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Two new species of the genus *Pseudostenophylax* Martynov (Trichoptera: Limnephilidae) from the Indian Himalaya

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Abstract

Two new species of the genus *Pseudostenophylax* Martynov 1909 from the Indian Himalaya are described and illustrated. These include *P. himachalica* sp. n. from Sathrundi (Himachal Pradesh) and *P. gulmargensis* sp. n. from Gulmarg (Jammu & Kashmir), both belonging to the *P. aniketos* Group. With these two additions, *Pseudostenophylax* is now represented in India by 25 species.

Key words: systematics, caddisflies, Himachal Pradesh, Jammu & Kashmir, *Pseudostenophylax aniketos* Group, India

Introduction

Limnephilidae is the largest family in Infraorder Plenitentoria of Suborder Integripalpia, Order Trichoptera, with about 880 extant species in 99 extant genera (Holzenthal *et al.* 2011). At higher latitudes and elevations, it is the dominant group in much of the Northern Hemisphere. This family was established by Kolenati (1848) based on the type genus *Limnephilus* Leach 1815. In India this family is represented by 6 genera and 35 species. These 6 genera are *Astratodina* Mosely 1936 (2 Indian species), *Asynarchus* McLachlan 1880 (1 Indian species), *Pseudostenophylax* Martynov 1909 (23 Indian species), *Limnephilus* Leach 1815 (2 Indian species), *Phylostenax* Mosely 1935 (1 Indian species) and *Aplatyphylax* Kimmins 1950 (6 Indian species). So far this family has not been reported from the higher ranges of the South Indian hills.

The genus *Pseudostenophylax* is represented by 72 species with an Oriental distribution centered around the Himalayas, southern China, Pakistan, Myanmar, Thailand, and Vietnam (Morse 2012). Another 26 species occur in the East Palearctic Region (Morse 2012). Only 3 species are Nearctic. Most species of *Pseudostenophylax* are found in high altitude, spring-fed streams. In India this genus is represented by 23 species. Of these, Schmid (1991) contributed 16 species; Martynov (1930) and Mosely (1936) 2 species each; and McLachlan (1878), Navás (1917) and Kimmins (1954) 1 species each.

Material and methods

Specimens examined in this study were primarily collected by using a 22-watt UV (Ultraviolet or “black” light), powered by a sealed rechargeable 12-volt battery. Traps were placed near the edges of some high altitude streams for 1–3 hours beginning at dusk. The caddisfly material was killed and preserved in 70% ethyl alcohol with a drop of glycerin. To make detailed morphological studies, the male genitalia were removed with the help of fine-tipped forceps and treated with the lactic acid procedure of Blahnik *et al.* (2007). The types and paratypes are deposited in the Museum of the Department of Zoology & Environmental Sciences, Punjabi University, Patiala, India (PUP).