



***Protonemura gevi* sp. n., a cavernicolous new species of stonefly (Insecta: Plecoptera)**

JOSÉ MANUEL TIERNO DE FIGUEROA & MANUEL JESÚS LÓPEZ-RODRÍGUEZ

Departamento de Biología Animal. Facultad de Ciencias. Universidad de Granada. 18071. Granada. Spain.

E-mail: jmtdef@ugr.es, manujlr@ugr.es

Abstract

A new species of Plecoptera, *Protonemura gevi* sp. n., is described from both adults and nymphs from the Southern Iberian Peninsula. It is quite probable that this species finishes its entire life cycle within a 60 m deep cave. Morphologically, *P. gevi* is brachypterous, has extremely long antennae, and has small eyes, all features that may have been accentuated in a cave environment.

Key words: *Protonemura gevi* sp. n., Nemouridae, adult, nymph, cave, Iberian Peninsula

Introduction

Plecoptera are frequently found in water sources emerging from caves [e.g. *Leuctra vesulensis* Ravizza & Ravizza Dematteis, 1984 collected in the spring flowing out of the cave “Grotta Rio Martino” in the Western Alps (Ravizza & Ravizza Dematteis 1984)], although there are also data of species living inside caves (e.g. Sket 2008; Ferrerira & Horta 2001) as, for example, populations of *Brachyptera tristis* (Klapálek, 1901) and *Nemoura cinerea* (Retzius, 1783) in Slovenia (Sket 1970; Sivec 1979). As pointed by Ward (1992), there are reports of aquatic insects that complete their entire life cycle underground and are apparently restricted to subterranean waters, but that do not exhibit discernible modifications for a hypogean existence.

The number of cavernicolous stonefly species could be higher than known currently, but the difficulty of sampling these environments has kept stonefly researchers from assessing their potential to inhabit them, at least for a great amount of caves. In the Iberian Peninsula, only one reference to a stonefly species collected in a cave exists: *Eoperla ochracea* (Kolbe, 1885) in “Cueva de los Chorros”, Albacete, Spain (Pérez Fernández 2006), although it is a Circummediterranean species that is widely distributed in surface waters (Tierno de Figueroa *et al.* 2003).

Protonemura Kempny, 1888 is the second most species rich European genus of Plecoptera, after *Leuctra* Stephens, 1836 (Fochetti & Tierno de Figueroa 2006) and includes a high number of endemics (Graf *et al.* 2009). The Iberian Peninsula alone supports 18 species, eight of which are endemic to the area and four others whose distributions only extend to the French slope of the Pyrenees (Tierno de Figueroa *et al.* 2003).

In the present paper, a new species of this genus that inhabits a cave in the Southern Iberian Peninsula is described. Terminology follows that of Baumann (1975).

***Protonemura gevi* sp. n. Tierno de Figueroa & López-Rodríguez**

Figs. 1–4.

Type Material: *Holotype:* Spain, Jaén, Siles, *Cueva del Nacimiento del Arroyo de San Blas* (cave of the San Blas stream source), 1000 m a.s.l., coordinates: 38°23'12.94" N, 2°32'06.10" W, 60 m deep in the cave, 19-