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Short communication

A new species of Vetanthocoridae (Heteroptera: Cimicomorpha) from the Lower Cretaceous of China

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ABSTRACT

A new species, *Crassicerus limpiduspterus* sp. n., is characterized, described and assigned to the tribe Crassicerini of the fossil family Vetanthocoridae. All of the specimens were collected from the Lower Cretaceous Yixian Formation at Chaomidian Village, Liaoning Province. The Crassicerini are interpreted to have thrived in live plant habitats, including flowers, shrubs and trees, based on their antennal type.

1. Introduction

The modern Anthocoridae (sensu lato) are small in size 1.5–5.0 mm (Bu and Zheng, 2001), including approximately 100 genera and 600 species and wide spread in all zoogeographical regions (Péricart, 1996; Popov et al., 2011a). The majority of species among the Anthocoridae are predatory, feeding on nymphs and adults of various small arthropods, including mites in decaying vegetal matter or sometime under bark (Popov and Herczek, 2001), and others feed on both plants and other insects and their eggs (Carayon and Steffan, 1959; Péricart, 1972; Armer et al., 1998; Jung et al., 2010).

The Anthocoridae (sensu lato) consist of three extant families: Anthocoridae (sensu stricto), Lyctocoridae and Lasiochilidae (Schuh and Štys, 1991), and one extinct family: Vetanthocoridae (Yao et al., 2006). Currently, 18 genera and 28 species of fossil Anthocoridae (sensu lato) were reported. Fourteen representatives of Anthocoridae (sensu stricto) are known (Statz and Wagner, 1950; Hong and Wang, 1987, 1990; Popov, 1990, 2003; Popov and Herczek, 2001; Popov et al., 2011a, 2011b), consisting of three species from the Early Cretaceous, ten species from the Eocene and only one species from the Oligocene. Eleven genera and 14 species of Vetanthocoridae are known. Among them, 8 genera and 11 species in the tribes Vetanthocorini and Crassicerini have been reported (Hong and Wang, 1987; Yao et al., 2006; Hou et al., 2012; Tang et al., 2015). However, up to date, the fossil records of Crassicerini are rare, only 3 genera and 3 species, including *Crassicerus furtivus* Yao, Cai and Ren, 2006; *Curticerus venustus* Yao, Cai and Ren, 2006 and *Pustulithoracalis gloriosus* Yao, Cai and Ren, 2006.

Recently, we collected several complete fossil specimens of Vetanthocoridae from Huangbanjigou, a small village located about 21 km south of Beipiao City in western Liaoning Province, China, and from the Lower Cretaceous Yixian Formation (Zhou et al., 2003; Zhang et al., 2010) (Fig. 1). The strata of the Yixian Formation are basically of lacustrine sediments intercalated with volcaniclastics (Ren et al., 1995). Numerous fossil species within hemipteran families have been reported from this locality, including Saldidae (Zhang et al., 2011, 2012a), Notonectidae (Zhang et al., 2012b), Ochteridae (Yao et al., 2007, 2011), Procercopidae (Chen et al., 2015) etc.

2. Material and methods

This study is based on four fossil specimens (two are represented by part and counterpart), deposited at the Key Laboratory of Insect Evolution and Environmental Changes, Capital Normal University, Beijing, China. The specimens were examined using a Nikon SMZ 800 dissecting microscope. All photos were taken using a Nikon Digital Camera SMZ18. Line drawings were prepared with Adobe Photoshop CS6 graphic software. Taxonomy

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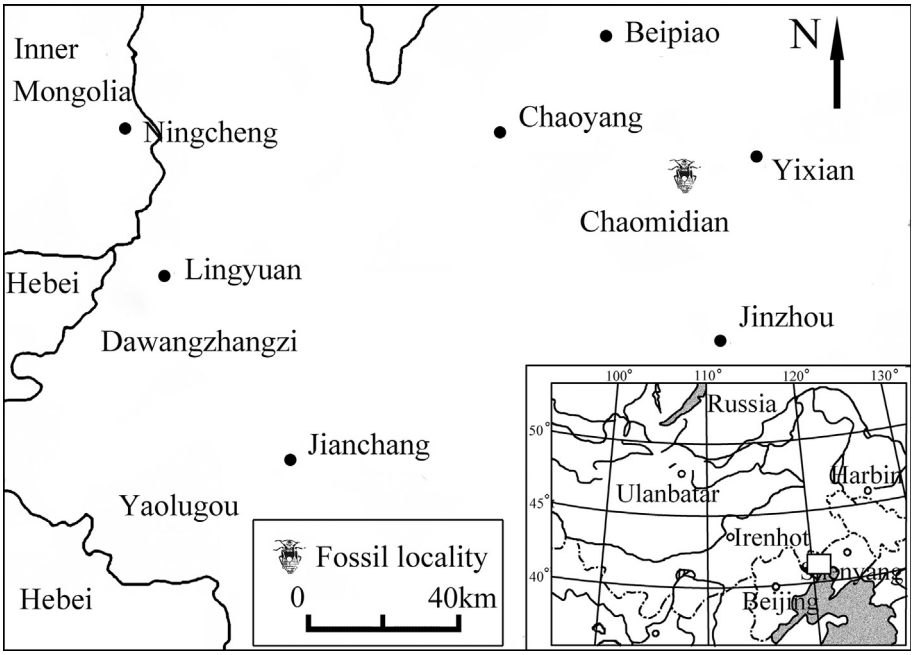

Fig. 1. Map showing the fossil locality (after Tang et al., 2015).

and the classification system used herein follow Schuh and 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 length of the fore wings was measured from the base to its apex. All measurements are given in millimeters (mm).

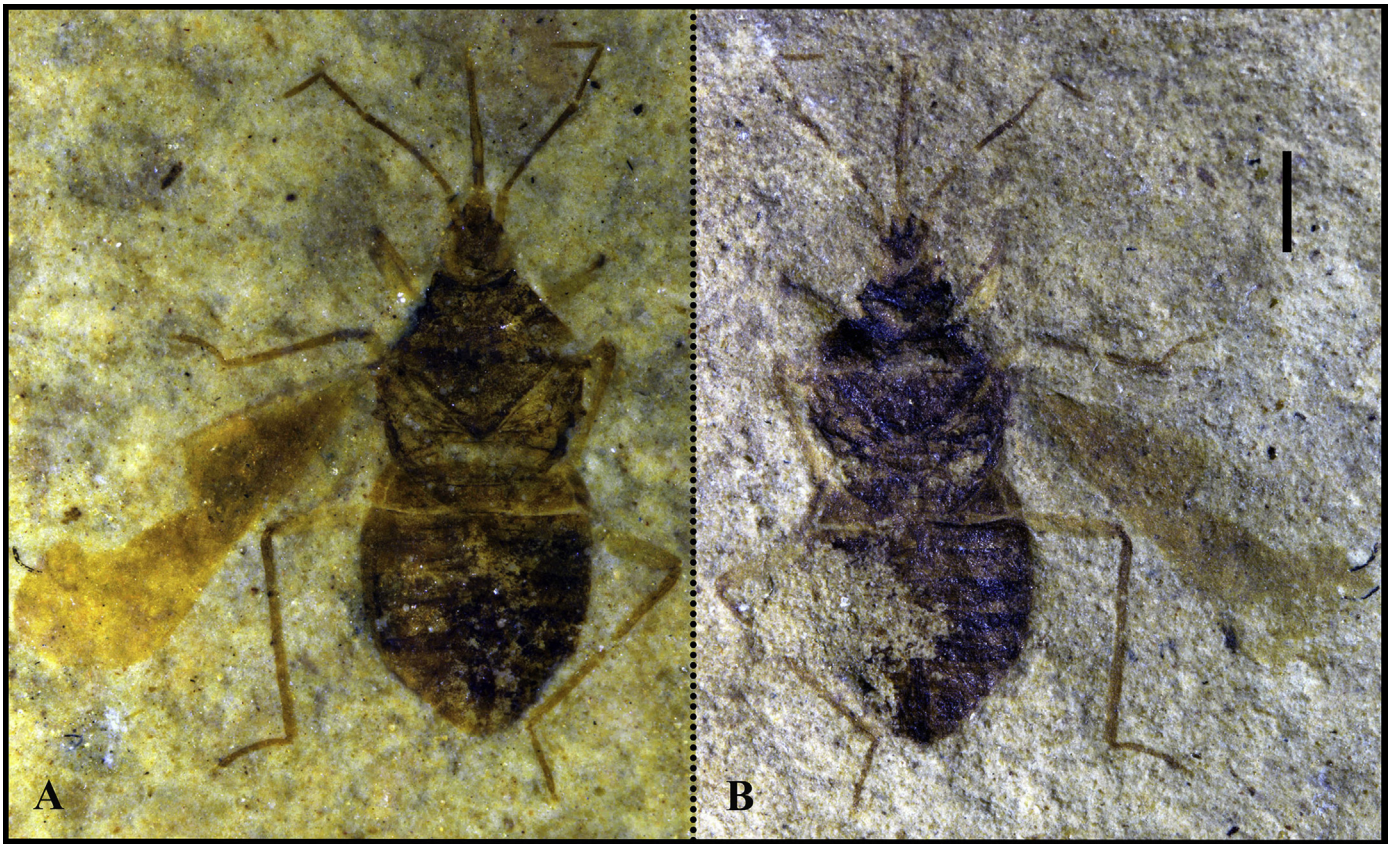

Fig. 2. Photos of the holotype of *Crassicerus limpiduspterus* Tang, Yao & Ren, sp. n. A, CNU-HET-LB2011002p. B, CNU-HET-LB2011002c. Scale bars = 1 mm.