



## Contribution to study of eyed species of *Sinella* (Collembola: Entomobryidae), with a key to this group of species from China

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### Abstract

Two new species, *Sinella sunae* n. sp. with 1+1 eyes and *Sinella gei* n. sp. with 5+5 eyes, are described in the present paper. *Sinella umesaoi* Yosii, 1940 is redescribed based on examination of a paratype and newly collected specimens from China. A key to the seventeen Chinese with eyes species of *Sinella* is provided.

**Key words:** new species, redescription, identification key, chaetotaxy

### Introduction

The genus *Sinella* was established by Brook in 1882 for *Sinella curviseta*, and now is the second largest group in unscaled Entomobryinae. Deharveng (1990), Chen & Christiansen (1993), Zhang and Deharveng (2009, 2011), and Zhang *et al.* (2009, 2010) made significant contributions to its modern taxonomy. All *Sinella* species possess 4-segmented antennae without apical bulb, reduced eyes number (0–6 each side), pigment reduced or absent, poly-macrochaetotic chaetotaxy, absence of dental spines and scales, and bidentate mucro. So far, 60 species have been described around the world, 25 of them recorded from China, 15 of which have eyes. Here, two new species of *Sinella* from China are described; *Sinella umesaoi* Yosii, 1940 is redescribed and a key to the Chinese species with eyes is also provided.

### Methods and materials

Specimens were cleared in lactic acid, mounted under a cover slip in Marc André II solution, and observed using Leica DM2500 and Nikon 80i microscopes. The photograph was taken with Leica AL2 and Nikon SMZ1000 microscopes using a mounted Nikon DS-Fi1 camera, numbers and letters added with Photoshop CS2 (Adobe Inc.). All length data were measured with NIS-Elements Documentation 3.1 (Nikon). The cephalic and labial chaetotaxy and the Ant. III organ are designated following Chen and Christiansen's system (1993), dorsal body chaetotaxy after Szeptycki (1979).

Abbreviations. Ant.—Antennal segment, Th.—Thoracic segment, Abd.—Abdominal segment, ms—microsensillum/a.; s—sensillum/a; mac—macrochaeta(e); mic—microchaeta(e); Gr.—group of chaetae. TZU—School of Life Sciences, Taizhou University; NJU—School of Life Sciences, Nanjing University.

### Taxonomy

#### *Sinella sunae* n. sp.

Figs 1–16, Table 1