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The genus *Mytilina* in China, with description of a new species (Rotifera: Monogononta: Mytilinidae)

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Abstract

During our study of biodiversity of Rotifera in PR China, as model taxon of freshwater Micrometazoa, we came across several records that warrant revision regarding species of genus *Mytilina* Bory de St. Vincent, 1826 (Rotifera, Monogonta, Mytilinidae). In addition to this review we describe a new species encountered during examination of freshwater habitats of Inner Mongolia, P.R.China. This new species, *Mytilina wangi* **n. sp.**, appears to belong to the *Mytilina mucronata - ventralis* complex but differs from the known taxa in the group by its domed lorica and relatively short toes. We provide an annotated checklist of the Chinese representatives of the genus and discuss the species of the *M. mucronata-ventralis* group. We suggest treating *M. brevispina* (Ehrenberg, 1830) and *M. ventralis* (Ehrenberg, 1830)(synonym: *M. macracantha* (Gosse, 1886)) as separate species-level taxa rather than as two infrasubspecific variants of the same species, and argue that *Mytilina trigona* var. *bispinosa* Wang, 1961 is a misidentified *M. acanthophora* Hauer, 1938 rather than an infrasubspecific variant of *M. trigona* (Gosse, 1851).

Key words: biodiversity, biogeography, micrometazoa, taxonomy

Introduction

Information on biodiversity and chorology of freshwater micrometazoans of the Eastern Palearctic is quite scarce when compared to the Western Palearctic. This holds in particular for Rotifera, as representative taxon of Micrometazoa that are main constituents of freshwater ecosystems, in PR China (see Fontaneto *et al*. 2012). Most existing records of Chinese representatives of this crucial zooplankton group are quite old and based on outdated taxonomy (Wang 1958; 1961; Gong 1983), notwithstanding that a number of reports have recently become available (Koste & Zhuge 1996; 1998; Luo *et al.* 2012; Segers & Wang 1997; Segers & Su 1998; Zhuge & Huang 1997; Zhuge *et al*. 1998), including works involving molecular techniques (e.g., Xiang *et al*. 2010) and works involving rotifers in ecological research (e.g., Wen *et al*. 2011). A re-examination of available records is therefore needed to produce a solid basis for future comprehensive work on biodiversity of the taxon in PR China.

Being aware that a recent review of the Mongolian rotifers (Jersabek & Bolortsetseg 2010) indicated a relatively rich fauna including several potentially new, as yet undescribed species for the region, the College of Life and Environment of Shanghai Normal University performed, in July 2013, a sampling campaign of swamps in prairies and forests of Inner Mongolia as a first step towards addressing the dearth of information on this group of organisms. These samples are now being processed, but the discovery of a new species of *Mytilina* prompted a review of the Chinese representatives of this genus.

Genus *Mytilina* Bory de St. Vincent 1826 contains relatively few representatives in the Palearctic region. Of about 20 extant species-level taxa, 12 have been recorded from the Palearctic (Segers 2007), while Zhuge *et al*. (1998) record nine taxa including an endemic subspecies; Sudzuki & Huang (1997) describe one additional Chinese *Mytilina*. Species of *Mytilina* are loricate, have malleate trophi, and a pseudosegmented foot bearing two toes. They are further characterized by their lorica consisting of two lateral or three lateral and one ventral plate. The plates are fused ventrally or ventro-laterally but leave a characteristic dorsal sulcus. The genus is mostly

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FIGURE 11. Photograph of the type locality of *Mytilina wangi* **n. sp.**

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