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The *Pachyprotasis formosana* group (Hymenoptera, Tenthredinidae) in China: identification and new species

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Abstract

A key to the species groups of *Pachyprotasis* from China is presented and the known species are associated with each of the groups. The species of the *formosana* group are reviewed and keyed. Four new species are described in this group, *P. fopingensis* **sp. nov.** (Shaanxi), *P. maculoannulata* **sp. nov.** (Hubei), *P. nigricoxis* **sp. nov.** (Yunnan) and *P. altantennata* **sp. nov.** (Hubei). The diagnostic characters of the previously known species of the group in China are revised.

Key words: Hymenoptera, Tenthredinidae, *Pachyprotasis*, China, new species

Introduction

Pachyprotasis Hartig, 1837, is chiefly distributed in the north of the Oriental and in the Palaearctic regions. Worldwide 197 species have been recognized. For six of them two or three subspecies have been described (Taeger & Blank 2008). For China 80 species have been listed (Wei *et al.* 2006). Saini *et al.* (2006) and Saini (2007) have reported 65 species from the neighboring India, 38 species from Japan (Naito & Inomata 2006).

Pachyprotasis has been placed in Macrophyini of Tenthredininae together with *Deda* Gibson, 1980, *Filacus* Smith & Gibson, 1984, *Zaschizonyx* Ashmead, 1898 (all Nearctic), and *Macrophya* Dahlbom, 1835 (Holarctic and Oriental) by Goulet (1996). The difficulties in distinguishing *Macrophya* and *Pachyprotasis* have already been pointed out by Malaise (1945) and Gibson (1980). Benson (1946) even regarded their separation as untenable, but later he reverted to treatment of *Macrophya* and *Pachyprotasis* as separate (e.g., Benson 1952). The two genera can be separated by the following characters: In *Pachyprotasis* the antennae are usually longer and more slender than in *Macropyha*. *Pachyprotasis* males generally have an acute ridge on the distal antennomeres, which is always absent in *Macrophya* (Malaise 1945: 136–137, Gibson 1980: 15–16). The inner margins of the eyes are parallel or indistinctly converging ventrally in females or ventrally diverging in males of *Pachyprotasis*. The majority of *Macrophya* has the eyes strongly convergent ventrally, although they are scarcely convergent in species of the subgenus *Pseudomacrophya* Enslin, 1913 (Gibson 1980: 22–23). Many, but by no means all *Pachyprotasis* species have a more slender body shape than *Macrophya*.

The *Pachyprotasis* species are keyed here into several groups by body color. At present, color characters are at least of practical use for separating species groups, but do not necessarily reflect phylogenetic relationships. Twelve species of the *formosana* group have previously been recorded, all of which were described from India, Burma and China. In this paper, eleven species of the *formosana* group from China are treated, including four new species.

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