



## Revision of genera *Quadraticossus*, *Martynovocossus* and *Fletcheriana* (Insecta, Hemiptera) from the Middle Jurassic of China with description of a new species

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### Abstract

Four species, belonging to three known genera of Palaeontinidae (Hemiptera), are described from the Middle Jurassic of Daohugou Village, Inner Mongolia, China. They are *Quadraticossus eumorphus* sp. nov., *Q. fangi* Wang & Ren, 2007, *Martynovocossus punctulosus* (Wang & Ren, 2006) Wang & Zhang, 2008 and *Fletcheriana colorata* Wang *et al.*, 2006. Based on these materials, a new species is erected; line drawing of hind wing of *Q. fangi* is reconstructed and the diagnoses of the genera *Quadraticossus* Wang & Ren, 2007, *Martynovocossus* (Martynov, 1931) Wang & Zhang, 2008 and *Fletcheriana* Evans, 1956 are revised.

**Key words:** morphology, taxonomy, palaeontology, Cicadomorpha, Jurassic

### Introduction

Palaeontinidae is an extinct family of Hemiptera, which existed from the Triassic to the Cretaceous (Carpenter, 1992; Menon *et al.*, 2005). So far, 53 species within 22 genera have been described based on fossils collected from the Mesozoic of China (Hong, 1982, 1983, 1984, 1986; Lin, 1992; Ren *et al.*, 1995, 1998; Zhang, 1997; Wang B *et al.*, 2006a–d, 2008; Wang Y & Ren, 2006, 2007a, b; Wang Y *et al.*, 2007a, b).

Many well-preserved insect fossils have been collected from the Middle Jurassic Jiulongshan Formation at Daohugou Village, Ningcheng County, Inner Mongolia in China (Tan & Ren, 2006; Yao *et al.*, 2006; Liu *et al.*, 2007). Based on new specimens collected from this locality and their unique characters, the diagnoses of *Quadraticossus* Wang and Ren, 2007, *Martynovocossus* (Martynov, 1931) Wang & Zhang, 2008 and *Fletcheriana* Evans, 1956 are revised.

### Material and methods

The specimens were examined by dissecting microscope (Type: LEICA MZ12.5) and illustrated with the aid of a drawing tube. The specimens studied here are deposited in the Key Lab of Insect Evolution and Environmental Change, College of Life Science, Capital Normal University, Beijing, China.

The wing venation nomenclature used in this paper is based on the interpretation of Becker-Migdisova (1949).

### Systematic palaeontology