

**BIDESSONOTUS CANIS, A NEW SPECIES OF PREDACEOUS
DIVING BEETLE FROM COSTA RICA
(COLEOPTERA: DYTISCIDAE: HYDROPORINAE: BIDESSINI)**

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Abstract

Bidessonotus canis Miller, **new species**, is described from specimens from Heredia, Costa Rica, the Neotropical Region. The species is diagnosed by the unique shape of the median lobe of the aedeagus.

Bidessonotus Régimbart is a genus of 29 known species restricted to the Nearctic and Neotropical Regions (Young 1988). Species of this genus are small and generally found in waters with heavy organic debris (Young 1988). Young (1988) reviewed the genus and provided diagnoses, descriptions, and illustrations of median lobes of the aedeagus sufficient for identification of species. The species differ primarily in the shape of the median lobe of the aedeagus and less reliable characters such as elytral or pronotal punctation, color and relative size.

The following new species was discovered while examining specimens of Bidessini from the Louisiana State Arthropod Museum. Measurements were taken with the aid of an ocular micrometer in a Wild M3C dissecting microscope. Illustrations were made using a drawing tube mounted to a Wild M3 dissecting microscope.

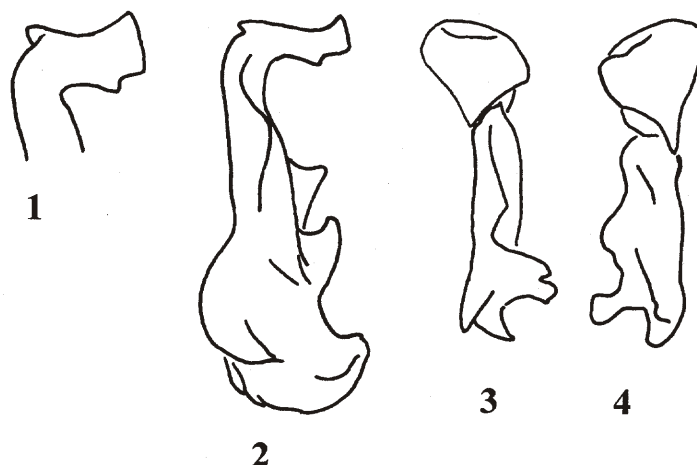
Bidessonotus canis Miller, **new species**

Figs. 1-4

Type Series. Holotype. Male: labeled "Costa Rica, Heredia, La Selva Biological Station, 2 km S Pt. Viejo, 3-5 June 1984, Riley, Rider and LeDoux, legs./ specimen from Louisiana State Arthropod Museum, LSAM/ HOLOTYPE *Bidessonotus canis* K.B. Miller 1997 [red label]." Specimen dissected with genitalia in microvial of glycerin mounted on pin [deposited in United States National Museum]. **Paratype.** Female: same label data as holotype except "PARATYPE *Bidessonotus canis* K.B. Miller 1997 [blue label]" [deposited in Louisiana State Arthropod Museum].

Diagnosis. This species is distinguished from all other *Bidessonotus* by the unique shape of the median lobe of the aedeagus in lateral view (Figs. 1-2).

Male. Measurements. Total length = 2.0 mm; greatest width = 1.0 mm; width of pronotum at base = 0.8 mm; width of pronotum at apex = 0.5 mm; length of pronotum at midline = 0.4 mm; length of elytron along suture = 1.5 mm; basal pronotal stria length/length of pronotum at midline = 0.4; basal elytral stria length/length of elytron along suture = 0.1. **Coloration.** Head and pronotum entirely yellow; elytra brown medially, yellow laterally with small, brown, oval spots laterally and preapically; venter entirely yellow including appendages. **Head.** Punctation sparse and very fine, slightly



Figs. 1–4. *Bidessonotus canis*: 1) apex of median lobe of aedeagus, lateral oblique view; 2) median lobe of aedeagus, lateral view; 3) left paramere; 4) right paramere.

larger near eyes and dorsal stria; frontoclypeal impression continuous across frons; surface shining. *Pronotum*. Punctuation slightly more coarse than on head and separated by 4 to 6 × diameter of one puncture on most of disc, larger, shallow punctures along basal margin between striae separated by 2 × the diameter of one puncture; basal striae strongly curved basally, thereafter straight and converging anteriorly; surface shining. Preapical elytral tooth absent. *Elytra*. Punctuation shallow and coarse, separated by 2 to 3 × diameter of one puncture; microsculpture impressed with surface shining, not iridescent; basal striae nearly straight and slightly convergent posteriorly. *Venter*. Metacoxae with large, coarse, shallow punctures laterally, punctures separated by the diameter of one puncture; last visible abdominal sternum slightly flattened with moderate punctuation and slightly longitudinally rugose; prosternal process narrowly lanceolate and flattened apically, sulcate medially; mesotibiae curved; fore tarsi moderately dilated, first tarsomere about 3.5 × the length of fifth tarsomere. *Genitalia* (Figs. 1–4). Median lobe modified (Figs. 1–2) and asymmetrical; parameres (Figs. 3–4) two segmented.

Female. Similar to male; elytra with slight iridescent sheen; preapical elytral tooth well developed. *Measurements*. Total length = 1.9 mm. Greatest width = 1.0 mm. Width of pronotum at base = 0.8 mm. Width of pronotum at apex = 0.6 mm. Length of pronotum at midline = 0.3 mm. Length of elytra along suture = 1.4 mm. Basal pronotal stria length/length of pronotum at midline = 0.5. Basal elytral stria length/elytral length along suture = 0.1.

Etymology. This species is named *canis*, Latin for “dog”, after the shape of the median lobe in lateral view which is reminiscent of a dog’s head.

Discussion. The male genitalia of *B. canis* (Figs. 1–4) is similar to those of *B. inconspicuus* (LeConte), *B. ploterus* Young, and *B. championi* J. Balfour-Browne (see Young 1988). *Bidessonotus inconspicuus* occurs in the eastern United States, and *B. ploterus* is known only from Brazil (Young 1988). *Bidessonotus canis* appears to be sympatric with *B. championi*; however, the shape of the median lobe of the aedeagus easily distinguishes both species. A detailed study of the phylogenetic relationships of species of *Bidessonotus* is necessary to resolve relationships in the genus. Females of many species of *Bidessonotus* are not identifiable except by association with males (Young

1988). Because of this I have not attempted to diagnose females of *B. canis*. Young (1988) suggested that the preapical elytral tooth on females is too variable a character for use in reliably diagnosing species. Since I examined only a single female specimen of *B. canis*, I am unable to determine the extent of variation of this character or its value in identification of females.

Unfortunately, nothing is known of the habitat or biology of this species. However, other members of the genus are found in a variety of habitats, particularly those with much organic debris (Young 1988). They are highly vagile and are frequently attracted to both white and ultra-violet light (Young 1988).

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Literature Cited

- Young, F. N. 1988. A review of classification of the water beetles of the New World genus *Bidessonotus* Régimbart (Coleoptera: Dytiscidae: Hydroporinae: Bidessini). *Questiones Entomologicae* 26:355-381.

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