Zootaxa 3647 (4): 585–592
www.mapress.com/zootaxa/

Article

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

http://dx.doi.org/10.11646/zootaxa.3647.4.8
http://zoobank.org/urn:lsid:zoobank.org:pub:A0D0E3CC-3E07-4E8E-A03A-8B02AC2B53C5

A new Early Cretaceous shore bug (Hemiptera: Heteroptera: Saldidae) from China

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Abstract

A new genus *Luculentsalda* Zhang, Yao & Ren **gen. nov.** (type-species *Luculentsalda maculosa* Zhang, Yao & Ren **sp. nov.**) of Saldidae is described and illustrated. All the specimens were collected from Early Cretaceous Yixian Formation of Huangbanjigou, Beipiao City, Liaoning Province, China. New findings suggest that the subfamily Chiloxanthinae probably originated in the eastern part of Laurasia.

Key words: Leptopodomorpha, fossil, new genus and species, Mesozoic

Introduction

The phylogenetic position of the Saldidae is in Leptopodomorpha with close relationship with Aepophilidae (Schuh & Polhemus 1980). Saldidae has large and reniform compound eyes, costal fracture in corium and usually 4 or 5 closed cells in the membrane. Wing polymorphism is a frequent phenomenon in Saldidae (Polhemus & Chapman 1979). Copulation in saldids is side-by-side rather than with the male on top (Polhemus & Chapman 1979). The forewing of the female and the abdominal segments II and III of the male are modified to accommodate this copulatory position (Cobben 1957).

Hemiptera insects originated from the Early Permian (Rasnitsyn & Quicke 2002), and the Saldidae is now generally regarded as one of the most ancient families of living Hemiptera: Heteroptera (Popov 1971; Polhemus & Chapman 1979). Saldidae comprises two subfamilies: Chiloxanthinae and Saldinae. The extinct species of Saldidae are rare. Up to date, only 8 species within 5 genera (Table 1) have been reported. But Cobben (1980) considered the three Oligocene species in the genus *Oligosaldina* Statz & Wagner, 1950 are probably synonyms. The most ancient fossil records of shore bugs were found from the Early Cretaceous in China (Zhang *et al*. 2011, 2012).

The Jehol biota of Northeastern China with warm and humid climate (Liu *et al.* 2009) has proven to be one of the most important sites for studying Paleoentomology, because of the high diversity fossils, including insects, reptiles and birds (Ji & Ji 1996; Yao *et al.* 2008, 2012; Bai *et al.* 2010; Ren *et al.* 2010). The Yixian Formation is considered to be part of the Jehol Biota (Wang *et al.* 2004). Recently, many well-preserved specimens of this family were found from the Lower Cretaceous (about 125 Ma) Yixian Formation in Huangbanjigou, Chaomidian Village, Beipiao City, Liaoning Province, China. Based on their certain unique characters, we have decided to erect a new species and a new genus to accommodate them in this contribution.

Accepted by M. Malipatil: 4 Apr. 2013; published: 13 May 2013