



Study on the genus *Morulina* (Collembola: Neanuridae) with description of a new species from Northwest China

JOSÉ G. PALACIOS-VARGAS¹ & YAN GAO^{2,3}

¹ Laboratorio de Ecología y Sistemática de Microartrópodos, Depto. Ecología y Recursos Naturales, Fac. Ciencias, UNAM, 04510, México D. F., E-mail: jgpv@hp.ciencias.unam.mx

² Institute of Plant Physiology and Ecology, Shanghai Institutes for Biological Sciences. 300 Fenglin Road, Shanghai, 200032, China. E-mail: yangao@sibs.ac.cn

³ Corresponding author

Abstract

A new species of *Morulina* from China is described and illustrated. It is close to *M. orientis* Tanaka from Japan and *M. himalayana* Cassagnau from Nepal. There are 12 tubercles on the head of all three species, but they can be separated by a number of chaetotaxic characters. A key for identification of all the species in the genus is given.

Key words: springtail, *Morulina nucifera* sp. nov., taxonomy, key, holarctic

Introduction

The subfamily Morulininae is distributed in the Holarctic Region from the Carpathian Mountains, Himalaya, Japan and Eastern parts of the United States of America and Canada. The Siberia-Canadian Amphi-Beringian Region maybe the centre of radiation. The subfamily includes only two genera, *Promorulina* Cassagnau, 1997 (monospecific) and *Morulina* Börner, 1906. The genus *Morulina* was based on the species *Anurida gigantea* (Tullberg, 1876) as the type of genus. At present, 20 species (and one form) have been described in the genus. All species are large, conspicuous neanurids, usually dark in colour and with a strongly warted body bearing long, outstanding macrosetae. The genetic distribution covers most of the Holarctic region (Cassagnau 1997; Babenko & Fjellberg 2001), but, so far, there have been no records from China. Here we describe and illustrate one new species, *Morulina nucifera* sp. nov. from Central North China and give an updated key for the species of this genus.

Terminology for the description is that of Deharveng and Weiner (1984), except that in tables only half body chaetotaxy is represented.

Abbreviations used in the description are: BM, barbulate macroseta; s, sensorial seta; m, microseta; Ant., antennal article; Th., Thoracic segment; Abd., abdominal segment; Sgv, ventral sensorial guard sensillum; Sgd, dorsal sensorial guard sensillum; De, dorso-external tubercle; Di, dorso-internal tubercle; Dl, dorso-lateral tubercle; L, lateral tubercle; Scx2, subcoxa 2; Cx, coxa; Tr, trochanters; Fe, femur; Ti, tibiotarsus; VT, ventral tube; Ag, antegenital; Ve, ventroexternal; Vl, ventrolateral; Fu, furcal vestige; An, anal.

Taxonomy

Morulina Börner, 1906

Type species: *Anurida gigantea* (Tullberg, 1876)

Diagnosis. Large *Neanura*-like Collembola with hemispherical or spherical postantennal organ with more than 20 vesicles. Well developed body tubercles with many thick, long and barbulate setae. Five eyes per side. Fourth