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Article

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A new Mesozoic-aged rhagionemestriid fly (Diptera: Nemestrinoidea) from China

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Abstract

Sinomusca mostovskii **gen. *et* sp. n.** (Diptera: Rhagionemestriidae) is described from the Yixian Formation, Liaoning Province, China. It is the second representative of this Mesozoic family with well preserved body structures. The rounded head with holoptic eyes and antennal structures of this fossil are similar to those of the Eremochaetidae.

Key words: China, Lower Cretaceous, Yixian Formation, Rhagionemestriidae

Introduction

Rhagionemestriidae Ussatchov, 1968 are a small family of flies with four Mesozoic and two modern genera after the most recent revision (Mostovski & Martínez-Delclòs, 2000), although Mostovski (2010 pers. comm.) and Palmer & Yeates (2000) indicated that the modern representatives could be Xylophagidae. The family is known from the Middle-Upper Jurassic of Karatau (Kazakhstan) and Inner Mongolia (China), and the Lower Cretaceous of Spain and Mongolia; only the genus *Sinonemestrius* Hong and Wang, 1990 is recorded from the Lower Cretaceous of China (Hong & Wang, 1990) and England (Jarzembowski & Mostovski, 2000). The present discovery of a new fossil in the Yixian Formation (western Liaoning Province, northeastern China), closely related to the two genera *Jurassinemestrinus* Zhang, 2010 and *Nagatomukha* Mostovski & Martínez-Delclòs, 2000, both known from Karatau, is of interest for the age of the Yixian Formation and the knowledge of the morphology and past diversity of this family.

Systematic palaeontology

Family Rhagionemestriidae Ussatchov, 1968

Subfamily Rhagionemestriinae Ussatchov, 1968

Tribe Rhagionemestriini Ussatchov, 1968

Genus *Sinomusca* gen. n.

Type species. *Sinomusca mostovskii* **sp. n.**

Etymology. Derived from Sina, Latin name of China, and musca 'fly' in Latin, gender feminine.

Diagnosis. Partial fusion of R_{4+5} with M_{1+2}; R_{2+3} undulate; R_{4+5} distinctly forked distally; R_5 ending near wing apex; distal part of M_{1+2} aligned with R_{4+5}+M_{1+2}; M_1 short; R_4 and R_5 short; m-m rather long; M_4 in contact with m-cu.

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