



## A taxonomic study of Chinese species of *Copidosomopsis* Girault (Hymenoptera: Encyrtidae)

FANG YU<sup>1,2</sup>, YAN-ZHOU ZHANG<sup>2,3</sup>, CHAO-DONG ZHU<sup>2</sup> & LI-HONG TU<sup>1</sup>

<sup>1</sup>College of life Sciences, Capital Normal University, Beijing 100048, China

<sup>2</sup>Institute of Zoology, Chinese Academy of Sciences, Beijing 100080, China

<sup>3</sup>Corresponding author. E-mail: zhangyz@ioz.ac.cn

### Abstract

Five species of *Copidosomopsis* from China are reviewed, keyed and illustrated. One new species, *Copidosomopsis orientalis* Yu & Zhang **sp. nov.** is described, and *C. bohemicus* (Hoffer), *C. meridionalis* Kazmi & Hayat and *C. nacoleiae* (Eady) are newly recorded from China. Photomicrographs are provided to illustrate morphological characters of the species.

**Key words:** Chalcidoidea, new record, new species, polyembryony, parasitoid, Lepidoptera, China

### Introduction

*Copidosomopsis* was erected by Girault (1915) for *Copidosomopsis perminutus* Girault. Eleven species are now recognized in the genus world-wide except for the Afrotropical region (Noyes 2009). *Copidosomopsis perminutus* is known from the Australian region, *C. arenicola* (Trjapitzin), *C. coni* Trjapitzin, Voinovich & Sharkov, *C. meridionalis* Kazmi & Hayat, *C. nacoleiae* (Eady) and *C. nepalensis* Kazmi from the Oriental region, *C. plethorica* (Caltagirone) from the Nearctic and Neotropical regions, *C. tanytmema* Caltagirone from the Nearctic region, and *C. bohemicus* (Hoffer) from the Palaearctic region (Kazmi & Hayat 1998).

*Copidosomopsis* was placed in the tribe Copidosomatini, subtribe Copidosomatina, together with *Copidosoma* Ratzeburg and *Paralitomastix* Mercet by Trjapitzin (1989), but *Paralitomastix* was synonymized with *Copidosoma* by Kazmi & Hayat (1998). *Copidosomopsis* is very similar to *Copidosoma* Ratzeburg (Kazmi & Hayat 1998; Guerrieri & Noyes 2005). Kazmi & Hayat (1998) separated *Copidosomopsis* from *Copidosoma* on the basis of the shape of the hypopygium and male genitalia, but Guerrieri & Noyes (2005) noted that *Copidosomopsis* can be separated from *Copidosoma* only by females having a truly 5-segmented funicle. More over, New World species of *Copidosomopsis* have the propodeal spiracle elongate and pear-shaped (Guerrieri & Noyes 2005). Here, we retain *Copidosomopsis* as a valid genus pending further study. *Copidosomopsis* is also close to *Raffaellia* Girault, which is distinguished from *Copidosomopsis* by having a 3-segmented clava and the apex of clava transversely rather than obliquely truncate (Noyes & Hayat 1984).

Species of *Copidosomopsis* with known biology, such as *C. nacoleiae*, *C. plethorica* and *C. tanytmema* are polyembryonic endoparasitoids of Lepidoptera, mainly Pyralidae and Tortricidae (Noyes & Hayat 1984). *Copidosomopsis nacoleiae* and *C. plethorica* have been used for biocontrol purposes (summarized by Noyes & Hayat 1994).

The present work is part of our research objective to revise all Copidosomatini species from China, and to summarize the available information on hosts and distribution. Morphological terminology and abbreviations used in the text follow that of Guerrieri & Noyes (2005). Absolute measurements are used for body length. Relative measurements are used for other dimensions. All specimens examined, unless specified, are deposited in the Institute of Zoology, Chinese Academy of Sciences, Beijing (IZCAS). Some specimens deposited in the Natural History Museum, London, England (BMNH) were examined by the author ZYZ.