



<http://dx.doi.org/10.11646/zootaxa.3881.6.4>

<http://zoobank.org/urn:lsid:zoobank.org:pub:57712A76-D455-4B39-9BAE-6EF3C13837F4>

## New species of *Hercostomus baishanzuensis* group from Tibet (Diptera: Dolichopodidae, Dolichopodinae)

CHUFEI TANG<sup>1</sup>, LILI ZHANG<sup>1,2,3</sup> & DING YANG<sup>1,3</sup>

<sup>1</sup>Department of Entomology, China Agricultural University, Beijing 100193, China.

E-mail: (CFT) [tcf0816@126.com](mailto:tcf0816@126.com); (DY) [dyangcau@126.com](mailto:dyangcau@126.com)

<sup>2</sup>Key Laboratory of the Zoological Systematics & Evolution, Institute of Zoology, Chinese Academy of Sciences, Chaoyang, Beijing, 100101, China. E-mail: [tolily@126.com](mailto:tolily@126.com)

<sup>3</sup>Corresponding author: Lili Zhang ([tolily@126.com](mailto:tolily@126.com)), Ding Yang ([dyangcau@126.com](mailto:dyangcau@126.com); [dyangcau@aliyun.com](mailto:dyangcau@aliyun.com))

### Abstract

Previously only ten species of *Hercostomus* Loew were known to occur in Tibet, of which only two belong to the *H. baishanzuensis* group. Here the following six species of the *H. baishanzuensis* group are described as new to science: *Hercostomus bisetus* sp. nov., *H. deltodontus* sp. nov., *H. flavus* sp. nov., *H. galonglaensis* sp. nov., *H. nuciformis* sp. nov. and *H. pailongensis* sp. nov. A key to the species of the *H. baishanzuensis* group from Tibet is provided.

**Key words:** Diptera, Dolichopodidae, Dolichopodinae, *Hercostomus*, Tibet, new species, *baishanzuensis* group

### Introduction

*Hercostomus* Loew is a polyphyletic assemblage of species (Brooks 2005) and members of the genus are usually found in meadows and bushes near water bodies. *Hercostomus* can be separated from other dolichopodid genera by the following features: mid femur with 1 strong preapical bristle; hind femur with anterior bristle(s) positioned at apex, usually not or only slightly flattened laterally; vein  $M_{1+2}$  weakly sinuate, with flexion at basal third or at middle of distal part and sometimes with subapical flexion; antennal pedicel not strongly modified (Grichanov 2011; Yang *et al.* 2011). Species of the *H. baishanzuensis* group, as proposed by Yang & Saigusa (2001), of which only 25 species are known from mainland China, can be separated from other groups by the following features: postocular bristles usually black; antenna black, first flagellomere fairly large; acrostichal bristles absent or present in two rows; thorax without distinct darkened area above notopleuron; pleura without clusters of fine hairs in front of posterior spiracle; legs usually black, fore tibia with anterodorsal comb-like rows of setae distally; male abdominal spiracle 7 not enlarged; outer epandrial lobe usually nearly truncate, with 1 bristle at middle or at base, and 2 bristles at tip; male cercus with obvious digitations at both dorsal and ventral margins (Yang *et al.* 2011).

Tibet is a plateau region in Asia, located in the north-east of the Himalayas. It is the highest region on earth, with an average elevation of 4,900 metres (16,000 ft). It harbors a peculiar biodiversity. Previously only ten species of *Hercostomus* Loew were known to occur in Tibet, of which only two species belong to the *H. baishanzuensis* group. Here six new species of the *H. baishanzuensis* group are added to the fauna of Tibet. A key to the species of the group is provided.

### Material and methods

The specimens on which this study is based were collected from Tibet in 2013 by sweeping net. 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 (s), ad =

## References

- Brooks, S.E. (2005) Systematics and phylogeny of the Dolichopodidae (Diptera: Dolichopodidae). *Zootaxa*, 857, 1–158.
- Cumming, J.M. & Wood, D.M. (2009) Adult Morphology and Terminology. In: Brown, B.V., Borkent, A., Cumming, J.M., Wood, D.M., Woodley, N.E. & Zumbado, M.A. (Eds.), *Manual of Central American Diptera. Vol. 1*. NRC Research Press, Ottawa, pp. 9–50.
- Gričanov, I.Y. (2011) An illustrated synopsis and keys to Afrotropical genera of the epifamily Dolichopodidae (Diptera: Empididae). *Priamus Supplement*, 24, 1–98.
- McAlpine, J.F. (1981) Morphology and terminology – adults. Chapter. 2. In: McAlpine, J.F., Peterson, B.V., Shewell, G.E., Teskey, H.J., Vockeroth, J.R. & Wood, D.M. (Coords.), *Manual of Nearctic Diptera. Vol. 1*. Agriculture Canada Monograph No. 27, pp. 9–63.
- Stackelberg, A.A. (1934) Dolichopodidae. *Die Fliegen der Palaearktischen Region*, 4 (5), Lief 82, 129–176.
- Yang, D. (1996a) New species of the genus *Hercostomus* Loew from Xizang (Diptera: Dolichopodidae). *Annales de la Société Entomologique de France*, 32 (4), 411–417.
- Yang, D. (1996b) New species of *Hercostomus* and *Ludovicicus* from North China (Diptera: Dolichopodidae). *Deutsche Entomologische Zeitschrift*, 43 (2), 235–244.  
<http://dx.doi.org/10.1002/mmnd.19960430207>
- Yang, D. (1997a) Eight new species of *Hercostomus* from China (Diptera, Dolichopodidae). *Studia dipterologica*, 4 (1), 115–124.
- Yang, D. (1997b) New species of *Amblypsilopus* and *Hercostomus* from China (Diptera, Dolichopodidae). *Bulletin de l'Institut Royal des Sciences Naturelles de Belgique Entomologique*, 67, 131–140.
- Yang, D. (1998) New and little-known species of *Dolichopodidae* from China (I). *Bulletin de l'Institut Royal des Sciences Naturelles de Belgique Entomologique*, 68, 151–164.
- Yang, D. & Saigusa, T. (2001) New and little known species of *Dolichopodidae* (Diptera) from China (VIII). *Bulletin de l'Institut Royal des Sciences Naturelles de Belgique Entomologique*, 71, 155–164.
- Yang, D. & Saigusa, T. (2002) The species of *Hercostomus* from the Qinling Mountains of Shaanxi, China (Diptera, Empididae, Dolichopodidae). *Deutsche Entomologische Zeitschrift*, 49 (1), 61–88.  
<http://dx.doi.org/10.1002/mmnd.20020490106>
- Yang, D., Zhang, L., Wang, M. & Zhu, Y. (2011) *Fauna Sinica Insecta* Vol. 53. Diptera Dolichopodidae. Science Press, Beijing, pp. 651–955.
- Yang, D., Zhu, Y., Wang, M. & Zhang, L. (2006) *World catalog of Dolichopodidae (Insecta: Diptera)*. China Agricultural University Press, Beijing, pp. 147–180.
- Zhang, L., Yang, D. & Grootaert, P. (2008) New species of *Hercostomus* (Diptera: Dolichopodidae) from China. *Bulletin de l'Institut Royal des Sciences Naturelles de Belgique Entomologique*, 78, 259–274.