



Three new species of *Polypedilum s. str.* Kieffer from China, with L-shaped superior volsella (Diptera: Chironomidae)

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Abstract

Three new Chinese *Polypedilum s. str.* species with distinct L-shaped superior volsella, are described and illustrated as males. *Polypedilum (P.) coalitum* **sp. nov.** differs from other members of *Polypedilum s. str.* in having 4 palpomeres and vein R₁ without seta. *P. (P.) depile* **sp. nov.** has bare squama, which is unique in the genus. *P. (P.) hainanense* **sp. nov.** differs in having squama with 3 setae; vein R₄₊₅ with 14–20 setae; a high foreleg ratio (2.36); and superior volsella abruptly curved in the middle, without basal inner setae, with single strong lateral seta medially, and 3 short subapical setae.

Key words: Chironomidae, Chironominae, *Polypedilum*, new species, China

Introduction

The genus *Polypedilum* Kieffer, 1912 has a worldwide distribution. The larvae occur in all types of standing and flowing waters, except at high altitudes and latitudes. It is a heterogeneous group with more than 430 described species. Males of the genus can be recognized by having deeply bifid pulvilli combined with a triangular eighth abdominal segment. Six subgenera are recognized: *Polypedilum s. str.* Kieffer, 1912, *Pentapedilum* Kieffer, 1913, *Tripodura* Townes, 1945, *Asheum* Sublette et Sublette 1983, *Uresipedilum* Oyewo et Sæther, 1998, and *Cerobregma* Sæther et Sundal, 1998.

The Chinese species of the subgenera *Uresipedilum*, *Cerobregma* and *Pentapedilum* have recently been reviewed (Zhang & Wang 2004, 2005a, 2005b). The males of *Polypedilum s. str.* can easily be separated from other subgenera by the following characters: basal portion of superior volsella low and broad, often gradually tapering to a bare, horn-like apical process; wing membrane without macrotrichia; and tergite IX without projections on each side of the anal point. The subgenus comprises about 200 species, four of which were originally described from China. According to Wang (2000), 20 species of *Polypedilum s. str.* occur in China, 18 of which are recorded only as adults, while two species are also known as larvae. Below we describe three new Chinese species of *Polypedilum s. str.*, all with a distinct L-shaped superior volsella.

Material and methods

The material was mounted in Euparal on slides following the procedure outlined by Sæther (1969). The morphological nomenclature follows Sæther (1980) with the additions and corrections given by Sæther (1990). Measurements are given as ranges followed by the mean when more than three specimens were measured and the number of specimens (n) in parentheses.