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Rhyacophila kashmirensis sp. n. (Trichoptera: Rhyacophilidae) from India

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ABSTRACT. *Rhyacophila kashmirensis* sp. n. in the *R. nabochepa* subgroup belonging to the *R. divaricata* group from Gulmarg (Jammu and Kashmir) is described and illustrated. With the addition of this new species the *R. nabochepa* subgroup is now represented by four species from India.

KEY WORDS: Trichoptera, *Rhyacophila*, new species, India, Gulmarg.

INTRODUCTION

The genus *Rhyacophila* PICTET, 1834 was considered the type genus of the family Rhyacophilidae by STEPHENS (1836). *Rhyacophila* is Holarctic in distribution, containing more than 801 species recognized globally. Among these, 375 species have been recorded from the Oriental region, whereas India and its immediate surrounding areas are represented by 170 species (MORSE 2013). The main contributions to the Indian *Rhyacophila* include: MORTON 1900 (6 species), MARTYNOV 1927a, 1927b, 1930, 1935 (11 species), KIMMINS 1952, 1953 (12 species), MALICKY 1997 (1 species), KISS 2003, 2011a, 2011b (8 species) and SCHMID 1959, 1970 (128 species), SAINI & KAUR 2012 (2 species) and KAUR & SAINI 2012 (2 species).

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Technology (New Delhi) for providing the financial support for this work. The fact that the material was collected and conveyed to us by Sajad Hussain Parey and Vikram Singh Rathor is put on record.

MATERIAL AND METHODS

Specimens belonging to this genus were collected primarily during the first 1-3 hours after dusk with 22-W circline fluorescent BL tubes (Bioquip, with 12-volt, rechargeable batteries). The traps were placed near the edges of some high altitude streams. The caddisfly material so collected was killed and preserved in 95% ethanol containing glycerine. The male genitalia were removed and treated with the lactic acid procedure of BLAHNIK et al. (2007).

The illustrations were prepared with the aid of a zoom stereoscopic binocular (Kyowa Getner DVZ-555 with maximum magnification of 90X) fitted with an ocular grid in one eye piece. The illustrations were scanned at 600 dpi black and white, and mounted onto plates in AdobePhotoshop 8.0©. The genitalic terminology corresponds with that of SCHMID (1970).

The type of the new taxon is deposited in the Museum of the Department of Zoology and Environmental Sciences, Punjabi University, Patiala, India (PUPM).

SYSTEMATICS

***Rhyacophila kashmirensis* sp. n.**

(Figs 1-5)

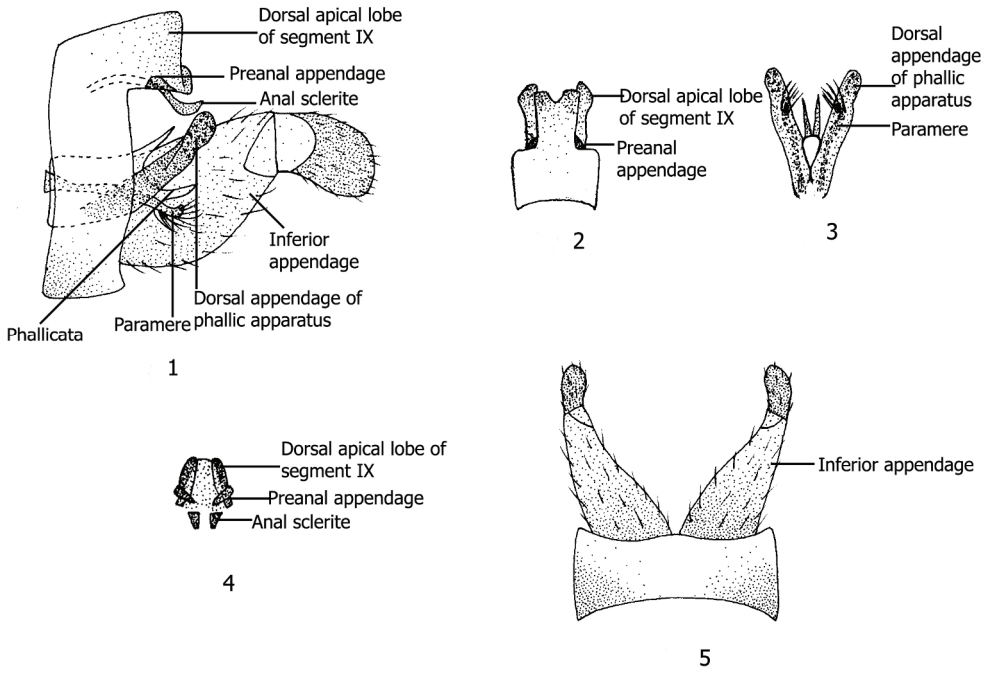
Diagnosis

Assigned to the *R. divaricata* group (the *R. divaricata* branch of SCHMID, 1970), this new species resembles *R. nabochepa* SCHMID, 1970 in the general shape of the male genitalia, but is easily distinguished from it by the following characters: in lateral view, in *R. kashmirensis* sp. n. the terminal segment of the inferior appendage is truncate shaped (Fig. 1) whereas in *R. nabochepa* it is triangular in shape. The dorsal appendage of the phallicata in *R. nabochepa* is square shaped apically and without minute spinules but in *R. kashmirensis* sp. n. it is rounded apically and with minute spinules. The anal sclerite extends beyond the dorsal apical lobe of segment IX in *R. kashmirensis* (Fig. 1) but does not extend beyond the dorsal apical lobe of segment IX in *R. nabochepa*. In the caudal view the preanal appendage is elongated in *R. kashmirensis* (Fig. 4) but rounded in *R. nabochepa.*

Description

Male. In alcohol, body dark brown, wings and legs pale brown. Length of each antenna 8.0-8.2 mm and length of each forewing 9.0-9.5 mm. Genitalia – see Figs 1-5. In dorsal

view, dorsal apical lobe of segment IX with U-shaped indentation (Fig. 2); in lateral view, anal sclerite extending beyond dorsal apical lobe of segment IX. Phallicata bifid and bunch of setae present on apex of paramere. Dorsal appendage of phallicata rounded apically and with minute spinules. Basal segment of inferior appendage broader at base. In lateral view, terminal segment of inferior appendage truncate shaped (Fig. 1) but rounded in ventral view (Fig. 5). In dorsal view, dorsal appendage of phallicata indented subapically (Fig. 3).



Figs 1-5. Male genitalia of *Rhyacophila kashmirensis* sp. n.: 1 – left lateral view, 2 – dorsal view, 3 – dorsal view of dorsal appendage of phallicata, 4 – caudal view, 5 – inferior appendage ventral view.

Etymology

The species is named after the name of the state in which the type locality is situated.

Material examined

Holotype male, India: Jammu and Kashmir, Gulmarg, 2900 m, 04 VII 2012 (col. Parey & Rathor) (PUPM). Paratype: one male, same data as holotype.

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