New fossil Osmylopsychopidae (Neuroptera) from the Early/Middle Jurassic of Kyrgyzstan, Central Asia

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Abstract

Four genera and four species of Osmylopsychopidae are described from the Jurassic of Kyrgyzstan, Central Asia: Oligophlebiopsis biramosa gen. et sp. nov. (Early Jurassic of Sogyuty); Osmylopsychoides anteromedialis gen. et sp. nov., Psychostoechotes undulatus gen. et sp. nov. and Osmylopsychostoechus sogulensis gen. et sp. nov. (all from the late Early to early Middle Jurassic of Sai-Sagul). By their poorly-developed outer gradate series of crossveins, these taxa (except O. anteromedialis gen. et sp. nov.) are more similar to Triassic genera than to the Middle/Late Jurassic Osmylopsychopidae (particularly from Daohugou, China). Two isolated hind wings from Sai-Sagul (i.e., Osmylopsychostoechus sp. and Osm ylopsychopidae gen. et sp. indet.) are preliminarily assigned to this family.

Key words: Neuroptera, Osmylopsychopidae, Jurassic, Sai-Sagul, Sogyuty

Introduction

The diversity and abundance of neuropterans with broad, densely-veined wings (i.e., psychopsoids) is a characteristic feature of the Mesozoic. Psychopsoids were absent in the Permian; they first appeared in the Triassic, and had become rare in the Cenozoic. It is now clear that the family Osmylopsychopidae was the dominant group among psychopsoids during the Mesozoic (Peng et al. 2015). This family was described by Martynova (1949) as Osmylopsychopsidae based on the type genus Osmylopsychops Tillyard, 1923 from the Late Triassic of Australia and Actinophlebia parallela Handlirsch, 1939 from the Early Jurassic of Germany. Riek (1955) independently erected the new family Osmylopsychopidae assigning to it (besides Osmylopsychops) Archepsychops Tillyard, 1919 from the Late Triassic of Australia and Mesopolystoechus Martynov, 1937 from the Early/Middle Jurassic of Tajikistan. Subsequently, several other Mesozoic genera were added to Osmylopsychopidae: Protopsychops Tillyard, 1917 and Petropsychops Riek, 1956 from the Late Triassic of Australia by Riek (1956); Kagapsychops Fujiyama, 1978 from the Early Cretaceous of Japan by Fujiyama (1978); the Late Jurassic to Early Cretaceous genus Pterinoblattina Scudder, 1885 (and Mesopsychopsis Handlirsch, 1906 as its synonym) by Ponomarenko (1986); Angaropsychops Martynova 1949 from the Early Cretaceous of Transbaikalia, Russia by Ponomarenko (1990); the Early Jurassic genera Actinophlebia Handlirsch, 1906 and Parhemerobius Bode, 1953 by Ponomarenko (1996). Ansorge (1996) synonymized the two latter genera, but assigned them to Brongniartiellidae, another poorly-defined psychoploid family.