

**NOTES ON THE BIOLOGY OF *BRACHYSERPHUS BARBERI*  
TOWNES (HYMENOPTERA: SERPHIDAE), A PARASITOID  
OF THE FUNGUS BEETLE *MYCETOPHAGUS MELSHEIMERI*  
LECONTE (COLEOPTERA: MYCETOPHAGIDAE)**

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*Abstract.*—In northern Florida, *Brachyserphus barberi* was observed as a solitary internal parasitoid of larvae of the fungus beetle *Mycetophagus melsheimeri*. Mature larvae of the parasitoid emerge through the intersegmental membrane of the abdomen of the host larva and pupate within about 3 days; adult emergence occurs approximately 6–7 days after pupation. A review of the distribution and biology of the parasitoid and host is provided, and beetle host records of world species of *Brachyserphus* are summarized.

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This short communication provides further documentation of the parasitism of coleopterous larvae by a species of the serphid genus *Brachyserphus* (Hymenoptera: Serphidae). Herein, we give our observations on the biology of *B. barberi* Townes parasitizing larvae of the fungus beetle, *Mycetophagus melsheimeri* LeConte (Coleoptera: Mycetophagidae), a previously unreported host.

While collecting insects on the floodplain of the Apalachicola River near Bristol, Florida (in Torreya State Park) on 25 March 1986, we found numerous adults, larvae and pupae of *M. melsheimeri* in a dry, unidentified fungus under the bark and in the well-decayed wood of a felled gum tree (*Nyssa* sp.). Some of the beetle larvae were parasitized by solitary internal parasitoids of the hymenopterous family Serphidae, which were subsequently identified by ERH as *Brachyserphus barberi*. One beetle larva, still alive when collected, had a mature parasitoid larva protruding through the intersegmental membrane near the apex of the abdomen. Another beetle larva, already dead by the time of its collection, had a parasitoid pupa embedded by its caudal end in the abdomen of the host (Fig. 1). These and other live beetle larvae were kept in small rearing dishes (8 cm dia., 2 cm deep) at ambient temperature for further study and observation. On 26 March, another beetle larva appeared quiescent and distended. By that evening, a parasitoid larva had appeared through the ventral abdominal body wall of the host. These three beetle larvae and their associated parasitoids were closely monitored daily to determine parasitoid development.

Although all three of the parasitoids succumbed before adult emergence, developmental data for the last larval and pupal stages can be roughly estimated. One of the parasitoid pupae was nearly fully developed, with full adult cuticular coloration, when an elevated temperature in the rearing container induced death; the parasitoid was probably within hours of emergence. This specimen was originally collected as a mature larva, already protruding from its host. Three days later (on 28 March) pupation occurred, and on 3 April (6 days later) death ensued. In another example, a quiescent and distended beetle larva was collected on 25 March; on the following