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A new fossil lacewing genus from the Middle Jurassic of Inner Mongolia, China (Neuroptera: Osmylidae)

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Fossil Osmylidae showed most diversity in the Old World (Grimaldi and Engel 2005), and many new taxa have been erected (Carpenter 1943, Panfilov 1980, Lambkin 1988, Markakin 1990, Ponomarenko 2003, Ren and Yin 2002, Ren and Engel 2007, Menon and Makarkin 2008), which greatly advanced the understanding and knowledge of osmylid palaeodiversity. However, most were merely founded as new taxa without clarifying their status in Osmylidae. Spilosmylinae (Krüger, 1913), an extant subfamily, is the largest group of Osmylidae containing about 100 recent species, which is comprised of *Thyridosmylus* Krüger, 1913, *Thaumatosmylus* Krüger, 1913, *Lysmus* Navás, 1911, *Spilosmylus* Kolbe, 1897 and *Glenosmylus* Krüger, 1913. The subfamily is characterized by the following fetures: moderate body side; simple costal cross-veins; numerous cross-veins in radial sector; MP forked close to the base of wing, which is also general occurrence in the fossil osmylids. However, up to now there were no related fossil taxa to be assigned to Spilosmylinae. We consider there should be more fossil osmylids which have the close affiliation with Spilosmylinae.

In this paper we describe a new monotypic genus of extinct Osmylidae. The well-preserved forewing specimen is from the Middle Jurassic deposits of the Jiulongshan Formation in Daohugou, Inner Mongolia, China, which is well-known as a rich locality of many fossil insects orders as well as lacewings (Ren and Oswald 2002, Ren and Yin 2002, Ren and Engle 2007). *Palaeothyridosmylus* gen. nov. exhibits many characters of the subfamily of Spilosmylinae (e.g. simple costal cross-veins and the proximate MP fork of wing). It also has distinct color markings on the wings, forming some distinct hyaline fenestrated spots, similar to the pattern of coloration of *Thyridosmylus* (Kimmis 1942). The integrated *m-cu* cross-veins in new genus show close relationship with *Thaumatosmylus*. Therefore, we tentatively attribute the new genus to the subfamily instead of establishing a new higher taxon.

Terminology follows New (1983). Specimens of the new species are deposited in the Key Lab of Insect Evolution & Environmental Changes, the College of Life Sciences, Capital Normal University, Beijing, China (CNU; Ren Dong, Curator).

***Palaeothyridosmylus* gen. nov.**

Type species. *Palaeothyridosmylus septemaculatus* sp. nov.

Diagnosis. Membrane fuscous, with some fenestrated spots. Nygmata distinct at the center of wing. Costal cross-veins simple and forked occasionally. Rs with numerous branches, cross-veins in radial sector arranged irregularly, and not forming the gradate cross-veins. MP forked close to the base of wing, MP_2 with pectinate distal branches. Cu forked at wing base, Cu_2 also with pectinate distal branches. Cross-veins between MP and Cu more than one, and not forming free space. Anal area well developed, A_1 with numerous pectinate branches from its middle to wing margin; A_2 short, but also with some distal pectinate branches.

Etymology. The new genus name is a combination of the Greek *palaeo-* and *Thyridosmylus* (a genus of Osmylidae). The gender is masculine.

Discussion. Although the new genus shares some characters of both *Thyridosmylus* and *Thaumatosmylus*, it also shows some special venational features which can confirm their new generic status: cross-veins in radial sector irregularly organised, and not forming the gradate series, while the other genera of the subfamily have at least the outer

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