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## One new species of the Genus *Apotrechus* (Orthoptera: Gryllacrididae), with provided morphological photographs for five Chinese species

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### Abstract

One new species of the genus *Apotrechus* from China is described, i.e. *Apotrechus trilobus* Bian & Shi **sp. nov.**. Meanwhile, a key to the species and the morphological photographs for five Chinese known species are provided in this paper. All material is deposited in the Museum of Hebei University.

**Key word:** Gryllacrididae, *Apotrechus*, new species, morphological photograph, China

### Introduction

*Apotrechus* was erected by Brunner von Wattenwyl in 1888, with the type species *Apotrechus unicolor* Brunner von Wattenwyl, 1888. So far, the genus includes 10 species all over the world, three of which are distributed in Australia, one in Vietnam and six in China (Eades *et al.*, 2014).

In Chinese fauna, Liu & Yin (2002), Liu & Bi (2008) and Liu *et al.* (2010) reported 4 species, namely: *Apotrechus nigrienculatus* Liu & Yin, 2002 (type locality: Emeishan, Sichuan), *Apotrechus digitatus* Liu & Bi, 2008 (type locality: Leigongshan, Guizhou), *Apotrechus fallax* Liu & Bi, 2008 (type locality: Leigongshan, Guizhou) and *Apotrechus transversa* Liu, Bi & Zhang, 2010 (type locality: Fengyangshan, Zhejiang). Guo & Shi (2012) studied the genus, described 1 new species, *Apotrechus bilobus* Guo & Shi, 2012 (type locality: Tianmushan, Zhejiang), and transferred the *Eremus nigrienculatus* Liu & Yin, 2002 (type locality: Mao'ershan, Xing'an, Guangxi) to the genus.

This paper is a supplement for *Apotrechus* (Guo & Shi, 2012), and describes 1 new species of the genus from Yunnan, *Apotrechus trilobus* Bian & Shi **sp. nov.** The detail information of partly examined material for known species is similar as reported by Guo & Shi (2012). Herein, we add morphological illustrations for these known species. Also a revised key to the species is provided. All the examined material is deposited in the Museum of Hebei University.

The morphological images obtained and the measuring method follow previous convention Bian *et al.* (2013a, 2013b).

### Taxonomy

#### Key to the known Chinese species of *Apotrechus*

- 1 Frons with broad transverse sulcus . . . . . *A. parvospinus* (Liu & Yin, 2002)
- Frons smooth, without broad transverse sulcus . . . . . 2
- 2 Apices of fore and middle femora with black ring-like stripes. . . . . 3
- Apices of fore and middle femora without black stripes. . . . . 5
- 3 Frons with 1 longitudinal mark in middle (Figs. 3A, 6A); posterior margin of female subgenital plate rounded . . . . . 4
- Frons without mark in middle (Fig. 4A); posterior margin of female subgenital plate truncate . . . . .

part of mandibles black; inner margin of antennal socket, basal area of scape and pedicel, and basal articles of flagellum black brown, the other part of flagellum lighter. Pronotum with black margins, in the disc with 1 longitudinal black stripe. Mesonotum, metanotum and first abdominal tergite with black margins and a median black stripes separately. Apical area of fore and middle femora black brown, basal area and apical area of tibiae black and all spines on hind legs black brown.

**Female.** Appearance is similar to male. Subgenital plate short, basally broad, apical half slightly narrowing, basal margin excavate, lateral margin triangular expanded, posterior margin slightly projecting in middle (Fig. 6L). Ovipositor short, dorsal and ventral margins smooth, base stout, narrowing, apical half curved upwards, apex obtuse.

**Measurements (mm).** Body: ♂17.0–17.5, ♀21.0–22.5; pronotum: ♂3.5–4.0, ♀4.0–4.2; hind femora: ♂8.0–9.5, ♀9.0; ovipositor: ♀5.0–6.0.

**Material examined.** Holotype, male, Daxueshan, Weixin, Yunnan, 19 August, 2013, collected by Xun Bian & Guang-Lin Xie. Paratypes: 2 females, other data as the holotype; 1 male, Xiaocaoba, Yiliang, Yunnan, 24 August, 2013, collected by Xun Bian & Guang-Lin Xie.

**Distribution.** China (Yunnan).

**Remarks.** The new species is very similar to *Apotrechus fallax* Liu & Bi, 2008, but differs in: frons with 1 vertical black stripe in middle; lateral lobes of male subgenital plate with 1 pair of apically processes, which digitate in apico-lateral view; lateral margin of female subgenital plate triangular expanded in middle, posterior margin slightly projecting in middle.

**Etymology.** The name of the new species is derived from the triangular expansion of female subgenital plate in middle area.

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