



<http://dx.doi.org/10.11646/zootaxa.3957.3.4>

<http://zoobank.org/urn:lsid:zoobank.org:pub:C03CC56B-54A0-49C0-A173-0A657F5A6EA4>

Description of three new troglobiontic species of *Cybaeodes* (Araneae, Liocranidae) endemic to the Iberian Peninsula

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Abstract

Three new troglobiontic species of the spider genus *Cybaeodes* Simon endemic to caves in the southeastern Iberian Peninsula are described and illustrated: *Cybaeodes indalo* **sp. n.** from Almería, *C. dosaguas* **sp. n.** from València and *C. magnus* **sp. n.** from Alacant. The new species confirm the presence of *Cybaeodes* on the Iberian Peninsula and its wide distribution throughout the Western Mediterranean including Algeria, Tunisia, Italy, France, Spain and the islands of Sardinia, Sicily and Mallorca. A record of *C. liocraninus* (Simon), from an Iberian cave was probably based on misidentified specimens of *C. magnus* **sp. n.** *C. liocraninus* is known only from Algeria and should be removed from lists of the Iberian fauna. In addition, the three new species are clear candidates for protection: they have highly restricted ranges and show a high degree of adaptation to the subterranean environment.

Key words: Arachnida, Araneae, taxonomy, new species, troglobite, caves, Iberian Peninsula

Introduction

Cybaeodes Simon includes 10 medium-sized spider species distributed throughout the western Mediterranean basin (World Spider Catalog 2015) (Fig. 1). An interesting feature of this genus is the striking sexual dimorphism of its spinnerets, mainly the anterior ones: females have short, conical, slightly sclerotized and slightly spaced at their base similar to the Clubionidae, while males show long and cylindrical, pretty sclerotized and clearly separated at their base, as in the Gnaphosidae. This sexual dimorphism was first pointed out by Di Franco (1989) in *Cybaeodes marinae*. Subsequently Bosselaers and Jocqué (2013) proposed this character as an apomorphy for Cybaeodinae (see also Ramírez 2014: 309, fig. 222B).

This interesting genus has long been enigmatic and poorly known (Platnick & Di Franco 1992, Wunderlich 2008, Bosselaers 2009) with a number of species that are epigeal and some of them truly troglobiontic showing remarkable adaptations to subterranean environment. Despite its wide distribution in the western Mediterranean, most species have few records, some of them are known only from the type locality and, therefore, are species with small distributions ranges. In the present work, the distribution of the genus is confirmed on the Iberian Peninsula with the description of three new highly adapted troglobiontic species: *C. dosaguas* **n. sp.**, *C. indalo* **n. sp.** and *C. magnus* **n. sp.** from caves in València, Almería, and Alacant respectively.

Methods

Specimens were examined under a Wild Heerbrugg (12–100X) stereomicroscope. Vulvae were removed and treated with a 50% solution of lactic acid to render the remaining soft tissues transparent. After observation and drawing, vulvae were washed in distilled water and stored in 70% ethyl alcohol. Digital microscopic images were edited using the DeltaPix DpxView Pro AZ V. 13.6 software with an enhanced focus function. The total body length is the sum of the prosoma and the opisthosoma, omitting the pedicel. All measurements are in millimeters.