



***Sinopanorpa*, a new genus of Panorpidae (Mecoptera) from the Oriental China with descriptions of two new species**

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Abstract

Sinopanorpa Cai & Hua, a new genus belonging to the family Panorpidae in Mecoptera, is established with *Panorpa tincta* Navas 1931 as its type species. A key to the four genera of Panorpidae is compiled to include the new genus. Two new species, *Sinopanorpa digitiformis* Huang & Hua and *Sinopanorpa nangongshana* Cai & Hua, are described and illustrated from the Oriental China. A key to the three species of the new genus is provided. *Sinopanorpa tincta* (Navas), a new combination transferred from the genus *Panorpa* Linnaeus, is re-described with a brief note on its biology.

Key words: Insecta, Mecoptera, Panorpidae, biology, Oriental Region, China

Introduction

The family Panorpidae are the dominant common scorpionflies in the northern continents, being widely distributed throughout Europe, Asia, and North America (Byers & Thornhill 1983). They can be readily recognized from other mecopteran families by the following characters: rostrum strongly elongated; the genae without a lateral tooth; 3 ocelli; no bristle present on ocellar triangle; M_4 strongly bend at base, CuP not fused with 1A; pretarsus with a pair of serrate claws; male genital bulb recurved upwards, superficially resembling the sting of a scorpion (Esben-Petersen 1921; Carpenter 1931; Kaltenbach 1978).

Compared to the known species of about 600 in Mecoptera, Panorpidae are a highly speciose family in this order, consisting of about 419 described species, but only assigned to three genera to date: *Panorpa* Linnaeus 1758, *Neopanorpa* Weele 1909 and *Leptopanorpa* MacLachlan 1875 (Penny & Byers 1979; Byers & Thornhill 1983). *Leptopanorpa*, with only 13 species, is limited to Java, Indonesia, recognizable for its extremely long and slender abdomen in males (Liefstinck 1936; Chau & Byers 1965). The Oriental *Neopanorpa*, ranging from India through southern China and Indo-China and southward to Indonesia, consists of 133 species, characterized by 1A ending before the origin of Rs (Cheng 1957; Penny & Byers 1979; Rust & Byers 1976). *Panorpa*, occurring in North America and the mountains of Mexico, Europe, and the whole China, includes 273 species, separating from its sibling genus *Neopanorpa* through the vein 1A joining the anal margin far beyond the origin of Rs (Cheng 1957). However, this diagnostic character of *Panorpa* leads to problems when sorting out some Chinese scorpionflies like *Panorpa fulvastra* Chou 1981 and *P. chengi* Chou 1981, in which the vein 1A just ends at the origin of Rs (unpublished observation), indicating that the genus *Panorpa* is a heterogeneous group and might need to be further divided.

Since *Panorpa* is such a large and heterogeneous group, researchers (Carpenter 1931, 1938; Issiki 1933;