Zootaxa 3914 (2): 175–184
www.mapress.com/zootaxa/

Article

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

http://dx.doi.org/10.11646/zootaxa.3914.2.7
http://zoobank.org/urn:lsid:zoobank.org:pub:AD355247-9EA4-403C-9377-3F1E60769496

The first eyeless species of *Tomocerus* from China (Collembola, Tomoceridae) with notes on genera *Tomocerus* and *Pogonognathellus*

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Abstract

A new cave tomocerid from Guangxi Zhuang Autonomous Region, South China is described. *Tomocerus caecus* **sp. nov.** is characterized by the absence of ocelli, the absence of posterior macrochaetae on head and the reduced number of teeth on unguis and mucro. The generic position of the new species is discussed. *Tomocerus caecus* **sp. nov.** is similar to the East Asian species *Tomocerus kinoshitai* Yosii, 1954 and *Tomocerus similis* Chen & Ma, 1997 mainly in the shape of dental spines and the small number of teeth on unguis and mucro, but different from the latters in the absence of ocelli and pigment. The differences between the genera *Tomocerus* Nicolet, 1842 and *Pogonognathellus* (Börner, 1908) are discussed with a special focus on the work of Massoud & Ellis (1974) that was long ignored by collembologists.

Key words: *Tomocerus caecus* **sp. nov.**, Tomocerinae, taxonomy, cave, Guangxi

Introduction

Nicolet (1842) established the genus *Tomocerus* for the Collembola with clothing of scales, elongated Abd. III, annulated Ant. III and Ant. IV and presence of ocelli. Frauenfeld (1854) described the genus *Tritomurus* which is similar to *Tomocerus* but eyeless. Schäffer (1896) included both the genera in the subfamily Tomocerinae Schäffer, 1896. Börner (1906) founded the tribe Tomocerini for *Tomocerus* and *Tritomurus*, which was raised to the subfamily level while Tomocerinae was raised to family (Börner 1913). Since the establishment of Tomocerinae (Schäffer 1896), all the eyeless species, i. e. *Tritomurus scutellatus* Frauenfeld, 1854; *Plutomurus californicus* (Folsom, 1913); *Tritomurus oregonensis* Denis, 1929; *Plutomurus suzukaensis* (Yosii, 1939); *Lethemurus missus* (Mills, 1948), were placed in *Tritomurus* until the establishment of *Plutomurus* Yosii, 1956, a genus containing both eyed and eyeless species. From then on it was revealed that the numerical variation of ocelli is intrageneric, e. g. in *Plutomurus* from 0+0 to 6+6, in *Tomocerina* Yosii, 1955 5+5 or 6+6; or even intraspecific, e. g. in *Plutomurus californicus* (Folsom, 1913) from 0+0 to 2+2 (Christiansen 1964). Since most tomocerids with reduced number of ocelli are troglobiotic species (Lukić *et al*. 2010), anophthalmy in Tomoceridae is probably an adaptive convergence rather than a synapomorphy.

So far, 78 species of *Tomocerus* have been reported in the world (Bellinger *et al*. 1996–2014) and all of them have 6+6 ocelli. In the present paper, the first eyeless species of the genus is described. *Tomocerus caecus* **sp. nov.** from a cave in the natural reserve of Mulun, Guangxi Zhuang Autonomous Region is also the first eyeless tomocerid recorded in China. In this new species, two morphological characters are apparently taxonomically confusing and are discussed: the long teeth of maxillary lamella 5 (Felderhoff *et al*. 2010) and the pointed inner scales at the base of dens, both used previously for characterizing the genus *Pogonognathellus* (Börner, 1908).

Accepted by W.M. Weiner: 10 Dec. 2014; published: 27 Jan. 2015

Acknowledgements

We thank Youbang Li who provided us with the specimens, the staff of the natural reserve of Mulun for having organized the field trip in the reserve, and the "Guangxi Integrated Forestry Development and Biodiversity Conservation Project", a GEF-World Bank project for the funding of cave surveys in Guangxi. The China Scholarship Council provided a grant to the first author for studying at MNHN, Paris.

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