



New fossil Prophalangopsidae (Orthoptera, Hagloidea) from the Middle Jurassic of Inner Mongolia, China

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Abstract

Two new species attributed to the genus *Sigmaboilus* Fang, Zhang & Wang, 2007 are described from the Middle Jurassic Jiulongshan Formation of Daohugou Village, Inner Mongolia, China: *Sigmaboilus fuscus* **sp. nov.**, *S. peregrinus* **sp. nov.** The diagnosis of the genus is revised.

Key words: Orthoptera, Prophalangopsidae, new species, Middle Jurassic, Daohugou, China

Introduction

Prophalangopsidae Kirby, 1906 contains one extant and five fossil subfamilies: Aboilinae Martynov, 1925 (Lower Jurassic–Upper Cretaceous, Siberia, Kazakhstan, Kirgystan, Mongolia, China, Japan, Germany; Martynov, 1925), Protaboilinae Gorochov, 1988 (Lower Jurassic, Middle Asia; Gorochov, 1988), Chifengiinae Hong, 1982 (Upper Jurassic–Lower Cretaceous, Siberia, China; Hong, 1982), Termitidiinae Zeuner, 1939 (Lower Cretaceous, England; Zeuner, 1939), Tettohaglinae Gorochov, 2003 (Lower Cretaceous, Siberia; Gorochov, 2003) and an extant subfamily, Prophalangopsinae Kirby, 1906 (India, China; Kirby, 1906). Aboilinae constitutes the most species-rich and diverse subfamily of all (Gorochov, 2003). Up to now, 19 genera and 46 species belonging to Aboilinae have been described (Deichmuller, 1886; Martynov, 1925; Sharov, 1962, 1968, Fujijama, 1976; Hong, 1982, 1983; Gorochov, 1988, 1990, 1996; Li et al., 2007; Fang et al., 2007).

Recently, we recovered 24 fossil specimens of Aboilinae containing two new species: *S. fuscus* **sp. nov.**, *S. peregrinus* **sp. nov.** Based on these well-preserved fossil specimens collected from the Middle Jurassic Jiulongshan Formation at Daohugou Village, Ningcheng County, Inner Mongolia, China, the diagnosis of *Sigmaboilus* Fang, Zhang & Wang, 2007 is revised and intraspecific forewing variation is briefly discussed. The age of the Jiulongshan Formation is still controversial, but most published biostratigraphic correlations and radiometric dates support a Middle Jurassic age (Chen *et al.* 2004; Ren *et al.* 1995; Ren *et al.* 2002; Tan & Ren 2002; Gao & Ren 2006).

Material and methods

All the type specimens of the new species are housed at the Key Lab of Insect Evolution & Environmental Changes, Capital Normal University, Beijing, China. The specimens were examined with a Leica MZ12.5 dissecting microscope and illustrated with the aid of a drawing tube attached to the microscope. Line drawings were made with CorelDraw 12 graphic software.