



Morphology of the first instar larva in the tribe Clytrini, with two new descriptions in the subtribe Megalostomina (Coleoptera: Chrysomelidae: Cryptocephalinae)

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Abstract

Original descriptions and illustrations of the first instar larva of *Megalostomis* (*Heterostomis*) *lacordairei* Lacordaire and of *Coscinoptera argentina* Burmeister (Clytrini: Megalostomina) are provided. Based on the available information on first instar larvae, the tribe Clytrini is diagnosed. Unique of the larvae of clytrini is the antennal sensorium dome-like. Characters in common between Clytrini, Cryptocephalini, and Chlamisini (Cryptocephalinae) are highlighted, like the body J-shaped (in association with case-bearer habits); frons, clypeus, and labrum fused; spiracles with reticulate peritreme; egg-bursters present on meso- and metathorax, each situated anterior to a very long seta and a short seta ventral to these.

Key words. Larvae, morphology, Cryptocephalinae, Clytrini, *Megalostomis*, *Coscinoptera*

Introduction

The chrysomelid subfamilies Cryptocephalinae and Lamprosomatinae are collectively known as the “Camptosomata” or “case-bearers”, for the peculiar habit of their eggs, larvae and pupae, living in a portable protective case (Erber 1988; Brown & Funk 2005; Chaboo *et al.* 2008 and references therein). In a worldwide compilation of the fossil chrysomelid literature, Santiago-Blay (1994) reported a species assigned to *Clytra* Laichairting and two species of *Cryptocephalus* Geoffroy from the Jurassic. However, as Santiago-Blay noted in that paper, many late Paleozoic/early Mesozoic records of fossil chrysomelids are questionable and the actual specimens need to be reexamined. Besides uncertainties about the earliest records of Cryptocephalinae, their distinctive larval habit of carrying a case made principally of feces has been conserved for millions of years. Fossils of cryptocephaline larvae in their cases are amazingly well preserved in Miocene amber (Grimaldi & Engel 2005: Fig. 10.65).

Adults of case-bearing chrysomelids feed on foliage of a variety of eudicots (Erber 1988), but their larvae often show departures from strict phytophagy. Besides those with true herbivore larvae, that feed on green plant parts and complete development on the host plant, the larvae of most species live on the ground, in leaf-litter, and feed on dry vegetable material and detritus (Erber 1988; Brown & Funk 2005 and references therein). The larvae of some clytrine species live in ant nests (see Erber 1988: Table 2; Brothers *et al.* 2000 and references therein), but besides these mirmecophiles, many other clytrine larvae live in leaf litter and some few others on plants (Erber 1988; Jolivet 1988). The larval feeding habits and habitats in the subtribe Megalostomina are very little known, and larval association with ants is reported only for some Nearctic species in the genus *Coscinoptera* Lacordaire: *C. dominicana* (Fabricius) (Riley 1874; Jolivet 1952), *C. vittigera* LeConte (although its identification is doubtful, probably *C. dominicana*, see Erber 1988), and *C. sp.*