



<http://dx.doi.org/10.11646/zootaxa.3722.4.7>

<http://zoobank.org/urn:lsid:zoobank.org:pub:A5B94ED2-15AE-4752-BE90-1CF99F6E1D1B>

Taxonomic notes on the *Protohermes changninganus* species group (Megaloptera: Corydalidae), with description of two new species

XINGYUE LIU^{1,3}, FUMIO HAYASHI² & DING YANG¹

¹Department of Entomology, China Agricultural University, Beijing 100193, China

²Department of Biology, Tokyo Metropolitan University, Minamiosawa 1–1, Hachioji, Tokyo 192–0397, Japan

³Corresponding author. E-mail: xingyue_liu@yahoo.com

Abstract

Species of the dobsonfly *Protohermes changninganus* group are revised. *Protohermes curvicornis* **sp. nov.** and *P. ohli* **sp. nov.** are herein described and placed in the *P. changninganus* group. *Protohermes tengchongensis* Yang & Yang is considered a junior subjective synonym of *P. subnubilus* Kimmins.

Key words: *Protohermes*, new species, China, India, Myanmar

Introduction

The dobsonfly genus *Protohermes* van der Weele, 1907 is the most diverse genus of Megaloptera with ca. 70 described species from eastern, southern, and southeastern Asia. The adults of *Protohermes* are characterized by the anterior branch of 2A partly fused with stem of 1A in the forewing and most species have yellow or white round markings on the forewings. Within *Protohermes*, there are 13 recognized species groups, *P. assamensis* group (Liu *et al.* 2007a), *P. changninganus* group (Liu & Yang 2005), *P. costalis* group (Liu *et al.* 2007b), *P. davidi* group (Liu *et al.* 2010), *P. dichrous* group (Liu *et al.* 2013a), *P. differentialis* group (Liu *et al.* 2006a), *P. fruhstorferi* group (Liu *et al.* 2007c), *P. guangxiensis* group (Liu *et al.* 2008a), *P. latus* group (Liu *et al.* 2013b), *P. parvus* group (Liu *et al.* 2009), *P. sabahensis* group (Liu *et al.* 2008b), *P. xingshanensis* group (Yang & Liu 2010), and *P. xanthodes* group (Liu *et al.* 2006b). These species groups include most of the described species in the genus. The *P. changninganus* group was the first group proposed by Liu & Yang (2005) based primarily on the synapomorphy of the long band-like dorsal lobe and short ventral lobe of the male ectoproct. Originally, the *P. changninganus* group included *P. albipennis* (Walker, 1853), *P. changninganus* Yang & Yang, 1988, *P. decemmaculatus* (Walker, 1860), *P. subnubilus* Kimmins, 1948, *P. tengchongensis* Yang & Yang, 1988, and *P. xingshanensis* Liu & Yang, 2005 (Liu & Yang 2005). Subsequently, by the examination of a large number of *Protohermes* specimens, including the type of *P. albipennis*, based on genitalic features, *P. albipennis* and *P. xingshanensis* should be excluded from the *P. changninganus* group (Yang & Liu 2010). Herein, we revise the *P. changninganus* group describing two new species, *P. curvicornis* **sp. nov.** and *P. ohli* **sp. nov.** Other new data on the taxonomy and distribution of the *P. changninganus* group are also included with a revised key to the species.

Material and methods

The specimens examined are deposited in the following museums and collections.

BAUC Entomological Museum, China Agricultural University, Beijing, China.

BMNH Natural History Museum, London, U.K.

CNC Canadian National Collection of Insects, Arachnids and Nematodes, Ottawa, Canada.