



New and little known species of Nemouridae (Plecoptera) from Inner Mongolia of China

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Abstract

Four species of the family Nemouridae, *Amphinemura helanshana* sp. n., *A. didyma* Zhu & Yang, *Nemoura geei* Wu, and *Nemoura* cf. *securigera* Klapálek were collected during a two years survey of the Helan Mountains of Inner Mongolia, China. *Nemoura* cf. *securigera* has not been collected for more than one hundred years.

Key words: Plecoptera, Nemouridae, *Amphinemura*, *Nemoura*, new species

Introduction

Amphinemura is the largest genus in the subfamily Amphinemurinae with at least 175 species recognized from the Oriental and Holarctic Regions (DeWalt *et al.* 2013). The Chinese *Amphinemura* species were described by Du & Wang (2007), Du *et al.* (2007), Li & Yang (2005, 2006, 2007, 2008a, b, c, d, e, 2011), Li *et al.* (2005), Wang *et al.* (2006), Wang *et al.* (2007), Wu (1926, 1935, 1938, 1949, 1962, 1973), Yang *et al.* (2005a), Yang *et al.* (2005b) and Zhu & Yang (2002, 2003). In the present paper, an additional species from Inner Mongolia of China is described as new. Three additional nemourid species are reported; with descriptions provided for *A. didyma* Zhu & Yang, 2002 and *Nemoura* cf. *securigera* Klapálek, 1907, a species described from the holotype more than hundred years ago. The holotype of this species is apparently lost (Zwick 1982). These are the second known records of the family Nemouridae from Inner Mongolia, only *A. hainana* Li & Yang, 2008c has been previously recorded. The Helan Mountains also referred to the Alashan Mountains, are interesting biogeographically because they form an isolated range forming the border of Inner Mongolia with Ningxia Hui Autonomous Region, China to the north. These mountains parallel the north flowing Yellow River.

Material and methods

The studied material is deposited in the Entomological Museum of China Agricultural University (CAU), Beijing and Henan Institute of Science and Technology (HIST), Xinxiang, respectively. Types of the new species are preserved in 75% ethanol after photographed using a FEI Quanta 200 Field Emission Environmental Scanning Electron Microscope (ESEM-FEG). The morphological terminology follows that of Baumann (1975) but of Shimizu (1997) in case of the *Nemoura ovocercia* group. Specimens were examined with the aid of a Motic SMZ 168 microscope and the color illustrations were produced using digitalized software Motic Images Advanced 3.2.

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