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## Three new species of *Diaphorus* Meigen (Diptera: Dolichopodidae) from Tibet

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### Abstract

The species of *Diaphorus* Meigen from Tibet are reviewed. Previously only one species, *Diaphorus xizangensis* Yang & Grootaert, was known to occur in Tibet. The following three species are described as new to science: *Diaphorus baheensis* sp. nov., *Diaphorus longrenensis* sp. nov. and *Diaphorus nigripedus* sp. nov. *Diaphorus anatoli* Negrobov is recorded from Tibet for the first time. A key to the species of *Diaphorus* from Tibet and the Himalayan area is presented.

**Key words:** Diptera, Dolichopodidae, Diaphorinae, *Diaphorus*, Tibet, new species

### Introduction

The genus *Diaphorus* Meigen, 1824 (Diptera: Dolichopodidae) can be distinguished from other genera of the subfamily Diaphorinae by the following characters: Body small to large, metallic green; eyes usually contiguous or narrowly separated on frons, rarely with parallel margins; face rather wide with parallel margins; arista long, with dorsal insertion; 4–6 strong dorsocentral bristles, acrostichal bristles biserial; legs with small claws or absent, usually with well developed pulvilli; male sternum 8 with 2–8 strong bristles. This genus has 267 known species distributed worldwide (Yang *et al.* 2011). Presently 48 species occur in China (Yang *et al.* 2011; Dyte 1975; Olejníček 2005).

The major references dealing with this genus in the of Palaearctic and Oriental regions are as follows: Becker (1922), Hollis (1964), Meuffels & Grootaert (1985), Negrobov (1986, 1991), Parent (1941), Wang *et al.* (2006), Wei & Song (2005), Yang & Grootaert (1999), Yang & Saigusa (1999, 2000, 2001a,b, 2005), Yang (2002), Yang *et al.* (2011).

Tibet with plateau climate is located in southwest China. The territory mostly falls in the Palaearctic Region, although the southeastern part has an Oriental element. Previously, only one species of *Diaphorus*, *D. xizangensis* Yang & Grootaert, was known from Tibet, and four from the Himalayan area: *D. hirsutipes* Becker, *D. sanguensis* Hollis, *D. jeanae* Hollis, and *D. mandarinus* Wiedemann (Hollis 1964). Here three new species are described and one species is recorded from Tibet for the first time. A key to species of *Diaphorus* from Tibet and the Himalayan area is presented. All specimens examined in this study were collected from the Oriental Region of Tibet.

### Material and methods

The specimens on which this study is based were collected from 2012 to 2014 by sweep nets or water yellow disc traps from Tibet. All specimens are deposited in the Entomological Museum of China Agricultural University (CAU), Beijing.

Morphological terminology for adult structures mainly follows McAlpine (1981). Terms for the structures of the male genitalia follow Cumming & Wood (2009). The following abbreviations are used: acr—acrostichal bristle,

coxa with 1 outer bristle at base. Fore femur with rows of av. Mid tibia with 2 ad at basal 1/3 and 2/3, 2 pd at basal 1/4 and 3/5, apically with 3–4 bristles; hind tibia with 2 ad at basal 1/4 and 1/2 (latter one relatively weak), 6–8 pd, apically with 3–4 bristles. All tarsi without claws; pulvilli enlarged, shorter than tarsomere 5. Relative lengths of tibia and 5 tarsomeres of legs LI 5.0: 2.7 : 1.3 : 0.9 : 0.7 : 0.7 ; LII 6.0 : 3.0 : 1.6 : 1.1 : 0.7 : 0.8 ; LIII 7.0 : 2.5 : 1.9 : 1.3 : 0.9 : 0.9. **Wing** hyaline, tinged brown; veins dark brown,  $R_{4+5}$  and  $M_1$  nearly parallel apically; CuAx ratio 0.35. Squama black with black hairs. Halter black. **Abdomen** brownish black, with pale gray pollinosity; hairs and bristles on abdomen black. Tg1–5 with row of long bristles on posterior margin; st8 with 5 strong bristles. Male genitalia (Fig. 12): Epandrium about as long as wide; lateral epandrial lobe wide and long, apex bearing 2 long bristles; ventral lobe of surstylus with wide base and thin apex, with large bristle at middle; dorsal lobe of surstylus short and straight, with 1 bristle at apex; cercus short and round; apex of phallus thin. **Female**. Unknown.

**Specimens examined.** **HOLOTYPE** ♂, China, Tibet, Gongbujiada, Bahe, 29°87'N, 93°67'E, 3122 m, 2013.VII.15, X.Y. Liu. **PARATYPE**: 1♂, same as holotype; 2♂, China, Tibet, Motuo, 80K, 29°33'N, 95°32'E, 1000 m, 2013.VIII.12, G. Yao; 5♂, China, Tibet, Linzhi, Namaicun, 29°73'N, 94°73'E, 3200 m, 2012.VIII.5, W.L. Li.

**Distribution.** China (Tibet).

**Remarks.** The new species is similar to *Diaphorus jinghongensis* Wang, Yang & Grootaert in the similar wide and long lateral epandrial lobe and 1 large bristle at middle of the ventral lobe of surstylus, but can be separated from the latter by the first flagellomere widest at middle. In *D. jinghongensis*, the first flagellomere is wider at lower part (Wang *et al.* 2006).

**Etymology.** The specific epithet refers to the black legs of the species.

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