



## Article

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### The genus *Biroia* Szépligeti, 1900 (Hymenoptera, Braconidae, Agathidinae) in China, with description of two new species

PU TANG, ZHEN LIU & XUE-XIN CHEN\*

State Key Laboratory of Rice Biology and Ministry of Agriculture Key Lab of Agricultural Entomology, Institute of Insect Sciences, Zhejiang University, Hangzhou 310058, China

\* Corresponding author, e-mail: xxchen@zju.edu.cn

#### Abstract

Three Chinese species of *Biroia* Szépligeti, 1900 are recognized. Two new species, *B. hirsutus* sp. nov., *B. baishanzuensis* sp. nov., are described and illustrated. A new synonym is proposed, *B. bicolor* (Wang, 1984) with *B. taeniocauda* (Enderlein, 1920). A key to the Chinese species of the genus *Biroia* is provided.

**Key words:** *Biroia*, Agathidinae, new species, new synonym, China

#### Introduction

*Biroia* Szépligeti, 1900 is a Paleotropical genus of the subfamily Agathidinae with 30 known species worldwide. *Biroia* and the Neotropical genus *Zacremnops* Sharkey and Wharton form a sister-group. Most of the New World species previously included in *Biroia* are members of *Zelomorpha* s.s. (Sharkey *et al.* 2006, 2009). Sharkey *et al.* (2006) treated the genus *Isoptonotum* Enderlein as a junior synonym of *Biroia* Szépligeti based on a phylogenetic analysis using molecular and morphological data. Stevens *et al.* (2010) recently provided a diagnosis of the genus, together with a list of taxa occurring in Australia.

Two species of *Biroia* were recorded from China prior to this study, *B. bicolor* (Wang) and *B. taeniocauda* (Enderlein), which was placed in the genus *Isoptonotum* previously (Bhat and Gupta 1977, Wang 1984, Chen and Yang 2006).

During our study of the Chinese braconids, we discovered three species, i.e., *B. baishanzuensis* sp. n., *B. hirsutus* sp. n. and *B. taeniocauda* (Enderlein), and proposed a new synonym, *B. bicolor* (Wang, 1984) with *B. taeniocauda* (Enderlein, 1920). In the present paper, the new species are described and illustrated and a key to the Chinese species of *Biroia* is provided.

#### Material and methods

This study is based on the specimens preserved in the Parasitic Hymenoptera Collection of Institute of Insect Sciences, Zhejiang University (ZJUH), Shanghai Entomological Museum, Chinese Academy of Sciences, Shanghai, China (SEMS) and Institute of Zoology, Chinese Academy of Sciences, Beijing, China (IZCAS).

The terminology and measurements used follow van Achterberg (1993). All descriptions and measurements were made under a Zeiss Stemi 2000-C microscope; figures were made by a digital camera (Q-Imaging, Micropublisher, 3.3 RTV) attached to a stereomicroscope (Leica MZ APO, Germany) and Auto-Montage Pro version 5.0 software, and with a Nikon AZ100M microscope.