



<http://dx.doi.org/10.11646/zootaxa.3815.3.8>

<http://zoobank.org/urn:lsid:zoobank.org:pub:7F045CE9-D24B-4AB8-ACA1-234C380A6FCE>

Description of the larva of *Philopotamus achemenus* Schmid 1959 (Trichoptera: Philopotamidae) and a larval key for species of *Philopotamus* in Greece

IOANNIS KARAOUZAS

Institute of Marine Biological Resources and Inland Waters, Hellenic Centre for Marine Research, 46.7km Athens-Sounio Av., Anavissos 19013, Greece. E-mail: ikarz@hcmr.gr; Phone number: +30 22910 76391; Fax: +30 22910 76419

Abstract

The larva of *Philopotamus achemenus* is described for the first time. The diagnostic features of the species are described and illustrated and some information regarding its ecology and world distribution is included. Furthermore, its morphological characters are compared and contrasted in an identification key for larvae of the Greek species of *Philopotamus*.

Key words: Caddisfly, taxonomy, identification, larva, distribution

Introduction

The family Philopotamidae in Greece is represented by the genera *Chimarra* Stephens 1829, *Philopotamus* Stephens 1829, and *Wormaldia* McLachlan 1865. The genus *Philopotamus* in Greece is represented by 3 species (Malicky 1993, 2005): *P. montanus* (Donovan 1813), *P. variegatus* (Scopoli 1763) and *P. achemenus* Schmid 1959.

Philopotamus montanus is commonly distributed throughout Europe, extending to northwestern Russia (Malicky 1974, 2004; Pitsch 1987), while *P. variegatus* is widely distributed in central and southern Europe and the Anatolian Peninsula (Gonzalez et al. 1992; Sipahiler & Malicky 1987; Sipahiler 2012). Both species can be found in Greek mountainous running waters and their distribution extends throughout the country, including several islands (i.e., Euboea, Crete, Samos; Malicky 2005). *Philopotamus achemenus* is a Mediterranean-Anatolian species and so far has been reported from the Aegean Islands (Greece), Turkey and Iran (Malicky 1986, 2005; Sipahiler & Malicky 1987; Mirmoayedi & Malicky 2002).

Many authors have described and illustrated the larvae of *P. montanus* (Hickin 1942; Botosaneanu 1949; Lepneva 1964; Edington & Hildrew 1995; Pitsch 1987; Waringer & Graf 2011) and *P. variegatus* (Szczesny 1978; Pitsch 1987; Waringer & Graf 2011) including keys for their identification. The larva of *P. achemenus* has never been previously described. *Philopotamus* larvae were collected from several streams on the islands of Naxos and Samothraki, Aegean Sea, Greece. Adults and mature pupae with fully developed genitalia and larval sclerites retained in the pupal cocoon were collected from the same streams and clearly identified as the unknown larva of *P. achemenus*. In this study, the diagnostic features of the larva of *P. achemenus* are presented and an identification key for larvae of the Greek species of *Philopotamus* is provided. Finally, some notes on the ecology and distribution of *P. achemenus* are given.

Material and methods

Diagnostic features. Characterisation of the larvae was based on the shape of the anterior margin of the frontoclypeal apotome, mentum and submentum and on mandible and protochantin structure. Terminology of larval characters follows Pitsch (1987), Vieira-Lanero et al. (2001) and Waringer & Graf (2011). In the literature and identification keys of those authors and others, different terminology is often used for the same morphological

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