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The European *Lepidocyrtus lanuginosus* group (Collembola: Entomobryidae), definition and description of a new species from Spain

EDUARDO MATEOS
Departament de Biologia Animal, Facultat de Biologia, Universitat de Barcelona. Avinguda Diagonal, 643, 08028 Barcelona (Spain). E-mail: emateos@ub.edu

Abstract

The *Lepidocyrtus lanuginosus* group is formed by the species *L. lanuginosus* and *L. cyaneus*, which can be differentiated by the body color pattern. In the present paper several populations of these two species from the Northeastern Iberian Peninsula have been studied. This study has allowed the detection of chaetotaxic and morphological differences distinguishing the two mentioned species. Also the description of the new species *L. bicoloris* has been made (also characterized by the body color pattern), as well as a redefinition of the European *Lepidocyrtus lanuginosus* group.

Key words: taxonomy, chaetotaxy, body color pattern

Resumen

El grupo *Lepidocyrtus lanuginosus* está compuesto por las species *L. lanuginosus* y *L. cyaneus*, las cuales se diferencian por el patrón de color del cuerpo. En el presente trabajo se han estudiado varias poblaciones de estas especies procedentes del Nordeste de la Península Ibérica. Este estudio nos ha permitido detectar las diferencias quetotáxicas y morfológicas de las dos especies mencionadas. Asimismo se ha realizado la descripción de la nueva especie *L. bicoloris* (también caracterizada por el patrón pigmentario del cuerpo), así como una redefinición del grupo *Lepidocyrtus lanuginosus* de Europa.

Palabras clave: taxonomía, quetotaxia, patrones de color corporal

Introduction

L. lanuginosus (Gmelin, 1788) is the oldest species of the genus and, together with *L. cyaneus* Tullberg, 1871, form the *L. lanuginosus* group (sensu Gisin1964b, Hüther 1986). Of these two species there is no complete published descriptions and only details of the chaetotaxy and some morphological characters can be found (Christiansen & Bellinger 1980, Fjellberg 2007, Gisin 1963b, 1964a, 1964b, Hüther 1986, Loksa & Bogojević 1967, Mateos 2008a, Snider 1967). According to these descriptions the only character that differentiates *L. lanuginosus* and *L. cyaneus* is the color pattern. In this paper we have examined several specimens of Iberian Peninsula populations of both species in order to determine the existence of more characters (besides the pigmentation) that allow their differentiation. The study of these *L. lanuginosus* group populations has allowed to describe a new species characterized by the body color pattern.

Material and methods

Samples were taken at 10 locations in Northeastern Iberian Peninsula (Table 1). The *Lepidocyrtus* specimens collection was performed by hand sorting, except on one occasion in which the specimens were extracted from soil samples using Berlese-Tullgren devices. A total of 353 specimens of *Lepidocyrtus lanuginosus* group were obtained of which 50 were cleared and mounted for observation with phase contrast optical microscope (Table 2).

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