The Heteroceridae (Coleoptera) of Oklahoma

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This semiaquatic family, like the Omophronidae, (Schaefer and Drew, 1965) typically inhabits moist sand and mud of beaches. The heterocerids, adults and larvae, appear to occupy substrates even more moist than do the omophronids and to capture them requires either splashing water over the substrate, as in the omophronids or mechanical disturbance in subaquatic situations. When disturbed, the beetles crawl from their burrows and the adults generally take readily to the air. Specimens are often collected at lights near water sources. An interesting collection by the junior author obtained from Vickery Cave, Major county, contained numerous specimens of *Heterocerus pusillus* Say and one of *H. collaris* Kiesenwetter.

Specimens are generally mounted on card points. Because of a constriction between the thorax and abdomen one should attach the card point at the constriction which will secure both body regions firmly. After the adhesive has set, the meso- and metathoracic legs should be moved away from the body to expose diagnostic areas.

In 1890, Horn revised *Heterocerus* of North America and Fall (1920) added species and gave a key to the subgenus *Littorimus*. The heterocerids are distinguished by being dorso-ventrally subcompressed; covered with dense, fine, decumbent pubescence; legs fossorial, pro- and mesotibiae dilated, armed with numerous large spines, becoming smaller posteriorly; elytra covering abdomen.

It appears that the adults live on algae growing on the substrate. They must consume algae and sand together because in dissections of *H. pallidus* Say the digestive tracts were packed with sand grains.

Specimens were obtained from the Stovall Museum University of Oklahoma and Oklahoma State University Entomological Museum and the authors' collection deposited in the above museum. Collecting in the summer of 1963 was supported by National Science Foundation Grant 23583 at the University of Oklahoma Biological Station.

The six species included in the key have not previously been reported from Oklahoma.

Due to the dense decumbent pubescence, the angle of view can cause distortion in the base color. Holding the specimen head away and inclined slightly downward reduces this interference.

Key to the adult *Heterocerus*

1. Stridulatory ridges of first abdominal segment complete, Figure 1a ..... subgenus *Littorimus*.....2
   Stridulatory ridges of first abdominal segment, incomplete, Figure 2a ..... subgenus *Heterocerus*.....3

2. Elytra pale, almost concolorous; elytral margins pale with broad mesad extensions ..... *mundulus*
   Elytra dark with pale transverse irregular bands ..... *auromicans*

3. Metasternum with a distinct, sutural post-mesocoxal line, Figure 1b ..... *collaris*
   Mestasterum without post-mesocoxal lines, or, at most, a vague raised ridge 4

4. Elytra each with a broad pale longitudinal marginal strip ..... *pusillus*
   Elytra nearly all pale or dark or with distinct pale transverse bands.....5

5. Pale areas of elytra touching or very close to scutellum ..... *pallidus*
   Pale areas of elytra not near scutellum ..... *undatus*

Subgenus *Littorimus* Gegis, 1885

Heterocerus auromicans Kiesenwetter, 1851.
Length 3-4 mm; head dark; thorax brown, margins and medial stripes pale; elytra with basal and sutural margins pale, other areas variably pale.
Distribution: Woods County.

Heterocerus mundulus Fall, 1920.
Length 2.3-2.9 mm; color brownish yellow; pale areas of elytra large, united around the margins with broad mesad extensions.
Distribution: Beaver County.

Subgenus *Heterocerus* Fabricius, 1792

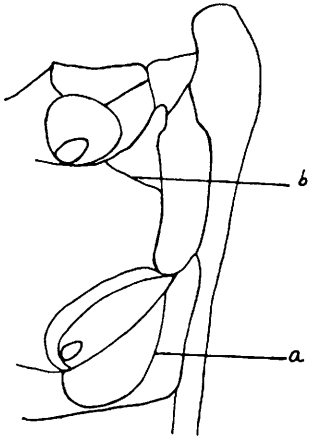
Heterocerus collaris Kiesenwetter, 1851.
Length 3.1-4.5 mm; head dark; thorax brown, margins light; elytra dark brown, large pale irregular transverse pale areas, not connected except along margins and suture.
Distribution: Beaver, Caddo, Custer, Harper, Major and Payne counties.

Heterocerus pallidus Say, 1823.
Length 4.5-5.6 mm; head, thorax and most of venter dark brown, thoracic margins only slightly pale or head brown, thorax medially brown, margins broadly pale; pale elytral areas connected marginally and suturally, transverse irregular bands usually obviously formed.
Distribution: Beaver, Cleveland, Harper, Logan, Ottawa, Payne and Woods counties.

Heterocerus pusillus Say, 1823.
Length 2-2.6 mm; color light brown, except for broad pale marginal stripes of elytra. Males with a flexible basal, dorsal lobe inwardly projecting over labrum and clypeus.
Distribution: Cherokee, Choctaw, LeFlore, Major and Payne counties.

Heterocerus undatus Melsheimer, 1844.

Length 4-4.8 mm; color dark brown to black; pale areas of elytra not extensively produced mesally, often pale areas connected marginally. Distribution: Beaver, Cherokee and Custer counties.



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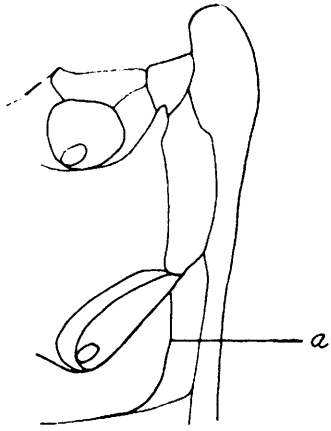

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