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The oldest known fossil plant bug (Hemiptera: Miridae), from Middle Jurassic of Inner Mongolia, China

YUNZHI YAO[1], WANZHI CAI[1,2,3] & DONG REN[2,3]

[1]*Department of Entomology, China Agricultural University, Yuanmingyuan West Road, Beijing 100094, China.*
E-mail: caiwz@cau.edu.cn
[2]*Key Lab of Insect Evolution & Environmental Changes, Capital Normal University, Beijing 100037, China.*
E-mail: rendong@mail.cnu.edu.cn
[3]*Corresponding author*

Abstract

Mirivena robusta **gen. & sp. nov.**, a fossil plant bug, is described from the Jiulongshan Formation (Middle Jurassic) in Daohugou Village, Shantou Town, Ningcheng County, Inner Mongolia, China. The remarkable features of the new species are the large body size and the R vein reaching the anterior margin of the fore wing. This mirid represents the oldest fossil plant bug so far known.

Key words: Heteroptera, Miridae, fossil, Middle Jurassic, Jiulongshan Formation

Introduction

Miridae is the largest family of Heteroptera, with about 10,000 living species in 1400 genera (Schuh 1995). Twenty-five fossil genera of Miridae have been described: 4 genera from the Oligocene of Germany (Statz & Wagner 1950), 2 from the Late Jurassic of Kazakhstan (Becker-Migdisova 1962, 1963; Popov 1968; Herczek & Popov 2001), from the Late Cretaceous of the North-eastern Siberia (Popov & Herczek 1998), 13 from the Oligocene of America (Scudder 1890), 1 from the Miocene of America (Sailer & Carvalho 1957), and 1 genus from the Lower Miocene of Spain (Herczrk *et al.* 2000). Mirids are quite abundant in Eocene Baltic amber, over 30 fossil species having been recorded (Herczek & Popov 1997, 1998, 1999, 2000; Carvalho 1954, 1966; Jordan 1944a, 1944b; Germar & Berent 1856; Maldonado-Capriles & Poinar 1995; Usinger 1942; Carvalho & Popov 1984; Popov & Herczek 1992, 1993). All the mirids listed above belong to the subfamilies Cylapinae, Isometopinae, Mirinae, Psallopinae, and Phylinae (Rózakulicka *et al.*1996). One amber species of Miridae was described from the Eocene of Northeastern China (Hong 2002), but its subfamily is uncertain.

In the present paper, a new genus and a new species of Miridae from the Jiulongshan Formation, in Daohugou Village, Shantou Town, Ningcheng County, Inner Mongolia, China, are described and illustrated. The Jiulongshan Formation is a Mesozoic lacustrine sedimentary stratum in Northeastern China (Tan & Ren 2002). It is an important component part of the Yanliao insect fauna of North China (Hong 1983; Ren *et al.* 1995). The dating of this deposit is Middle Jurassic (Ren *et al.* 2002; Chen *et al.* 2004; Wang 2000; Gao & Ren 2006). As far as we are aware, this new mirid is the oldest fossil plant bug so far discovered.

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