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Detailed morphological description of the mature larva of *Globicornis corticalis* (Eichhoff, 1863) (Dermestidae: Megatominae) with comparisons to related species

MARCIN KADEJ¹ & SYLWIA JAROSZEWICZ²

¹Division of Invertebrate Biology, Evolution and Conservation, Department of Evolutionary Biology and Ecology, University of Wrocław, ul. Przybyszewskiego 63/77, 51-148 Wrocław, Poland. E-mail: entomol@biol.uni.wroc.pl

²Poroże 28, 62-709 Malanów, Poland.

Abstract

A description of the last larval instar (based on exuviae) of *Globicornis corticalis* (Eichhoff, 1863) (Coleoptera: Dermestidae) is presented. Morphological characters of *Globicornis* larvae are characterized and discussed, including antenna, epipharynx, mandible, maxilla, ligula with labial palpi, hastisetae, legs, tergites, and condition of the antecostal suture. Structural differences among mature larvae of *G. corticalis* (Eichhoff, 1863), *G. emarginata* (Gyllenhal, 1808) and *G. nigripes* (Fabricius, 1792) are compared and summarized.

Key words: Dermestidae, *Globicornis*, immature stages, setae, exuviae

Introduction

Globicornis Latreille in Cuvier, 1829, is in the subfamily Megatominae and consists of 27 species distributed throughout the world (Herrmann *et al.* 2011; Háva 2013). The genus is further divided into five subgenera: *Dearthrus* LeConte, 1861; *Elania* Mulsant and Rey, 1868; *Globicornis* Latreille in Cuvier, 1829; *Hadrotoma* Erichson, 1848; and *Pseudomesalia* Ganglbauer in Bodemeyer, 1900. The greatest number of species is placed in the subgenus *Globicornis*, with 14 described species (mostly known from the Palearctic). Features helpful in proper determination at the generic level were given by Peacock (1993) and Herrmann *et al.* (2011). *Globicornis* is easily distinguished from other genera in Megatominae by possessing the following combination of characters: 1) 9–10 segmented antenna (in contrast to *Anthrenocerus* Arrow, 1915; *Ctesias* Stephens, 1830; *Megatoma* Herbst, 1792; *Trogoderma* Dejean, 1821; and *Reesa* Beal, 1967); 2) lack of a well-defined antennal cavity (in contrast to *Trogoderma*, *Ctesias*, and *Anthrenocerus*); 3) lack of a posterior carina to the antennal cavity (in contrast to *Reesa*); and 4) lack of body scales (in contrast to *Anthrenus* Geoffroy, 1762 and *Neoanthrenus* Armstrong, 1941).

Larval morphological characteristics that distinguish *Globicornis* from related genera were given by Beal (1967) and Peacock (1993). Larvae of *Globicornis* species are similar to those of *Trogoderma* and *Megatoma* species. The main diagnostic feature is the presence of a dark brown transverse strip adjacent to the weakly sinuate antecostal suture, which is distinct even on abdominal tergites VI–VIII (Peacock 1993; Herrmann *et al.* 2011). In *Trogoderma*, the antecostal suture is not always well defined, similar to *Megatoma*, where the antecostal suture becomes finer and disappears laterally, particularly on abdominal tergites VI–VIII.

Approximately 30 *Globicornis* species have been described in their adult forms. Unfortunately, descriptions of larval stages of *Globicornis* exist for only three species (Tables 1, 2), and the available data are mostly fragmentary, with general descriptions and schematic drawings of limited numbers of morphological characters (Table 2). Therefore, further studies of immature stages are required. Also the detailed re-descriptions of existing descriptions are fully justified and should be provided.

Herein, we provide a detailed morphological description of the mature larvae of *Globicornis corticalis* (Eichhoff, 1863). The following larval structures are described and illustrated: antenna, epipharynx, mandible,