



Notes on the extinct family Protapioceridae, with description of a new species from China (Insecta: Diptera: Asiloidea)

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Abstract

Protapioceridae, which belongs to the superfamily Asiloidea, is an extinct endemic family in China. Until now, only one genus and two species were known from Liaoning Province of Palaeartic China. In the present paper a third species of the small family is reported. A key to the species is presented.

Key words: Protapioceridae, *Protapiocera*, new species, Liaoning, China

Introduction

Protapioceridae was established by Dong Ren in 1998. It is a very small family. Only one genus and two species, *Protapiocera megista* Ren and *Protapiocera ischyra* Ren were known from the Upper Jurassic of China, Beipiao City, Liaoning Province (Ren 1998). The holotypes of these two known species are almost complete adults except for missing antennae, claws and empodia. Here a new species, *Protapiocera convergens* sp. nov., which has the antennae present, is described from Liaoning, China (Fig. 1). All of the specimens are from the same geologic stratum.

All species of the family are part of the famous Jehol biota, which includes the late Mesozoic biota of the western Liaoning, northern Hebei and southeastern Inner Mongolia. The Jehol biota of Northeastern China is well-known by recent discoveries of the earliest known angiosperms, “feathered” dinosaurs, primitive birds, reptiles and insect fossils (Gao & Fox 2005, Ren *et al.* 1995, Sun *et al.* 1998, Swisher *et al.* 1999 and so on). The Yixian Formation, which belongs to the Beipiao City, Liaoning Province, plays a vital part in this biota. Thousands of insect fossil specimens have been found there (Liu & Ren 2006, Ren 1998, Ren & Tan 2006, Tan & Ren 2006a, b, Tan *et al.* 2006, Zhang *et al.* 2006). However, its stratum has been controversial mainly due to various viewpoints held by paleontologists and geologists as to its geological age (Wang *et al.* 2005, Zhou *et al.* 2003). Based on our current data from the Yixian Formation, we cannot draw a conclusion about its definite age.

Materials and methods

Materials: This study is based on two specimens housed in the fossil insect collection of the Key Lab of Insect Evolution & Environmental Changes, Capital Normal University, Beijing, China.

Illustrations: Line drawing was prepared with the aid of a camera lucida attached to a LEICA MZ12.5 stereomicroscope.

Basic terminology follows McAlpine (1981) and Peterson (1981).