

A NEW GENUS AND SPECIES OF PALAEONTINIDAE (INSECTA: HEMIPTERA) FROM THE MIDDLE JURASSIC OF DAOHUGOU, CHINA

BO WANG^{1*}, HAICHUN ZHANG¹, YAN FANG¹ and ZHILI ZHANG²

¹*State Key Laboratory of Palaeobiology and Stratigraphy (Nanjing Institute of Geology and Palaeontology, Chinese Academy of Sciences), 39 East Beijing Rd., Nanjing 210008, China*

²*College of Resources and Information Technology, China University of Petroleum, 18 Fuxue Lu, Beijing 102249, China*

*Corresponding author; e-mail: bowang@nigpas.ac.cn

Abstract.— *Eoiocossus validus* gen. and sp. nov., a new genus and species belonging to Palaeontinidae (Insecta, Hemiptera), is described from the Middle Jurassic of Daohugou, Inner Mongolia, China. It differs from other genera as follows: large forewing with small clavus, Sc terminating in costal margin beyond the nodus, nodal line along m_1 -cua partly, CuA_2 with two branches and A_2 developed. The ripple-like posterior margin and fresh colour pattern of *Eoiocossus* may be sex characteristics. The marginal membrane and ambient vein have not distinct evolutionary implications for the Palaeontinidae.



Key words.— *Eoiocossus validus*, Hemiptera, Palaeontinidae, Middle Jurassic, Daohugou, China, new genus, new species.

INTRODUCTION

The extinct family Palaeontinidae was originally placed in the order Lepidoptera (Handlirsch 1906), and later transferred to Homoptera (Hemiptera) by Tillyard (1921). Hong (1982) reported the first palaeontinid in China based on an isolated hindwing. Zhang (1997) later summarized the palaeontinids from China. Very recently, abundant and well-preserved palaeontinid specimens have been collected from the Middle Jurassic of Daohugou, but most of them belong to the known genera (Tan and Ren 2002, Wang and Ren 2006, Wang *et al.* 2006). This paper is to report a new genus.

MATERIAL AND METHODS

All the specimens described here were collected from the Middle Jurassic Daohugou deposits (41°18'38"N,

119°13'20"E) near Daohugou Village, Chifeng City, Inner Mongolia, China. These fossils are preserved as impressions on the surface of grey tuffaceous siltstones.

The age of the fossil-bearing strata is still debatable. The radiometric dating of the overlying ignimbrite yielded a date of 164 Ma (Chen *et al.* 2004) or 159.8 Ma (He *et al.* 2004), a Middle Jurassic or early Late Jurassic age. However, the stratigraphy at the Daohugou fossil site was considered to be either a normal sequence (Chen *et al.* 2004, Gao and Ren 2006) or an overturned one (He *et al.* 2004, Wang *et al.* 2005). Apparently, a further geological survey is required to clarify matters. Judging from the Daohugou insect fauna, the age is Middle Jurassic (Rasnitsyn *et al.* 2006), early Middle Jurassic (Ren *et al.* 2002) or late Middle Jurassic – early Late Jurassic (Zhang 2006). Herein, we adopt the Middle Jurassic from the analysis of the Daohugou biota (Shen