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Definition of the European *Lepidocyrtus curvicollis* group (Collembola: Entomobryidae) with description of a new species from Sardinia (Italy)

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Abstract

The genus *Lepidocyrtus* was up to now represented by two species in Sardinia. However, recent molecular data suggest the existence of several other species in the region. The study of a *Lepidocyrtus* population from the peninsula of Capo Caccia (NW Sardinia) has allowed the description of the species *Lepidocyrtus apicalis* **sp. nov.** Along with seven other European species, the new species constitute the "*Lepidocyrtus curvicollis* group", characterized by the presence of scales on the antenna, legs and dorsal side of manubrium, by having the mesothorax more or less protruded, labial seta M_1 shorter than M_2, presence of seta s on abd.IV, and by the dorsal macrochaetae formula $R_0R_{1s}R_1So/00/0101+3$. An identification key has been developed for differentiating all species of this group. With the new species the number of *Lepidocyrtus* species present in Sardinia increases to three and the number of total European *Lepidocyrtus* species to 30.

Key words: taxonomy, chaetotaxy, species key

Resumen

El género *Lepidocyrtus* está representado en Cerdeña por dos especies, aunque recientes datos moleculares sugieren la existencia de varias especies más en la región. El estudio de una población de *Lepidocyrtus* de la peninsula de Capo Caccia (NW Cerdeña) ha permitido la descripción de la especie *Lepidocyrtus apicalis* **sp. nov.** Esta nueva especie, junto con otras siete especies europeas, forman el "grupo *Lepidocyrtus curvicollis*", que se caracteriza por la presencia de escamas en las antenas, patas y region dorsal del manubrio, por tener el mesotórax proyectado hacia delante en mayor o menor medida, por tener la seda labial M_1 más corta que M_2, presencia de seda s en abd.IV, y por la fórnula quetotáxica de macrosedas dorsales $R_0R_{1s}R_1So/00/0101+3$. Se ha elaborado una clave para la identificación de todas las species del grupo. Con la nueva especie descrita se eleva a tres el número de species de *Lepidocyrtus* presentes en Cerdeña y a 30 el total de especies Europeas del género.

Palabras clave: taxonomía, quetotaxia, clave de especies

Introduction

Lepidocyrtus Bourlet, 1839 is one of the largest collembolan genera worldwide (see Bellinger *et al.* 1996–2011). In Europe it is represented by 29 species but their relationships have not been sufficiently studied. Gisin (1964a) defined two groups of species that could be differentiated by the extent of the scale covering and the extent of the mesothorax protrusion: The *L. lanuginosus-cyaneus* group, characterized by the absence of scales on the antennae, legs and dorsal side of manubrium, and without mesothoracic protrusion, and the *L. curvicollis-violaceus* group, characterized by the presence of scales on the antennae, legs and dorsal side of manubrium, and by having the mesothorax more or less protruded. Gisin (1964b) extended the definition of these two groups indicating that the *L. lanuginosus* (Gmelin, 1788) group (including *L. cyaneus* Tullberg, 1871 and *L. fimetarius* Gisin, 1964) differs from

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