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Baronniesia delioti gen. n. sp. n., a new subterranean Leptodirini from the French Pyrenees (Coleoptera: Leiodidae: Cholevinae)

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Abstract

Baronniesia delioti Fresneda, Bourdeau & Faille **gen. n.** & **sp. n.**, tribe Leptodirini (Coleoptera, Leiodidae, Cholevinae), is described from the French central Pyrenees (Hautes-Pyrénées, Esparros, subterranean river of Artigaléou-Arodets). The genus is remarkable for the large body size and the strong sexual dimorphism in antennae of its type species. The structure of the aedeagus and the inner sac, with two additional strongly curved feather-like structures, forming an inverted "V", and the lateral styles with only three spines without other structures, indicates affinities between the new genus and the *Antrocharis* group, diversified in the eastern part of the Pyrenean range. The limestone area in the central Pyrenees where this new genus was discovered appears to be a contact area between the eastern and western faunas of the Pyrenean cave beetles, both for Leiodidae: Leptodirini and Carabidae: Trechini.

Key words: *Baronniesia delioti* **gen. n. sp. n.**, Leiodidae, Cholevinae, Leptodirini, subterranean environment, Pyrenees, France

Introduction

The Pyrenees is known to be one of the world's hot-spots of subterranean biodiversity (Culver *et al*. 2006). Particularly, two radiations of subterranean Coleoptera occur along the Pyrenean chain: Leiodidae: Cholevinae: Leptodirini and Carabidae: Trechini. Leptodirini are known in the Pyrenees and associated mountain chains by 222 taxa (species and subspecies) included in 28 genera, all of them endemic of this area. This group has fascinated biospeologists and evolutionary biologists in general since very early, due to its very strong ecological requirements, isolation of populations, morphological differentiation and multiple examples of character convergence. The Pyrenean Leptodirini have been studied in detail by many authors, among them Jeannel (1911, 1924), Dupré (1989, 1990) and Fresneda & Salgado (2006). A recent study suggested the monophyly of all Pyrenean Leptodirini (Fresneda *et al.* 2007).

During biospeleological explorations in the massif of the Baronnies (Central Pyrenees, France), two of us (CB, AF) discovered an unexpected species of Leptodirini, which should be considered as the only representative of a new genus close to a group of genera with a more eastern distribution.

Material and methods

The terminology of the structures of the inner sac of the aedeagus (Figs. 5–6) follows Jeannel (1924), Bellés (1984), Dupré (1992) and Fresneda (1998):

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