



## A new silky lacewing (Neuroptera: Psychopsidae) from the Middle Jurassic of Inner Mongolia, China

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### Abstract

*Cretapsychops decipiens* sp. nov. is described from the Middle Jurassic Jiulongshan Formation of Daohugou, Inner Mongolia in China. The new species is distinguished from the type species known from the Early Cretaceous Wealden Supergroup of England mainly by its longer costal gradate series and distinctive colour pattern of the forewings. The disruptive coloration of its forewings may perform a defensive (concealment) function. The structure of CuA is peculiar in *Cretapsychops* and is different from that of all other known psychopsid genera.

**Key words:** systematic paleontology, Middle Jurassic, Neuroptera, Psychopsidae, Daohugou, China

### Introduction

Psychopsidae, commonly called “silky” lacewings is one of the smaller families of Neuroptera. Today containing about 27 extant species in five genera, the family is restricted to southern Africa, Australia and southern Asia (New 1989; Oswald 1993b, 1995; Wang & Bao 2006).

Up to date, about 40 fossil species have been described in this family (some since reassigned) from the Upper Triassic to the Miocene (Handlirsch 1906–1908; Tillyard 1919, 1922; Krüger 1922, 1923; Martynova 1949; Bode 1953; Zalessky 1953; Martynova 1954, 1962; Macleod 1970; Fujiyama 1978; Panfilov 1980; Ponomarenko 1980; Wang 1980; Hong 1982, 1983; Makarkin 1991, 1994, 1997; Martins-Neto 1997; Engel & Grimaldi 2008; Jepson *et al.* 2009). However, the psychopsid affinity of many of these taxa is strongly in need of revision. Most described specimens are poorly and/or fragmentarily preserved; complete and well-preserved wings are rare. Some fossil genera, e.g., *Sinopsychops* Hong, 1982, *Beipiaopsychops* Hong, 1983 and *Arctopsychops* Makarkin 1994 cannot be placed in the Psychopsidae with certainty, as they are only represented by small wing fragments and some critical characters can not be observed.

In this paper, we describe a new species represented by well-preserved wings from four specimens, from the Middle Jurassic Jiulongshan Formation of the Daohugou Village, Inner Mongolia, China. We assign it to the psychopsid genus *Cretapsychops* Jepson *et al.* 2009 previously known only from the Lower Cretaceous of England. Fossil insects are abundant and diverse in the Daohugou fossil beds, which are currently considered as belonging to the Middle Jurassic Jiulongshan Formation (Ren *et al.* 2002).

### Material and methods

All specimens were collected from the Middle Jurassic Jiulongshan Formation in Daohugou Village, Ningcheng County, Inner Mongolia, China. They are housed in the Key Laboratory of Insect Evolution & Environmental Changes, the College of Life Sciences, Capital Normal University (CNU), Beijing, China.