



## On hypogean *Roncocreagris* (Arachnida: Pseudoscorpiones: Neobisiidae) from Portugal, with descriptions of three new species

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### Abstract

Three new hypogean species of the Iberian genus *Roncocreagris* Mahnert, 1974 are described from mainland Portugal: *R. borgesii* **sp. nov.** and *R. gepesi* **sp. nov.** from caves in the Sicó massif, and *R. occidentalis* **sp. nov.** from caves in the Montejunto and Cesaredas karst plateau. This brings to nine the number of known hypogean species of the mostly Iberian genus *Roncocreagris*: five from Portugal and four from Spain. Ecological comments and new localities for some of the previously known species are also included.

**Key words:** Pseudoscorpions, troglobiont, karst, Iberian Peninsula

### Resumo

Três novas espécies do género Ibérico *Roncocreagris* Mahnert, 1974 são descritas de Portugal continental. Todas as espécies foram descobertas em grutas, *R. borgesii* **sp. nov.** e *R. gepesi* **sp. nov.**, no maciço de Sicó, e *R. occidentalis* **sp. nov.**, no maciço de Montejunto e no planalto das Cesaredas. Esta descoberta aumenta para nove as espécies hipógeas conhecidas do género *Roncocreagris*: cinco de Portugal e quatro de Espanha. São também incluídos comentários e novas localidades para as espécies conhecidas.

### Introduction

Portugal is located in the westernmost part of continental Europe, forming part of the Mediterranean biodiversity hotspot region. Extensive biological collecting carried out in Portuguese caves in recent years have led to the discovery of new and interesting arthropod species (Reboleira *et al.* 2011a, 2013).

All Portuguese karst areas with caves are located on the mainland, which is currently divided into two main biospeleological districts (Bellés 1987). These regions have different patterns of subterranean biodiversity: the Lusitanian district in the centre, which includes the main karst regions, and the Baetic district, located in the south and extending through Spanish Andalusia, composed of the richest Algarve massif, which harbours the relict pseudoscorpion species *Titanobochica magna* Zaragoza & Reboleira, 2010 and *Lusoblothrus aenigmaticus* Zaragoza & Reboleira, 2012 (Reboleira *et al.* 2010a, 2012).

The genus *Roncocreagris* was established by Mahnert (1974) after the definition of the genus *Microcreagris* Balzan, 1892. *Roncocreagris* comprises 19 species (Zaragoza 2007, 2008) and is mostly distributed in the Iberian Peninsula (Portugal and Spain), with the exception of *Roncocreagris cambridgei* (L. Koch, 1873), which has also been recorded from Algeria, France, Ireland, Italy and the United Kingdom (Harvey 2011). Most of the species are epigeal, small in size and frequently inhabit forest leaf-litter. Up to now, a small number of species showing distinct adaptations to hypogean life have been found in caves.