

## Revision of the genus *Suljuktocossus* Becker-Migdisova, 1949 (Hemiptera, Palaeontinidae), with description of a new species from Daohugou, Inner Mongolia, China

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### Abstract

In this paper a complete specimen of fossil Palaeontinidae, *Suljuktocossus yinae* sp. nov. from Daohugou (Jiulongshan Formation) in Inner Mongolia, China is described. This new species is established based on both complete forewings and hindwings. According to this specimen, the diagnosis of the genus *Suljuktocossus* is revised. Moreover, based on the distribution of the genus *Suljuktocossus*, we consider the age of the Daohugou biota as Middle Jurassic.

**Key words** fossil, morphology, Cicadomorpha, Middle Jurassic

### Introduction

The genus *Suljuktocossus* erected by Becker-Migdisova is represented only by an incomplete forewing from the Early Jurassic of Shurab, Tadzhikistan (Becker-Migdisova, 1949). Recently another species belonging to this genus from the Daohugou biota, Inner Mongolia was reported (Wang *et al.*, 2007). From the same beds, the specimen we discovered is in remarkably good condition; both forewings and hind wings can be seen clearly.

Previously, the rich entomofauna from the Jiulongshan Formation in Daohugou Village, Ningcheng County, Inner Mongolia was dated as Middle Jurassic (Ren *et al.*, 1995; Ren & Krzemiski, 2002; Ren *et al.*, 2002; Shen *et al.*, 2003; Chen *et al.*, 2004; Liu *et al.*, 2004; Gao & Ren, 2006; Huang *et al.*, 2006; Ji *et al.*, 2006; Yao *et al.*, 2006; Tan & Ren, 2006; Liu *et al.*, 2007), Late Jurassic (Zhang, 2002) or Early Cretaceous (Wang *et al.*, 2005). Among these rich insect fossils, 14 genera and 27 species of palaeontinids were recorded from Daohugou biota (Wang *et al.*, 2006a-c; Wang *et al.*, 2007; Wang & Ren, 2006; Wang & Ren, 2007; Wang *et al.*, 2007a-c). This specimen of *Suljuktocossus* sheds new light on the age of the Daohugou fossil-bearing beds. Up to now, 3 species of *Suljuktocossus* are known from the Lower Jurassic of Shurab in Tadzhikistan and Daohugou, Inner Mongolia in China. These three species have a close relationship. Based on accurate Ar-Ar and SHRIMP U-Pb dating shows that the age of Daohugou intermediate-acid volcanic rocks overlying the Daohugou fossil-bearing beds is about 164-165 Ma, and that the age of this fossil-bearing beds is older than or equal to 165 Ma (Liu *et al.*, 2004). We adopt statement of Middle Jurassic age (Jiulongshan Formation) as proposed from the analysis of the Coleoptera (Tan & Ren, 2006), Plecoptera (Liu *et al.*, 2007) and Hemiptera fossils assemblage recently described by Yao *et al.* (2006) and Wang *et al.* (2006a).