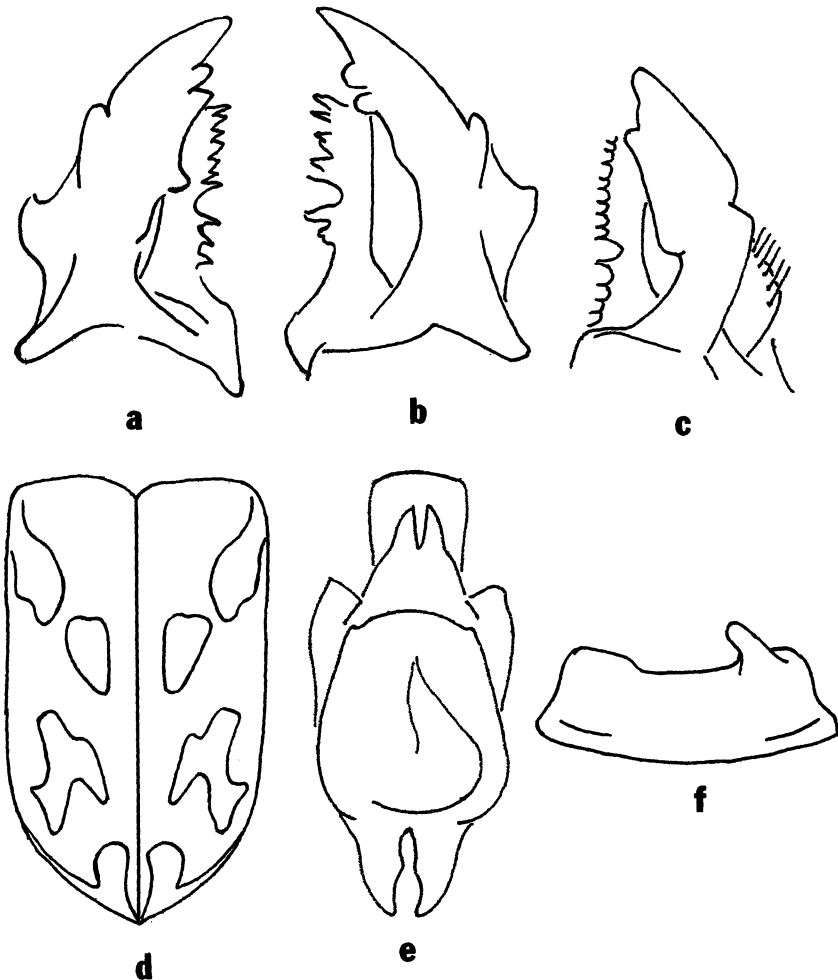


Fig. 1. *Heterocerus unituberculosis*. a) left mandible of male; b) right mandible of male; c) right mandible of female; d) elytral markings; e) dorsal view of male genitalia; f) clypeus of male.

3 males: 0 clypeal horns, left mandible with large lateral projection, right normal

1 male: 0 clypeal horns, no lateral projection of mandible

10 females: no enlargement or lateral projection of mandible.

In *H. unituberculosis* it appears that when a single clypeal horn is present only on the right, the left mandible has an enlarged projection (Fig. 1a, b), that perhaps compensates for the missing horn.

*Heterocerus unituberculosis* keys to *H. mollinus* Kiesenwetter in Pacheco's (1964:45) key to heterocerids with mesocoxal lines. Although these two species

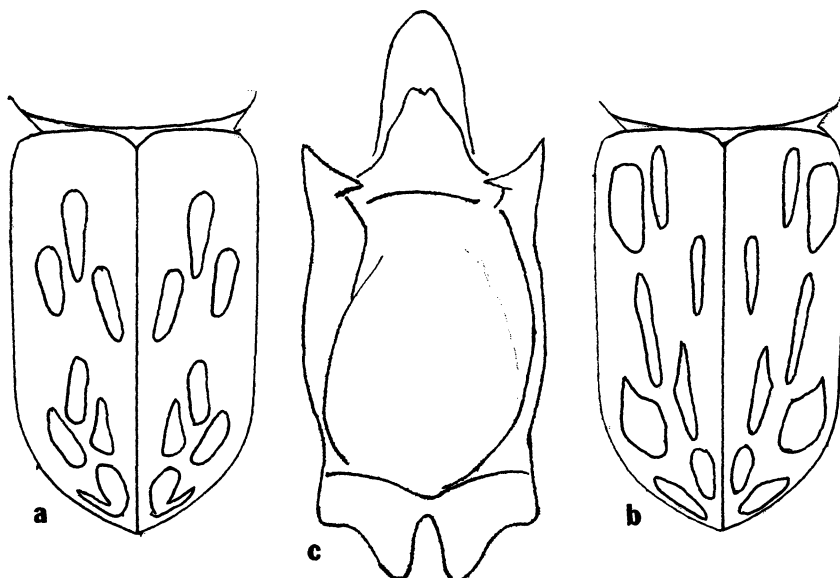


Fig. 2. *Heterocerus crossi*. a) elytral markings of holotype; b) variation of elytral markings; c) dorsal view of male genitalia.

are similar in size, general coloration and elytral punctuation, they do differ in several ways.

1. Males of *H. mollinus* do not have clypeal horns or lateral projections of the mandibles.
2. In most specimens of *H. mollinus*, the post-humeral marks of the elytra are curved basally in the form of a loose "U". In many specimens the mark is broken into two distinct but unequal parts. In *H. unituberculosis* the post-humeral mark extends from the basal angle downward and inward and occasionally unites with an equal-sized mark located in the middle of each elytron near the suture.
3. The male genitalia of the two species differ in shape and size. *Heterocerus unituberculosis* lacks a finger-like projection connecting the median strut to the basal piece of the phallobase. The apical end of the median strut is deeply cleft in *H. unituberculosis* but has only a slight indication of a cleft in *H. mollinus*. The paramere in *H. unituberculosis* is elongate, narrow, and deeply cleft.

*Heterocerus crossi*, new species

Fig. 2a-c

**DESCRIPTION.** Length 3.75–4.0 mm. General color of body black; pronotum reddish, legs, abdominal sternal margins, epipleura and elytral markings (Fig. 2a–b) pale. Surface of head finely granular, punctures indistinct; setae short, dense, especially apically; labrum short, wider than long, evenly rounded; finely emarginate at apex; mandibles short, stout. Pronotum wider than long, wider than elytra at base; margins convergent apically; surface roughened, with small, dense punctures and short, sparse setae. Elytra with numerous,

small, evenly spaced punctures about one diameter apart; with short, sparse setae and faint striations. Surface beneath granular; setae short, sparse; mesocoxal line absent; stridulatory ridge well-developed; protibia stout, with 8 stout spines on margin. Male genitalia (Fig. 2c) stout; lateral arms sclerotized; parameres wider than long, sides nearly parallel, sharply convergent to small rounded apex; notch between parameres with sides divergent apically, rounded below.

**TYPE SERIES.** Holotype (male), and 4 paratypes. **Mexico.** Tamaulipas, NE Aldama, Sept. 12, 1981, light trap, W. H. Cross. Allotype (female). **Mexico.** Tamaulipas, Punta Piedras, Sept. 12, 1981 at light trap, W. H. Cross. Holotype, allotype, and 2 paratypes, Mississippi Entomological Museum, Mississippi State University; 2 paratypes W. V. Miller Collection.

**DISCUSSION.** *Heterocerus crossi* keys to *H. sandersoni* (Pacheco) in Pacheco's (1964:57) key to heterocerids without mesocoxal or metacoxal lines. The two species are distinguished by the characters in the following couplet.

Parameres arising from below basal piece of phallobase; basal piece as wide as phallobase; body length 3.75–4.0 mm. .... *H. crossi*  
 Parameres arising from sides of basal piece of phallobase; basal piece about 4/5 width of phallobase; body length 4.3–5.7 mm. .... *H. sandersoni*

It is the smallest of the members of the *gnatho* group that lack meso- and metacoxal lines. *Heterocerus sandersoni* is common east of the Mississippi River and north of the state of Mississippi, whereas *H. crossi* is known only from northeastern Mexico.

The species is named in honor of the late Dr. W. H. Cross.

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