



## The *Inocellia crassicornis* species group (Raphidioptera: Inocelliidae) in mainland China, with description of two new species

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### Abstract

Snakeflies of the *Inocellia crassicornis* species group from mainland China are revised. Two new species are described: *Inocellia biprocessus* **sp. nov.** and *Inocellia digitiformis* **sp. nov.** A key is provided for the males of all the species of the *I. crassicornis* group.

**Key words:** snakefly, *I. crassicornis* species group, taxonomy, East Asia

### Introduction

The snakefly genus *Inocellia* Schneider, 1843, is the most species-rich group of the family Inocelliidae. It comprises 12 validly described species from Asia and Europe excluding *Inocellia frigida* Navás, 1915, and *Inocellia rossica* Navás, 1916, which are considered to be doubtful species and are probably junior synonyms of *Inocellia crassicornis* (Schummel, 1832) (H. Aspöck *et al.* 1991). The genus is widely distributed and highly diversified in east and south Asia with 11 endemic species. The adults of *Inocellia* are characterized by the presence of a stylus or stylus-like process (gonostylus 9) and bristle tufts on the inner portion of the male ninth gonocoxite, the endophallus mostly with bristle tufts, and the feebly sclerotized foliate pseudostyli (basal parts of the gonapophyses 9). After the revision of the genus by H. Aspöck *et al.* (1991), some new works on the taxonomy of *Inocellia* have been published dealing with the Chinese fauna especially (Yang 1999; U. Aspöck *et al.* 2009; Liu *et al.* 2009, 2010).

In the monograph of H. Aspöck *et al.* (1991), two species groups of *Inocellia* were recognized, namely the *Inocellia fulvostigmata* group and the *Inocellia crassicornis* group, based on morphological differences of the male ninth gonocoxite. The *I. fulvostigmata* group is diagnosed by the elongated male ninth gonocoxite and comprises six species in Oriental Asia (Liu *et al.* 2010). The *I. crassicornis* group is diagnosed by the male ninth gonocoxite being wider than long and currently consists of four species: *I. crassicornis*, *I. japonica* Okamoto, 1917, *I. taiwana* H. Aspöck & U. Aspöck, 1985, and *I. shinohara* U. Aspöck, Liu & H. Aspöck, 2009. In addition to these two well-characterized species groups, there is a spectacular species with spotted wings recently described, *I. elegans* Liu, H. Aspöck, Yang & U. Aspöck, 2009, which has a somewhat isolated position within the genus.

During our study on the Raphidioptera from mainland China, additional species were found to be related to the *I. crassicornis* group based on the genitalic characters. Presently, four species from mainland China are recognized to be members of the *I. crassicornis* group. They are described or re-described herein, along with two new species. A key to the males of the *I. crassicornis* group is provided.