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A new genus and species of Rhopalidae (Hemiptera: Heteroptera) from the Early Cretaceous of Liaoning Province, China

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Abstract

A new fossil *Vescisalignus indecorus* **gen. et sp. nov.** (Rhopalidae) is described and illustrated from the Early Cretaceous. All the specimens described here were collected from the Yixian Formantion of Beipiao City, Liaoning Province, north-eastern China. This is the first report of rhopalid from Yixian Formation in Liaoning Province, China.

Key words: Hemiptera, Coreoidea, fossil, Yixian Formation

Introduction

The extant Rhopalidae, comprising about 21 genera and over 200 species, are separated into two subfamilies, Serinethinae and Rhopalinae (Henry 2009). Only five fossil genera and species of Rhopalidae have been recorded from China prior to this study: *Miracorizus punctatus* Yao *et al.* 2006a, *Longiclavula calvata* Yao *et al.* 2006a, *Originicorizus pyriformis* Yao *et al.* 2006b, *Quatlocellus liae* Yao *et al.* 2006b, and *Grandicaputus bipunctatus* Yao *et al.* 2006b from the Middle Jurassic Jiulongshan Formation of Eastern Inner Mongolia, China. According to the distribution pattern of extant and fossil rhopalids, the most parsimonious hypothesis is that the basal species of this family initially radiated in Northeast China (Yao *et al.* 2006b).

Recently, we recovered 72 well-preserved specimens from the Lower Cretaceous (125Ma) Yixian Formation in Chaomidian Village, Beipiao City, Liaoning Province, China. Based upon careful examination of these well-preserved specimens, we herein describe a new genus and species *Vescisalignus indecorus* gen. et sp. nov. The Yixian Formation is considered an important component part of the Jehol entomofauna of North China (Ji *et al.* 2004; Yang *et al.* 2007; Bai *et al.* 2012), with 16 orders and over 300 species of fossil insects recorded so far (Ren *&* Nikolajev 2010; Ren *et al.* 2012).

Material and methods

All type specimens of the new species are preserved at the Key Lab of Insect Evolution & Environment Changes, Capital Normal University in Beijing, China. Drawings were made with a camera lucida attached to a Nikon SMZ1000 stereomicroscope and improved with Adobe Photoshop CS6 graphic software. Morphological terminology mainly follows Schuh & Slater (1995). Body length was measured along the midline from the head apex to the abdomen apex. Body width was measured at the maximal width of the body. The lengths of the pronotum and scutellum were measured along the midline. The lengths of the fore wings were measured from the base to the apex of the membrane. All measurements are in millimeters.

Systematics

Suborder Heteroptera Latreille, 1810

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