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(Coleoptera: Elateridae: Elaterinae) from Mississippi

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A new species of *Dalopius* Eschscholtz (Coleoptera: Elateridae: Elaterinae) from Mississippi

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**Abstract.** *Dalopius mississippiensis* Mathison, **new species** is described from Monroe County, Mississippi (Coleoptera: Elateridae: Elaterinae). The new species is compared to other members of the cognatus-group in eastern North America. The male genitalia are illustrated.

**Introduction**

The genus *Dalopius* Eschscholtz, 1829 (Elateridae: Elaterinae: Agriotini) is one of the largest, yet one of the least-studied, genera of click beetles in North America. At the time of Johnson (2002), *Dalopius* was the fourth largest genus in North America, with 54 described species. Most of these were described by Brown (1934) from material housed in the Canadian National Collections of Insects (CNCI). Before Brown's work, only a handful of species had been described. Since Brown's work, Knull (1947) described two new species from Ohio and Pennsylvania. Becker (1956) later transferred *Agriotes macer* LeConte, 1860, *A. hispidus* LeConte, 1884, and *A. porosus* Van Dyke, 1932 to *Dalopius*. To date, there is still no formal revision available for North America. While examining specimens in the Mississippi Entomological Museum (MEM), I came across two specimens from Monroe County, Mississippi that clearly differed from all currently described species in North America by the characteristics of the male genitalia. While reluctant to publish a single-species description for a genus in great need of taxonomic work, I wanted to make the name available for an upcoming treatise on the elaterid fauna of the southeastern United States.

**Materials and Methods**

The body length was measured along the midline from the anterior edge of the frontal margin to the apex of the elytra; the body width was measured across the humeri. The length of the pronotum was measured along the midline; the width was measured at the widest point (anterior to the mid-length). The length and width of the left elytron was taken at the widest and longest points, respectively. The male abdomen was removed for dissection of the male aedeagus, and both are glued to a card and pinned below the body of the specimen. The image of the genitalia was taken using an Olympus DP72 camera attached to an Olympus SZX7 stereomicroscope and edited using Adobe Photoshop 7.0.

***Dalopius mississippiensis* Mathison, new species**

(Figures 1–2)

**Diagnosis.** *Dalopius mississippiensis* fits Brown's (1934) cognatus-group of *Dalopius* by having the phallobase at least half the total length of the aedeagus, truncate elytral apices, and pale humeral maculae on the elytra. It can be distinguished from the other members of this group by the characteristics of the male aedeagus, especially with regards to the shape of the parameres.

**Description. Holotype**, male, housed in the CNCI, with label data: "MISS. Monroe Co./ca. 5 mi NE Hamilton/26 April 1991/D. Pollock, J. MacDonald//Blacklight trap/*Dalopius mississippiensis* Mathison HOLOTYPE". [the specimen had been broken and re-glued at the prothorax-mesothorax juncture.].

**Body** elongate, slightly convex. Length 6.8 mm, width 1.7 mm. Color dark brown; head darker; venter, margins of pronotum, humeral maculae, legs, and first two antennomeres red-brown; humeral maculae extending less than one-third length of elytra. Vestiture short, dense, yellow, evenly distributed over the body.

**Head** as in other members of the genus. Antennae extending approximately two segments beyond apex of pronotal hind angles; antennomere III short, slightly longer than II, combined with II subequal to IV.

**Pronotum** longer than wide, 2.2 mm long by 1.6 mm wide; widest anteriorly, slightly concave at the base of hind angles in dorsal view; punctures shallow, dense, umbilicate, separated by less than their own diameters; hind angles slightly divergent, unicarinate on dorsum. Hypomerion densely punctate, punctures very shallow, umbilicate.

**Elytra** fusiform, sides subparallel over basal half in dorsal view, widest just beyond half-way, gradually tapering to obliquely truncate apex.

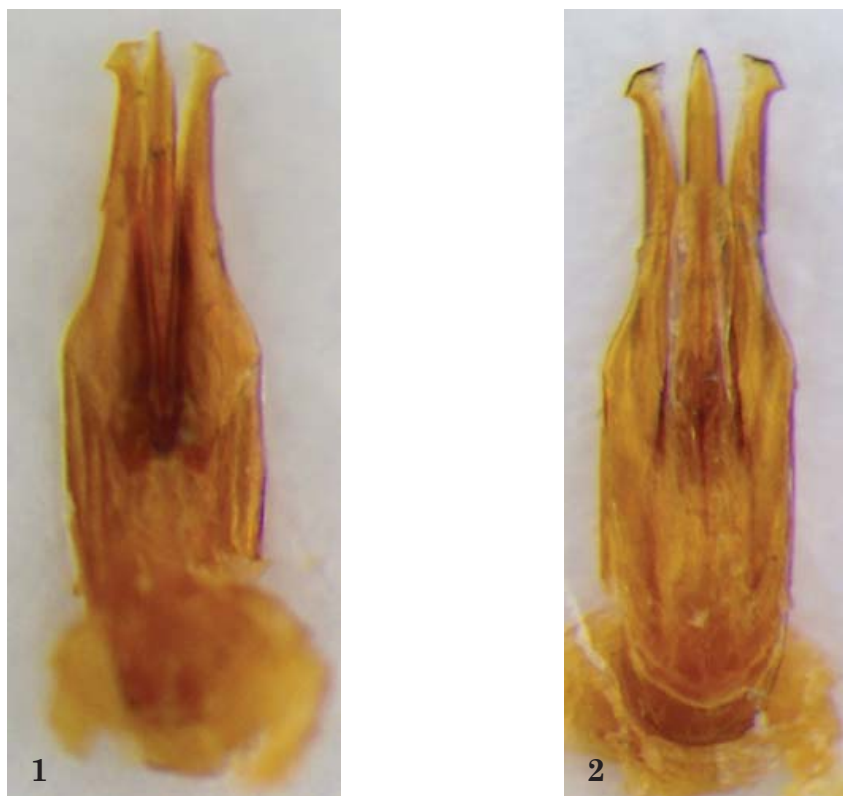
**Aedeagus** as in Fig. 1. Phallobase large, nearly half the length of entire organ; median lobe gradually tapering to subacute apex; parameres with prominent shoulders basally, gradually narrowing to subacute apices, outer lateral margins angulate, with acute lateral expansions. Female unknown.

**Variation.** A second specimen is 7.0 mm in length and with the reddish humeral macula slightly longer.

**Distribution.** Currently known only from the type locality in Monroe County, Mississippi.

**Other material.** **Paratype**, 1, male, with same data as holotype, deposited in the MEM, Starkville, MS.

**Etymology.** This species is named for the state of Mississippi where it was collected. This is currently the only species of *Dalopius* recorded from Mississippi.



**Figure 1–2.** *Dalopius mississippiensis* Mathison, new species, male genitalia, holotype. 1) Dorsal view. 2) Ventral view.

**Discussion.** The placement of *Dalopius mississippiensis* falls in Brown's (1934) cognatus-group, supported by the long phallobase, truncate elytral apices, and pale elytral maculae. Based on the lack of emargination at the apex of the paramere, and relative lengths of antennomeres II-IV, this species keys to *D. virginicus* Brown (1934). It can be separated from that species by the angulate the apices of the parameres. Externally, *D. mississippiensis* is largely indistinguishable from other members of the cognatus-group, other than being slightly paler in color. The length of the humeral macula is slightly longer in the secondary specimen than in the holotype, but this trait varies in other members of the cognatus-group.

This represents the southernmost type locality for a *Dalopius* species in the eastern U.S.A. The town of Hamilton, MS is in the Fall Line Hills subregion of the Southeastern Plains. This is a very rugged terrain drained by tributaries of the Tombigbee and Tennessee rivers. The steep, dissected hills have narrow ridgetops and narrow valleys. The land cover is dominated by oak-hickory-pine forests with 400–700 ft of relief, and includes the highest point in Mississippi (Chapman et al. 2004). Most other records for *Dalopius* species in the southeast are in the Blue Ridge and Southwestern Appalachians in eastern Tennessee, North Carolina, South Carolina, and northern Georgia and Alabama. The Southeastern Plains may seem like an unusual place to find *Dalopius*, but the high, narrow ridgetops and valleys of the Fall Line Hills subregion may allow for relict distributions of otherwise boreal elaterid groups.

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