



## Article

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### **A new cave-dwelling endemic *Ischyropsalis* C.L. Koch, 1839 (Opiliones: Dyspnoi: Ischyropsalididae) from the karstic region of Cantabria (Spain)**

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#### **Abstract**

*Ischyropsalis cantabrica* sp. n. is described from coastal limestone caves in the municipal districts of Alfoz de Lloredo, Ruiloba, Udías and Cabezón de la Sal, in northeastern Cantabria, northern Spain. Its systematic position is discussed as are the differences to morphologically similar and geographically proximal species. *Ischyropsalis cantabrica* sp. n. is a strictly troglobitic species, adapted to deep cave environment. Discrimination of males is possible by genital morphological characters and especially by the unique shape of the cheliceral apophyses.

**Key words:** *Ischyropsalis cantabrica*, new species, taxonomy, SEM ultra-structure, cave-dwelling fauna, Basque-Cantabrian Mountains, North Spain

#### **Introduction**

Opiliones, commonly known as harvestmen, comprise an order of arachnids with 45 families, approximately 1500 genera, and more than 6400 described species (summarized in Kury 2011). One of its major clades, the Dyspnoi, include the monogeneric family Ischyropsalididae Simon, 1879 (*sensu* Shear 1986). Its sole genus *Ischyropsalis* C.L. Koch, 1839 is restricted to Europe, with species concentrated in the major mountain systems of the Alps and the northern Iberian Peninsula (Gruber 2007). The genus is unmistakable within the European fauna for animals showing enlarged chelicerae of more than body-size in length. *Ischyropsalis* has therefore traditionally received considerable attention in terms of species descriptions and taxonomy (e.g. Roewer 1950, Dresco 1968a, 1968b, 1969, 1972a, 1972b; Martens 1969, 1978). *Ischyropsalis* currently includes 11 accepted species from the Iberian Peninsula (>50 % of the total 21 species). Of these, 4 species have adapted a strictly troglobitic life-style in cave habitats. These troglobiont species show a very narrow distribution within the karstic area of central-northern Spain, specifically the Basque-Cantabrian Mountains.

The first troglobitic harvestman endemic reported from this area was *Ischyropsalis dispar* Simon, 1872 described from Albia Cave, Burgos, in northern Spain (discovered by Charles Piochard de La Brûlerie). Since then, 5 additional troglobitic taxa of the genus *Ischyropsalis* have been described or redefined: *I. magdalenae* Simon, 1881, *I. navarrensis* Roewer, 1950, *I. gigantea* Dresco, 1968, *I. espagnoli* Dresco, 1968 and *I. noltei* Dresco, 1972 (Simon 1881; Roewer 1950; Dresco 1968a, 1968b, 1972a; see also Dresco 1969, 1972b; Martens 1969; Prieto 1990; Luque 1991).

Prieto (1990) studied a series of *Ischyropsalis* from the Basque Country and Navarra key areas in northern Spain, and found that Martens (1969), based on morphological similarities, erroneously synonymized *I. navarrensis* with *I. magdalenae*. Prieto (1990) recognized both species as valid, but synonymized *I. espagnoli* Dresco, 1968 with *I. navarrensis*, a troglobitic endemic of the Sierra de Aralar Massif, in Navarra. Also, Prieto (1990) synonymized *I. noltei* with *I. dispar*, both species being recognized as valid by Dresco (1972a, 1972b). According to the revision conducted by Prieto (1990), the final number of strictly troglobitic *Ischyropsalis* from the Basque-Cantabrian Mountains was four. A further cave-dwelling species (*I. galani* nomen nudum) restricted to the