



## Two new brackish-water species of *Testudinella* (Rotifera: Testudinellidae) from Qi'ao Island in the Pearl River estuary, China, with a key to marine and brackish-water *Testudinella*

NAN WEI<sup>1,3</sup>, WILLEM H. DE SMET<sup>2</sup> & RUNLIN XU<sup>1</sup>

<sup>1</sup>School of Life Sciences, Sun Yat-sen University, Guangzhou, Guangdong 510275, China. E-mail: xurunlin\_1960@yahoo.com

<sup>2</sup>Department of Biology, University of Antwerp, Campus Drie Eiken, Universiteitsplein 1, B-2610 Wilrijk, Antwerpen, Belgium. E-mail: willem.desmet@ua.ac.be

<sup>3</sup>Corresponding author. E-mail: weinan1120@hotmail.com

### Abstract

Two new species of the rotifer genus *Testudinella* (Rotifera, Monogononta, Testudinellidae), *T. pseudobscura* **sp. nov.** and *T. quadrilobata* **sp. nov.**, are described from the intertidal zone of a brackish-water tidal river and a mangrove swamp on Qi'ao Island in the Pearl River estuary, Guangdong province, southern China. Both species belong to *T. clypeata* (Müller, 1786)—*T. obscura* Althaus, 1957 group on account of possessing a proximal fulcrum opening, a slit-like foot opening and living in thalassic waters.

The trophi of *Testudinella zhujiangensis* Wei, De Smet & Xu, 2010 are redescribed, and a key to the marine and brackish-water *Testudinella* species known to date is presented.

**Key words:** Rotifera; *Testudinella*; brackish-water; new species; China

### Introduction

Marine and brackish-water rotifers are commonly overlooked world-wide, because it is often hard to collect sufficient material, and of the time-consuming and laborious techniques needed to extract and prepare them for study (De Smet 2009). This also holds for China, where rotifer diversity in general is severely underestimated (Zhuge 1998). Data of Chinese brackish-water rotifers, which mainly focused on the Pearl River and Yangtze River estuary, are often outdated or confined to general zooplankton ecology research papers. Gao *et al.* (2008) recorded 28 rotifer species from three cruises during the flood, mean-flow and dry periods of the Pearl River estuary, and more than 100 species were found during zooplankton surveys of the Yangtze River (Han & Hu 1995; Hu *et al.* 2008; Wang *et al.* 1999; Zhang *et al.* 2005). However, almost all these studies were based on samples collected with a 64 µm, or larger, mesh-width zooplankton net, resulting in loss of small-sized species and consequent underestimation of rotifer diversity.

Only few new brackish-water rotifers have been described since the publication of the major taxonomic works on the Chinese rotifer fauna by Wang (1961) and Zhuge (1997). *Synchaeta arcifera* Xu, 1998 was described from the Mu-lan xi river, Fujian (Xu 1998), *Lecane yatseni* Wei & Xu, 2010 and *Testudinella zhujiangensis* Wei, De Smet & Xu, 2010 were described from Qi'ao Island in the Pearl River estuary, Guangdong (Wei & Xu 2010; Wei *et al.* 2010). From the latter region, two new species, *T. pseudobscura* **sp. nov.** and *T. quadrilobata* **sp. nov.** are described in the present study. A key to the marine and brackish-water species of *Testudinella* known to date is presented.