



A new species of *Prosopistoma* (Ephemeroptera: Prosopistomatidae) from China with a key to Oriental species

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Abstract

A new species of the monogeneric family Prosopistomatidae, *Prosopistoma ocellatum* **sp. n.**, is described and illustrated based on mature larval stages from Guangxi and Hainan, southern China. The new species can be readily distinguished from the other members of *Prosopistoma* by the following combination of characters: antenna 6-segmented, segment III much longer than segments IV–VI; three bristles at the base of the inner canine; 10–11 pectinate setae on ventral margin of fore tibiae, ventral and basal half surface of all femora with dense scale-like structures, and color pattern of eye-spot on the mesonotum. An update key to the known Oriental species is provided.

Key words: mayfly, Prosopistomatidae, *Prosopistoma ocellatum* **sp. n.**, taxonomy

Introduction

The monogeneric family Prosopistomatidae is a distinctive and enigmatic group, the nymph being first described by Geoffroy (1762) as a crustacean due to the carapace-like mesonotum, until, over 100 years later, Joly realized in 1871 that this species was in fact a member of Ephemeroptera (Gillies 1954). Although the genus *Prosopistoma* has high species diversity in the Oriental Region (Lieftinck 1932; Peters 1967; Soldán & Braasch 1984; Sartori & Gattolliat 2003; Barber-James *et al.* 2008; Barber-James 2009), no species were described from China until the turn of the century when Tong & Dudgeon (2000) described the first Chinese species of the family Prosopistomatidae, *Prosopistoma sinense* Tong & Dudgeon 2000, from Hong Kong and Guangdong, southern China. Subsequently, Zhou & Zheng (2004) described other two new species of *Prosopistoma*, *P. trispinum* Zhou & Zheng, 2004 and *P. unicolor* Zhou & Zheng, 2004, from Yunnan, southwestern China.

During recent survey work supported by the National Natural Science Foundation of China, the authors collected an unknown species of this genus which is described and illustrated herein, along with an update key for identifying the known prosopistomatid species found in the Oriental Region.

Material and methods

Most of the material used for the description and illustration of the new species was collected from streams in the Dayaoshan National Nature Reserve, Guangxi, in November 2011 and April 2012. Additional material was collected from the Diaoluoshan National Nature Reserve, Hainan in May 2005. The nymphs were collected from cobble and gravel within the riffles habitat in moderate to fast current, and the nymphs were placed directly into vials of 95% ethanol in the field. Type specimens were preserved in 85% ethanol unless otherwise stated; some were dissected under the stereo microscope and were mounted on slides in Hoyer's solution. Mounted structures were examined and photographed under a ZEISS Imager A1 microscope with a Photometrics CoolSNAP camera. Measurements and ratio ranges given in the paper are for mature nymphs only, scale bar in illustrations is 100