



Notes on the genus *Protohermes* van der Weele (Megaloptera: Corydalidae) from Vietnam, with description of two new species

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Abstract

A faunistic review of the dobsonfly genus *Protohermes* van der Weele from Vietnam is presented, with 13 species recorded. Amongst them, three species, *Protohermes differentialis* (Yang & Yang, 1986), *Protohermes lii* Liu, Hayashi & Yang, 2007, and *Protohermes triangulatus* Liu, Hayashi & Yang, 2007, are newly recorded. Two species are described as new to science: *Protohermes ishizukai* sp. nov. and *Protohermes sinuolatus* sp. nov. *Neurhermes guangxiensis* Yang & Yang, 1992 and *Protohermes basiflavus* Yang, 2004 are synonymized with *Protohermes differentialis* (Yang & Yang, 1986) and *Protohermes striatulus* Navás, 1926, respectively. A key to the Vietnamese species of *Protohermes* is also provided.

Key words: Corydalidae, Corydalinae, *Protohermes*, new species, Vietnam

Introduction

The dobsonfly genus *Protohermes* van der Weele, 1907 is an endemic and highly diversified group in Asia, with approximately 70 known species. The adult is characterized by a trifurcate 1A vein and a posteriorly incised male ninth sternum. *Protohermes* is extraordinarily species rich in the Oriental Asia, with up to 85% of species being restricted to small ranges in southern East Asia and northern South and Southeast Asia.

Vietnam, in Southeast Asia, is uncommonly rich in plants, animals, and natural habitats (Sterling *et al.* 2006). Prior to 1940 only four species of *Protohermes* were recorded in Vietnam (van der Weele 1907, Lestage 1927, and Navás 1919, 1926, 1932). No other works on Vietnamese *Protohermes* were reported until 2007, when Liu *et al.* (2007a, b, c, 2008) described three new species and provided a new record for a fourth during systematic revision of four species groups (*P. assamensis* group, *P. costalis* group, *P. fruhstorferi* group, and *P. guangxiensis* group). During our recent studies on Asian Megaloptera, two additional *Protohermes* species from Vietnam were found to be peculiar and difficult to place in any known species group. Herein, the two species, *Protohermes ishizukai* sp. nov. and *Protohermes sinuolatus* sp. nov., are described as new to science. Additionally, all the known *Protohermes* species from Vietnam are summarized, with three new country records. A key to *Protohermes* from Vietnam for both sexes is also given. Detailed descriptions of the known *Protohermes* species from Vietnam, except two Navás' species, are available in Liu & Yang (2006b) and Liu *et al.* (2007a, b, c, 2008).

Materials and methods

Specimens for the present study are deposited in the Entomological Museum of China Agricultural University (CAU), Beijing; the Deutsches Entomologisches Institut (DEI), Müncheberg; the personal collection of