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Description of immatures of the genus *Tropisternus* Solier, subgenus *Pristoternus* Orchymont (Coleoptera: Hydrophilidae), with emphasis on the chaetotaxy and morphometry of larval forms

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Abstract

The egg cases, larvae, and pupae of *Tropisternus* (*Pristoternus*) *latus* (Brullé, 1837), *T. (P.) ovalis* Castelnau, 1840, and *T. (P.) laevis* (Sturm, 1826) are illustrated and described for the first time. The egg cases are built with or without a mast, which can be ribbon-like or globular; all larval instars have seven anterior denticles in the anterior margin of nasale, and the antennal seta AN8 is present; the pupae bear 6 or 8 styli on the abdominal segments II–VI, the pleural styli can be either short or very long, and horn-like projections may be present on the abdominal segments II–VI. A comparison of the morphology of the egg cases, pupae and larval chaetotaxic and morphometric characters within the genus *Tropisternus* is presented.

Key words: Water scavenger beetles, Hydrophilinae, larva, pupa, egg case

Introduction

The genus *Tropisternus* Solier includes 63 species of aquatic beetles belonging to the family Hydrophilidae (Hansen, 1999; Short & Fikáček, 2011). Species of *Tropisternus* are very frequently collected and often ubiquitous, inhabiting many types of aquatic habitats, from rain puddles and small limnotopes to large lakes and ponds. Adults are detritivorous and can be easily recognized on the basis of their navicular shape, body length less than 15 mm, and the presence of an acute sternal keel. Larvae are carnivorous and typically ambush predators, feeding on a large diversity of prey (Wilson, 1923; Formanowicz & Brodie, 1988). In recent years, several works dealing with the morphology of the preimaginal stages of Neotropical *Tropisternus* have been published (Fernández *et al.*, 2000; Torres *et al.*, 2008, 2011). The genus is presently subdivided into five subgenera: *Tropisternus s. str.*, *Pleurhomus* Sharp, *Homostethus* Orchymont, *Pristoternus* Orchymont, and *Strepitornus* Hansen. *Pristoternus* Orchymont contains 30 species (Hansen, 1999; Spangler & Short, 2008) and is restricted to the Neotropics and the extreme southern Nearctic region. Within *Pristoternus sensu* Hansen (1999), *T. laevis* (Sturm, 1826) and *T. ovalis* Castelnau, 1840 are widely distributed, ranging from Central America to southern South America. On the contrary, *T. latus* (Brullé, 1837) has a more restricted distribution, being known only from specific locations in Brazil (Rio de Janeiro), Uruguay (Montevideo) and Argentina (Buenos Aires and Entre Ríos Provinces).

This paper is meant to be a step towards a better knowledge of the genus *Tropisternus*, and has the following objectives: (i) to describe and illustrate the egg cases, the three larval instars and the pupae of *T. latus*, *T. ovalis* and *T. laevis*; (ii) to perform detailed morphometric and chaetotaxic studies on selected larval structures; and (iii) to compare the immatures described here with those of other members of the genus.

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