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Description of the larva of *Ochthebius capicola* (Coleoptera: Hydraenidae) from marine rockpools of South Africa

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Abstract

Larval instars II and III of *Ochthebius* (*Ochthebius*) *capicola* (Péringuey 1892) from South Africa are described and illustrated by SEM, including a detailed analysis of their chaetotaxy and porotaxy. Specimens used in this study were collected with adults of the same species in marine rockpools. The larval morphology of *O. capicola* is compared to that of other members of the same genus occurring in this habitat, contributing to the current taxonomic and phylogenetic debate on the intrageneric taxonomy of Ochthebiinae.

Key words: Marine rockpools, Hydraenidae, Ochthebiinae, larval taxonomy, SEM, South Africa

Introduction

The genus *Ochthebius* (s.l.) represents the second largest group of hydraenid beetles, with nearly 400 species (Hansen, 1991), although the number of subgenera and their limits are still controversial. Recently, Jäch (2004) divided the genus into four subgenera: *Asiobates* C. G. Thomson 1859, *Calobius* Wollaston 1854, *Enicocerus* Stephens 1829 and *Ochthebius* s. str. Leach 1815. However, a previous subdivision of *Ochthebius* into nine subgenera (Knisch, 1924) is still followed by some authors (e.g. Delgado & Archangelsky, 2005). One relevant difference between the two classifications is that *Cobalius* Rey 1886, that following Knisch's classification was considered as a valid subgenus, is now included in the nominal subgenus *Ochthebius* (see Jäch, 2004). The latter, with nearly 280 species worldwide (Hansen, 1998), includes species associated with freshwater environments, such as mountain streams and springs, brackish lagoons, and also hyper-saline and saline waters. Some members of *Ochthebius* inhabit supralittoral marine rockpools, well defined patches of habitat in marine ecosystems, commonly found on rocky shores around the world (d'Orchymont, 1932a, b).

As in many other groups of Hydraenidae, the immature stages of *Ochthebius* s.str. are poorly known. To date, the larvae described for species belonging to this purported subgenus are those of *O. lejolisi* Mulsant & Rey, 1861 (d'Orchymont, 1913) from Atlantic coasts of Europe, *O. subinteger* Mulsant & Rey 1861 (Delgado & Soler, 1996) from North Mediterranean coasts, *O. auropallens* Fairmaire 1879 (Delgado & Soler, 1997b) from south-western Europe, *O. danjo* Nakane 1990 (Delgado & Matsui, 2000) from Japan, and *O. gonggashanensis* Jäch 2003 from China (Delgado, 2003). Additionally, larval instars of the closely related genus *Neochthebius* d'Orchymont 1932, have been recently described (Park & Ahn, 2008).

An hypothesis of phylogenetic relationships based on twenty-four larval characters, across most of the aforementioned species and other members of Ochthebiinae, was recently presented by Delgado and Archangelsky (2005). This work shows that the subfamily Ochthebiinae is clearly monophyletic, being likely subdivided into two clades: the first clade includes the species *O. quadricollis* and *O. subinteger*, while the second includes a polytomy of three representatives of the subgenus *Ochthebius* s. str., a clade with the two representatives of the genus