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Three new species of the genus *Paederus* Fabricius (Coleoptera: Staphylinidae: Paederinae) from China

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Abstract

Three new species of the genus *Paederus* Fabricius from China are described: *Paederus bilobus* **sp. nov.** from Hainan, *P. lateralis* **sp. nov.** from Yunnan, and *P. brunneolus* **sp. nov.** from Xinjiang.

Key words: Paederina, *Paederus*, new species, China

Introduction

This paper is a continuation of our taxonomic studies of Chinese *Paederus*. Since our latest contribution on this subject (Li *et al.* 2013) that was a description of five new species with a detailed review of Chinese fauna and the history of its study, the newly examined material brought three new species, *Paederus bilobus* **sp. nov.** from Hainan, *P. lateralis* **sp. nov.** from Yunnan, and *P. brunneolus* **sp. nov.** from Xinjiang, that are being described here. Thus, altogether 39 species of *Paederus* are known from China at present.

As summarized in Li *et al.* (2013), a robust definition or a workable internal classification of the genus *Paederus* has not been developed yet. All three here described species are placed in this species-rich genus because they share all characters of the subtribe Paederina, and do not match any genera of that subtribe other than the broadly defined *Paederus*. These new species are not closely related to each other and so far they cannot be attributed to any of the existing subgenera of *Paederus*, either based on their external characters, or, especially, based on their peculiar aedeagal structures. Such situation is unfortunate but unavoidable given a very poor state of development of the intrageneric classification of *Paederus* combined with high phylogenetic diversity of its lineages in China (Li *et al.* 2013). Therefore, here we can discuss their possible affinities only in a very preliminary way. The new species are described in order to improve the knowledge of the fauna of China, and to introduce them into a future comprehensive phylogenetic study of the entire genus.

The type specimens are deposited in the Institute of Zoology, Chinese Academy of Sciences (IZCAS) and some duplicate paratypes in the collection of the Natural History Museum of Denmark (Zoological Museum of the University of Copenhagen, ZMUC).

Material and methods

Specimens were relaxed in distilled water for 10–12 hours for dissection of the last one or two abdominal segments and mouthparts. Detached parts were placed into KOH (10%) for 10–24 hours (depending on the degree of sclerotization). After that, labrum, mandibles, sternites VIII–IX, and aedeagus could be easily removed and exposed. Then the detached parts were placed into glycerin in plastic genitalia vials which were pinned under the respective specimens.

can be easily distinguished from that subgenus by the structure of mandibles and labrum. In *P. lateralis* **sp. nov.**, there is no dorsal tooth on the right mandible and no teeth on the anterior margin of labrum (dorsal tooth present on the right mandible, and at least one pair of teeth present on the anterior margin of labrum in *Gnathopaederus*). Also, *P. lateralis* **sp. nov.** is similar to *P. biacutus* group (Li *et al.* 2013), but it differs from the members of this group not only by the color of head, but also by structure of the labrum. *Paederus lateralis* **sp. nov.** has neither teeth nor protrusions on the labrum, whereas in the species of *P. biacutus* group heads are more or less blackish, and labrum with four regularly arranged protrusions on the anterior margin. In addition, the aedeagus of *P. lateralis* **sp. nov.** differs from such of the members of *P. biacutus* group as well: dorsal plate of the new species is asymmetrical (Fig. 3G) but the latter members have asymmetrical dorsal plate instead (figs. 1G, 2I, 3G, 4F, 5G in Li *et al.*, 2013).

Etymology. The species name is the Latin adjective *meaning* lateral. It refers to parameres that are extended along lateral sides of the median lobe.

Distribution. *Paederus lateralis* **sp. nov.** is confined to the south of Yunnan Province: Tengchong County (Jietou, Datong and Houqiao, Doujiashai). According to the available labels and information from collectors, this species was collected by beating the shrubs of *Lindera communis* in the mountains at altitudes ranging from 1600 to 2000 m in May.

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