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New Chinese species of the genus *Thalassaphorura* Bagnall, 1949 (Collembola: Onychiuridae)

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Abstract

Thalassaphorura is the most diverse genus in China so far. Three new species (*T. guangdongensis* **sp. nov.**, *T. xihuensis* **sp. nov.** and *T. linzhiensis* **sp. nov.**) are reported from China. *T. guangdongensis* **sp. nov.** is characterized by its pso formulae (32/122/33343 dorsally and 11/000/01010 ventrally), 4+4 medial p-chaetae between posterior pso on head, 2+2 chaetae on Abd. I–III terga along axial line and axial chaeta m0 present on Abd. VI tergum. *T. xihuensis* **sp. nov.** belongs to the group of species characterized by the presence of only 4 papillae in AIIIO. *T. linzhiensis* **sp. nov.** is most similar to *T. hainanica* Sun, Gao & Potapov, 2014, and differs from the latter by undifferentiated S-chaetae, more vesicles in PAO, two axial chaetae on Abd. VI tergum, the presence of chaetae on Th. I sternum and longer anal spines.

Key words: taxonomy, chaetotaxy, China

Introduction

Among 71 species of Onychiuridae reported from China, twenty-one belong to the genus *Thalassaphorura* Bagnall, 1949, showing that *Thalassaphorura* is the most diverse genus in Chinese Onychiuridae (Sun 2014; Sun & Arbea 2014; Sun & Huang 2014; Sun & Li 2014; Sun & Wu 2014a; Sun & Wu 2014b; Sun *et al*. 2013a). During the investigations on the genus *Thalassaphorura* in the last five years, we have recorded sixteen species new for China, including thirteen species new to science. With more and more species being recognized, three important taxonomical characters (chaeta d0 on head, the number of chaetae in the distal whorl of tibiotarsi and the labium type) have been re-examined and the definition of the genus was broadened accordingly (Sun *et al*. 2010; Sun *et al*. 2013b). Besides the above three taxonomical characters, the following characters are proved to be effective in discrimination of *Thalassaphorura* species: the pseudocellar and parapseudocellar formulae, the number of pseudocelli on subcoxae 1 of legs, the number of papillae and the guard chaetae in Ant. III sensory organ, the number of vesicles in postantennal organ, the number of medial p-chaetae between posterior pso on head, the S-chaetae formulae, the number of chaetae on Th. II–Abd. III terga along axial line, the ratios of unguiculus/unguis and anal spines/unguis and axial chaetae on the Abd. IV–VI terga.

In the present study, three species new to science, viz. *T. guangdongensis* **sp. nov.**, *T. xihuensis* **sp. nov.**, and *T. linzhiensis* **sp. nov.**, are reported from different parts of China.

Material and methods

Specimens were collected by Berlese extraction, cleared in lactic acid and then mounted in Marc André II solution. They were studied using a Nikon Eclipse 80i microscope. The material is deposited in the Key Laboratory of Wetland Ecology and Environment, Northeast Institute of Geography and Agroecology, Chinese Academy of Sciences, Changchun.

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