

MODIFICATION OF THE CONCEPT OF THE GENUS  
HADRONEMA UHLER AS NECESSITATED BY A NEW SPECIES<sup>1/</sup>  
 FROM TEXAS (HETEROPTERA, MIRIDAE).

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ABSTRACT

Hadronema echinata n. sp. from western Texas is described and its relationship to other members of the genus as well as its placement within the genus are discussed. An illustration of the male is presented along with illustrations of the male genitalia.

RESUMEN

Se describe Hadronema echinata, una nueva especie del Oeste de Tejas y se discute su parentesco con otros miembros del género, así como su posición taxonómica dentro del mismo. Se presentan ilustraciones del insecto y genitales masculinos.

INTRODUCTION

Very little attention has been given to the genus Hadronema Uhler since it was reviewed by Knight (1928). The paper contained descriptions of new subgenera and species, notes and a key to the species. Kelton (1959) described and illustrated the male genitalia of H. militaris Uhler and H. princeps Uhler. Knight (1968) transferred H. albescens Van Duzee to his new genus Daleapidea.

The species described in this paper differs from other members of the genus in regards to several significant morphological features and as a result further expands the parameters of the genus.

HADRONEMA ECHINATA NEW SPECIES  
 (FIGS. 1-2)

General coloration uniformly grayish black; pollinose; posterior half of pronotum orange to lutescent; embolium white.

Male (measurements taken from 32 specimens; those of holotype given first followed in parenthesis by average and ranges): Length, 5.28 mm (5.70 mm, 4.60-5.90 mm); width, 1.84 mm (1.86, 1.64-1.98 mm).

Head smooth, with erect black setae; vertex slightly rounded, approximately three times as wide as eye as seen from above, posterior margin with rounded weakly developed carina more or less extending from eye to eye, carina with erect black setae; frons strongly rounded laterally, shallowly demarked from clypeus; clypeus rounded; height of gena about equal to height of eye as viewed from side; gula about as long as diameter of first rostral segment; eye rounded behind, removed from anterior margin of pronotum by distance approximately equal to length

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of eye as seen from above; distance of antennal socket from eye about equal to diameter of second antennal segment; head length 0.54 mm (0.57 mm, 0.50-0.64 mm); width through eyes, 1.04 mm (1.02 mm, 0.98-1.04 mm); vertex width, 0.64 mm (0.62 mm, 0.58-0.66 mm).

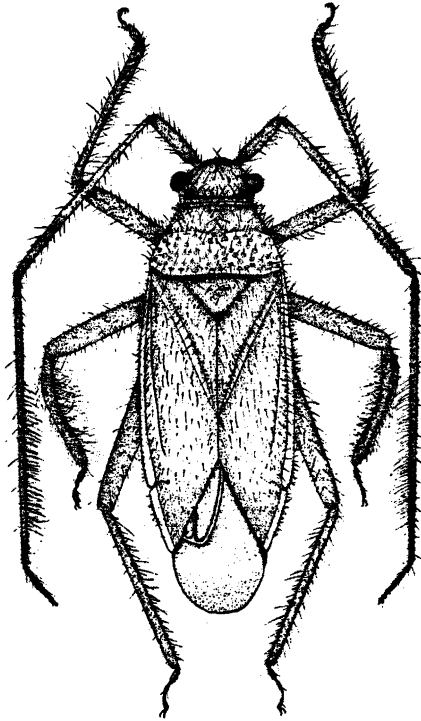


FIG. 1. Hadronema echinata n. sp., male.

First antennal segment slightly longer than width of vertex, thicker than remaining segments, vestiture consisting of erect setae, about as long as diameter of segment; second antennal segment much longer than head width, vestiture consisting of semierect hairs with apical 1/4 of segment having finer hairs interspersed with longer, more robust hairs; third antennal segment slightly longer than second segment, vestiture increasing in length apically on segment to greater than width of segment; fourth segment shorter than first; third and fourth segments of equal diameter, vestiture about as long as width of segment or longer; length of antennal segment I, 0.72 mm (0.74 mm, 0.68-0.84 mm); II, 2.48 mm (2.44 mm, 2.22-2.70 mm); III, 2.70 mm (3.06 mm, 2.70-3.32 mm); IV, 0.56 mm (0.54 mm, 0.44-0.70 mm). Rostrum reaching hind coxae.

Pronotum declivent, with long erect black setae; length, 0.98 mm (1.00 mm, 0.94-1.04 mm); width at base, 1.64 mm (1.60 mm, 1.50-1.72 mm); flattened collar distinct middorsally; calli weakly defined, slightly raised; disk with area surrounding setal bases darker orange or lutescent, lateral margins angulate to

carinate, posterior portion raised higher than scutellum and posterior margin sharply declivent downward. Scutellum slightly concave medially, with elongate erect black setae, apex bluntly rounded. Hemelytra with elongate erect black setae; embolium clearly delimited; cuneus somewhat longer than wide; length, 0.82 mm (0.80 mm, 0.70-0.86 mm); width at base, 0.58 mm (0.58 mm, 0.50-0.60 mm).

Prosternum and area anterior to procoxal cleft with erect black setae, remainder of thorax without erect setae but with some fine decumbent hairs; abdomen with erect setae.

Hind femur with erect setae, some as long as diameter of femur; front and hind tibiae straight, cylindrical, midtibia without spines, curved and shallowly sulcate along apical third, inner margin of midtibia densely covered with fine hairs more than twice as long as diameter of tibia, hind tibia with spine-like setae about as long as diameter of tibia and erect setae approximately twice as long as tibia; basal tarsal segment of front leg short and broadened.

Parameres small; right paramere (fig. 2a) with apex truncate and with curved tooth on inner margin; left paramere (fig. 2b) elongate, sharply toothed at apex; vesica of aedeagus (fig. 2c) with two spiculi, one flattened with two short processes on apex, the other appearing to be enclosed in a membranous sac.

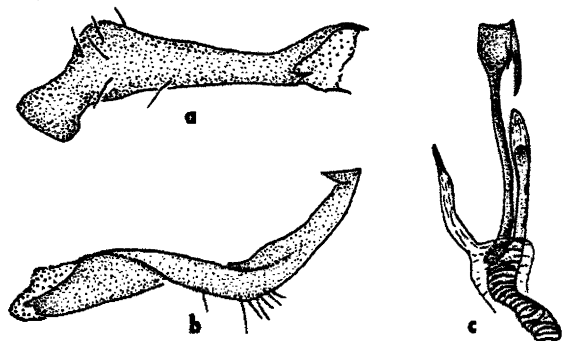


FIG. 2. Male genitalia: a. right paramere, lateral view, b. left paramere, dorso-lateral view, c. aedeagus.

Female (measurements taken from 7 specimens; those of allotype given first followed in parenthesis by average and ranges): Length, 5.76 mm (5.70 mm, 5.40-5.88 mm); width, 2.18 mm (2.10 mm, 1.92-2.20 mm). Head length, 0.58 mm (0.55 mm, 0.52-0.58 mm); width through eyes, 1.10 mm (1.08 mm, 1.06-1.10 mm); vertex width, 0.72 mm (0.68 mm, 0.66-0.72 mm). Length of antennal segment I, 0.64 mm (0.66 mm, 0.58-0.70 mm); II, 2.10 mm (2.22 mm, 2.10-2.34 mm); III, 2.20 mm (2.30 mm, 2.20-2.50 mm); IV, 0.54 mm, (0.58 mm, 0.54-0.66 mm); elongate hairs of third antennal segment of equal length along entire length of segment. Pronotal length, 1.06 mm (1.05 mm, 1.00-1.08 mm). Cuneal length, 0.88 mm (0.84 mm, 0.78-0.88 mm); width at base, 0.66 mm (0.62 mm, 0.58-0.66 mm). Midfemur with shorter and less numerous setae than male, straight, cylindrical, not modified as in case of male. Other characteristics similar to male.

Holotype: Male, 15 mi. w. Ft. Davis, Jeff Davis Co., Texas, August 23, 1969, Board and Hafernik. Deposited in the National Museum of Natural History, Washington, D.C. Allotype: Female, same data as holotype. Deposited in the National Museum of Natural History. Paratypes: 30 males, 6 females, same data as holotype; male, 20 mi. n. Van Horn, Culberson Co., Texas, August 19, 1969, Board and Hafernik; female, South Rim Trail, Chisos Mountains, Big Bend National Park, Texas, 6700-7200'; August 16, 1968, J. E. Hafernik. Deposited in the collection of the Department of Entomology, Texas A&M University, College Station, Texas; in the Museo de Historia Natural de la Ciudad de Mexico, Mexico City, D.F.; in the Canadian National Collection, Ottawa, Ontario; and in the J.C.M. Carvalho collection, Rio de Janeiro, Brazil.

This species differs markedly from other known members of the genus in having small eyes located approximately midway along the length of the head (as seen from above) and removed from the pronotum by about the distance of the length of the eye. The other described species have eyes which are located posteriorly on the head and almost touch the pronotum. The secondary sex character of the male concerning the curved midtibia with long dense hairs is a most unusual condition for any heteropteran and does not occur on other known members of the genus. Despite these differences, the general appearance of the species is clearly Hadronema-like. The aedeagus is distinctly similar to that of H. militaris Uhler.

Knight (1928) divided the members of the genus into two subgenera based on the presence or absence of a secondary sexual character on the males. Members of the typical subgenus Hadronema have a conspicuous tubercle with one or two spines situated at the base on the underside of the front femora. This tubercle is lacking in the subgenus Aoplonema. Hadronema echinata lacks the tubercle and can thus be placed in Aoplonema. Obviously, another subgenus could be erected for H. echinata based on the midtibia of the male and the eye position. At this time however, we do not feel that this would serve a useful purpose.

Because of the position of the eyes on the head, H. echinata will not key to Hadronema in Carvalho's (1955) key to the genera of the world. It will, however, key to Hadronema in Knight's (1968) paper concerning mirids of the Nevada region. It is noteworthy that some species do not have the carina on the vertex developed as highly as others and some species clearly do not have erect black setae on the carina. Consequently, these species will not readily key to Hadronema in existing keys. Thus, the genus is in need of review and redescription.

#### LITERATURE CITED

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