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## *Echiniscus semifoveolatus* (Heterotardigrada: Echiniscidae), a newly recorded species from China

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### Abstract

*Echiniscus semifoveolatus* Ito, 1993 (Tardigrada: Echiniscidae) is reported as a new record for China, and was collected from the Mt. Jinggang, Jiangxi, and the Wuyi Mountains, south-eastern China. This is the first report of this species from outside the type locality, Mt. Fuji, central Japan. The number of dorsal spines that arise from the posterior edge of the scapular plate ranges from zero to five while the type specimen has two symmetrically arranged spines at B<sup>d</sup>. The distance between the spines varies. These variations in both the number of spines and the distance between the spines could be considered as individual variation. We provide a detailed supplementary description for this species based on the Chinese specimens and supply a key to all known Chinese species of the genus *Echiniscus*.

**Key words:** Tardigrada, *Echiniscus semifoveolatus*, new record, China

### Introduction

*Echiniscus semifoveolatus* was described by Ito (1993) from the northern slope of Mt. Fuji, central Japan. In nearly 20 years there have been no reports of this species outside the type locality. However, in early May of 2011, this species was collected respectively from the Mt. Jinggang, Jiangxi, and the Wuyi Mountains, Fujian, South-eastern China (Fig. 1). The Mt. Jinggang and the Wuyi Mountains share a very similar environment: both are located in regions with the highest annual precipitation in China, and possess the same vegetation type of subtropical evergreen broad-leaved forest (Xiao, 2000; Chen *et al.*, 2004) and a similar rock structure (metamorphic) (Ye *et al.*, 2012; Chen *et al.*, 2008). As this is the first report for this species from localities other than the type locality in Japan, we are reporting in this article the description and measurements as a newly recorded species for China.

### Material and methods

Tardigrades were extracted from mosses growing on rocks. The moss include three species: *Hedwigia ciliata* (Hedw.) Ehrh. ex P. Beauv., *Pohlia elongata* Hedw. and *Ptychomitrium dentatum* (Mitt.). Moss samples were soaked in distilled water overnight, the water squeezed from the moss over a Petri dish and the resulting fluid plus meiofauna viewed under dissecting microscope. Tardigrades were picked up using a pipette, transferred to glass slides, and mounted in Hoyer's medium. All measurements are given in micrometers (µm). Structures were measured only if they were in proper orientations. Body length was measured from the rostral end to the terminal end of the body, excluding the hind legs. We compared our specimens with the species *E. semifoveolatus* based on the original description (Ito, 1993). Observation was made using phase contrast microscopy (PCM) (Nikon 80i) equipped with an imaging system under 100X magnification. Measurement was made using software imbedded in the imaging system. Photomicrographs were made using PCM associated with a digital camera (Nikon DS-Fi1). All specimens are deposited at the College of Life Sciences of Shaanxi Normal University.