



# Article

urn:lsid:zoobank.org:pub:35B5E74E-F25F-420A-B214-68E8A70CFFE0

## A review of the subgenera *Euorthocladius* and *Orthocladius s. str.* from China (Diptera: Chironomidae)

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### Abstract

The Chinese species of the subgenera *Euorthocladius* Thienemann and *Orthocladius s. str.* are reviewed. Two new species of *Orthocladius (Euorthocladius)*: *O. (E.) angustus* and *O. (E.) flectus* are described, and four species of *Orthocladius s. str.* are redescribed and illustrated as adult males. A key to males of the two subgenera from China is presented.

**Keywords:** Diptera, Chironomidae, *Euorthocladius*, *Orthocladius s. str.*, new species, key, China

### Introduction

The genus *Orthocladius* van der Wulp, 1874 is widespread in the Holarctic region, where it includes over 100 species. It is presently divided into six subgenera. Holarctic species of the subgenus *Euorthocladius* Thienemann, 1935, with *O. (E.) thienemanni* Kieffer, 1906 as the type species, were revised by Soponis (1990); *O. rousellae* Soponis was later transferred to the subgenus *Mesorthocladius* by Sæther (2005). The subgenus *Orthocladius s. str.* includes most species of the genus. Diagnosis for adult males is given in Cranston *et al.* (1989). Soponis (1977) revised the Nearctic species and diagnosed the subgenus *Orthocladius*. Later *O. annectens* Sæther has been transferred to the subgenus *Symposiocladius*, and *O. tryoni* Soponis has been shown to be a synonym of *O. (Symposiocladius) lignicola* Kieffer (Sæther 2003). Rossaro *et al.* (2002) recorded 17 species of the subgenus from the West Palaearctic region. Although 30 species of *O. (Euorthocladius)* and *Orthocladius s. str.* have been recorded from Japan (Yamamoto 2004), only eight are widespread in the Holarctic region, thus several of them should be checked in order to exclude synonyms.

In the checklist of Chironomidae from China, Wang (2000) recorded three species of the subgenus *Euorthocladius* and seven of *Orthocladius s. str.*, including *O. frigidus* (Zetterstedt) which was transferred to the subgenus *Mesorthocladius* by Sæther (2005). In addition, after re-examining of *O. (O.) yugashimaensis* Sasa, *O. (O.) obumbratus* Johannsen and *O. (O.) saxicola* (Kieffer) from China, we found that the former two names are misidentifications of *O. (O.) excavatus* Brundin, and the latter is *Cricotopus annulatus* Goetghebuer respectively. Wang *et al.* (2005) recorded *O. (O.) glabripennis* (Goetghebuer, 1921) from Oriental China.

Below we describe five species of *O. (Euorthocladius)* and six of *Orthocladius s. str.* from China, and provide a key to the males of Chinese species.

### Methods and Material

The morphological nomenclature follows Sæther (1980). The material examined was mounted on slides following the procedure outlined by Sæther (1969). Measurements are given as ranges followed by the mean, when four or more measurements, followed by the number of specimens (n) measured in parentheses. In the figures of the male