



The immature stages of *Tropisternus (Pleurhomus) sahlbergi* (Sharp) (Coleoptera: Hydrophilidae), with considerations on the primary chaetotaxy of *Tropisternus* Solier

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Abstract

The preimaginal stages of *Tropisternus (Pleurhomus) sahlbergi* (Sharp, 1883) are described for the first time, including illustrations and photographs of the egg case, all larval instars and pupa. The descriptions emphasize on the morphometry and chaetotaxy, following current standards in larval descriptions within Hydrophilidae. Preliminary evidence is presented for a placement of *Pleurhomus* Sharp, 1833 within *Tropisternus* Solier, 1834, in agreement with a recent phylogenetic analysis based on adult characters. *Tropisternus (P.) sahlbergi* is characterized by a brown to dark brown head capsule without color pattern, mandibles with strongly serrated inner margins, a short seta PA11 in comparison to PA14, the absence of seta AN8, the absence of a distal secondary seta on the outer margin of the first maxillary palpomere and the dorsal surface of the mentum almost entirely covered by spinulae.

Key words: Hydrophilinae, Hydrophilina, larva, pupa, egg case, morphology, setae and pores

Introduction

Among water beetles, the family Hydrophilidae is one of the most diverse and widespread groups. It comprises aquatic (most members of the subfamily Hydrophilinae) as well as terrestrial (most Sphaeridiinae) forms. The Hydrophilinae are currently divided into 6 tribes, with Hydrophilini being the richest in species and subdivided into the subtribes Hydrobiusina, Acidocerina and Hydrophilina. The subtribe Hydrophilina contains the largest beetles within the family, the adults ranging in size from 6 to 50 mm. It currently consists of seven genera: *Hydrophilus* Geoffroy, 1762 (48 species), *Hydrochara* Berthold, 1827 (23 species), *Tropisternus* Solier, 1834 (63 species), *Sternolophus* Solier, 1834 (9 species), *Hydrobiomorpha* Blackburn, 1888 (53 species), *Brownephilus* Mouchamps, 1959 (2 species) and *Protistolophus* Short, 2010 (1 species) (Hansen 1999, Spangler & Short 2008, Darilmaz *et al.* 2010, Short 2010).

The genus *Tropisternus* is distributed almost exclusively within the New World. Only two species, *T. sal-samentus* Fall, 1901 and *T. lateralis humeralis* Motschulsky, 1859, have been recorded from the Hawaiian Islands where they are, however, considered as probably introduced (Hansen 1995, 1999). *Tropisternus* is currently divided into five subgenera: *Tropisternus s. str.* (26 species), *Pleurhomus* Sharp, 1883 (1 species), *Homostethus* Orchymont, 1921 (3 species), *Pristoternus* Orchymont, 1936 (30 species), and *Streptitornus* Hansen, 1989 (3 species). *Pleurhomus* was first erected as a genus to contain a single species, *P. sahlbergi* Sharp, 1883, and has remained monotypic since then. It was downgraded to a subgenus of *Tropisternus* by Orchymont (1921, 1922). This was followed by Knisch (1924, 1925) and Hansen (1989, 1991, 1999). Bachmann and Fernández (2002) reviewed the taxonomic status of *Pleurhomus* based on the examination of adult forms and retained its subordinate status within *Tropisternus*, pending the better knowledge of more species of *Pristoternus* and *Homostethus* and their immatures.