



The species of *Adelencyrtus* Ashmead and *Epitetracnemus* Girault (Hymenoptera: Encyrtidae) from China

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Abstract

Eleven species of *Adelencyrtus* Ashmead and five species of *Epitetracnemus* Girault (Hymenoptera: Encyrtidae) are reviewed, keyed and illustrated. *Adelencyrtus biannulatus* sp. n., *A. orientalis* sp. n., *A. noyesi* sp. n., *Epitetracnemus reni* sp. n. and *E. bandus* sp. n. are described. *Adelencyrtus antennatus* Compere & Annecke, *A. coxalis* Hayat, Alam & Agarwal, *A. moderatus* (Howard), and *A. odonaspidis* Fullaway are newly recorded from China.

Key words: Chalcidoidea, new record, new species, parasitoid, Homoptera, Diaspididae

Introduction

Adelencyrtus Ashmead and *Epitetracnemus* Girault (Hymenoptera: Encyrtidae) are two cosmopolitan genera (Noyes & Hayat 1984). Both genera belong to the tribe Habrolepini, subtribe Habrolepina (Noyes & Hayat 1984; Trjapitzin 1989). Tachikawa & Valentine (1969) provided the main characters of the subtribe Habrolepina — head triangular in lateral view, often strongly inflexed at top of antennal scrobes, antennae separated from mouth margin but below level of lowest eye margin, mandibles with four teeth or with two teeth and an upper truncation, and flagellum of male antenna often with two segments and a solid, banana-like clava. They also gave a key to the genera of the subtribe Habrolepina, which was subsequently modified by Tachikawa (1979).

Species of *Adelencyrtus* and *Epitetracnemus* are parasitoids of scale insects, predominantly Diaspididae (Hemiptera: Coccoidea) (Noyes & Hayat 1984). Some species have been used for the biocontrol of diaspidid pests (Noyes & Hayat 1994). Though they have not proven to be of great value in biocontrol, undoubtedly species of these two genera play an important role in the regulation of the populations of some insect pests that occur in fruit trees and ornamental and agricultural crops. In China, *Adelencyrtus aulacaspidis* (Brèthes) is recorded as an important natural enemy of *Lepidosaphes cupressi* Borchsenius and attained an average rate of parasitism of 18% in Jiangsu Province (Xu *et al.* 1995). *Epitetracnemus intersectus* (Fonscolombe) is an important natural enemy of *Pseudaulacaspis pentagona* (Qu *et al.* 1994).

Until now, the only studies of the Chinese species of *Adelencyrtus* and *Epitetracnemus* are those of Noyes & Ren (1987), Xu & Shi (1999), Zhang & Huang (2004) and Xu & Huang (2004). As a part of a larger revisionary work of the Chinese Encyrtidae we herein report our results concerning these two genera. *Adelencyrtus* is very close to *Epitetracnemus*. Noyes & Hayat (1984) indicated that mandibular structure and head shape are not reliable for separating these two genera and were of the opinion that further study would show that the two names should be considered synonymous. They differentiated the two genera based on the presence (*Epitetracnemus*) or absence (*Adelencyrtus*) of a line of silvery setae across the face and the pattern and strength of infuscation the fore wings. We also retain the two as distinct genera pending a further study of the relationships of the genera in the tribe Habrolepini.