



Article

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***Platyxyela* gen. nov. (Hymenoptera, Xyelidae, Macroxyelinae) from the Middle Jurassic of China**

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Abstract

Platyxyela unica, gen. et sp. nov., assigned to the Macroxyelinae of Xyelidae is described from the Middle Jurassic Jiulongshan Formation of eastern Inner Mongolia, China. The new genus is characterized by Sc2 of the forewing meeting R at a short distance before the origin of Rs, the first section of Rs being shorter than the first section of M and nearly equal to Sc2, the antennomere 3 being shorter than the combined length of the remaining flagellomeres, the ovipositor sheath being much longer than wide. An updated key for the known genera of Macroxyelinae is given.

Key words: Symphyta, Jiulongshan Formation

Introduction

Xyelidae have been reported as the earliest appearance of the basal Hymenoptera from the Middle or Upper Triassic of Kyrgyzstan in central Asia (Rasnitsyn 1964, 1969, 1980), the Upper Triassic of Australia (Riek 1955; Engel 2005) and South Africa (Schlüter 2000). The diversity of this family in Mesozoic was much broader than today. So far, 48 fossil genera with 79 species of fossil Xyelidae have been described (Taeger *et al.* 2010; Gao *et al.* 2011). Xyelidae have been divided into 4 subfamilies: Macroxyelinae, Xyelinae, Archexyelinae, and Madygellinae (Rasnitsyn 1980).

Recently, we collected two well-preserved fossils of Xyelidae from the Jiulongshan Formation in Daohugou Village, Shantou Township, Ningcheng Country, Inner Mongolia, China. Based on their unique venational characters, a new genus *Platyxyela* gen. nov. is erected, which expands our knowledge of the Xyelidae in the Middle Jurassic of northeastern China.

The Middle Jurassic strata in the Daohugou area are well developed with rich fossil insects (Ren *et al.* 2010). In addition, there also existed some freshwater conchostracans (Zhang & Shen 1987), salamanders (Gao & Shubin 2003), pterosaurs (Wang *et al.* 2002), feathered dinosaurs (Xu & Zhang 2005), birds (Zhang *et al.* 2008) and gymnosperm forests (Mi *et al.* 1996). The paleoenvironment reconstructed was a volcanic region with mountains, streams and lakes. All these paleontological data suggest a humid and warm-temperate climate (Tan & Ren 2002; Gao & Ren 2006).

Material and methods

All the specimens were collected from the Middle Jurassic beds of Daohugou, Jiulongshan Formation, Ningcheng Country, Inner Mongolia, China. The materials are deposited in the Key Lab of Insect Evolution & Environmental Changes, Capital Normal University, Beijing, China.

These specimens were examined under a Leica MZ 12.5 dissecting microscope and illustrated with the aid of Camera Lucida attached to the microscope. The figures were drawn by Adobe Illustrator CS2 and Adobe Photoshop CS5. The wing venation nomenclature used in this paper is based on the interpretation of Huber and Sharkey (1993).