

TWO NEW SPECIES OF *RHYACOPHILA*
(TRICHOPTERA, RHYACOPHILIDAE) FROM NEPAL

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In the present study, two new species of the genus *Rhyacophila* (Trichoptera, Rhyacophilidae) from Central Nepal are described and illustrated. The imagines of *Rhyacophila horvathmargiti* sp. n. and *Rhyacophila vajoni* sp. n. were caught by light trapping at 2300–2600 m.

Key words: Trichoptera, *Rhyacophila*, new species, *nigrocephala* group, *tarkiya* group, Central Nepal

INTRODUCTION

Dr. MÁRTON HREBLAY and his colleagues including KRISZTINA CSÁK made several Lepidoptera collecting expeditions to Nepal in the 1990s where they also collected Trichoptera imagines. A part of the Trichoptera material was donated to me and I have found two new species in this collection that belong to the *Rhyacophila nigrocephala* group and *R. tarkiya* group increasing the number of *Rhyacophila* species recorded from Nepal to 28. The total number of Nepalese Trichoptera species known in 2006 was 308 (MALICKY 2006). For the identification of species the works by KIMMINS (1964), KISS and MALICKY (2003), MALICKY (1997), MARTYNOV (1930, 1935) SUN and YANG (1995) and SCHMID (1970) were used.

DESCRIPTION OF THE NEW SPECIES

***Rhyacophila horvathmargiti* sp. n.**

(Figs 1–5, 8–9)

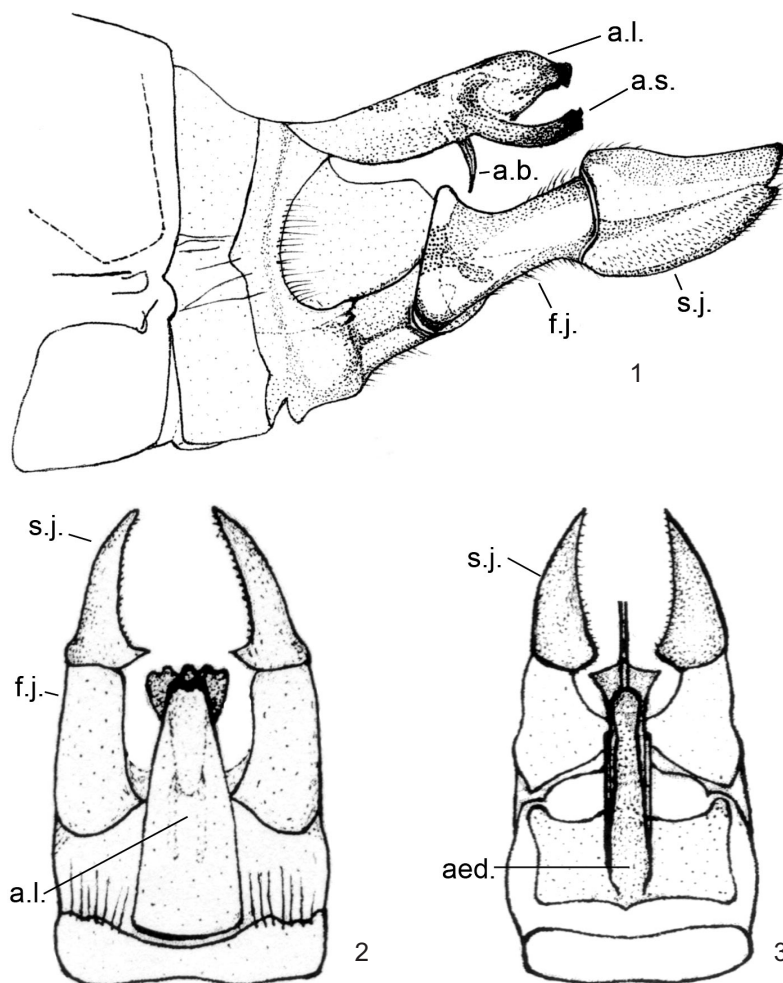
Body length of male 9 mm, forewing length 11 mm, forewing width 3.5 mm, length of antenna 18 mm. Body, antennae, palpi and wings dark brown, abdomen and legs darker brown, genitalia dark brown (Figs 8–9).

Male genitalia (Figs 1–5, 9): Apicodorsal lobe of segment 9 long and stump-like in lateral view, conical in dorsal view (Figs 1–2). Anal sclerite evenly broad, curving upwards, as long as apicodorsal lobe of segment 9 in lateral view (Fig. 1). Apical band claw-like, slender and pointing downwards (Fig. 1). Aedeagus tubular with thin distal part (Figs 3–5). Paramere thin not longer than broad portion of aedeagus (Figs 4–5). Ventral lobe of aedeagus shorter than aedeagus and paramere and it closely adheres to aedeagus (Figs 4–5). Base of first joint of inferior appendages broad, dorsal and ventral edges concave and convex, resp. and of almost the same length as second joint of inferior

appendages (Fig. 1). Upper and lower edges of second joint of inferior appendages concave (Fig. 1). Second joint of inferior appendages resembles carving knife.

Female. Unknown.

Material – Holotype: male, 2 km N of Tarebhir (27°23'N, 86°E, 2600 m), Mt. Kalinchok, Central Nepal, by light trapping, 02.07.1997, leg. MÁRTON HREBLAY and KRISZTINA CSÁK. Holotype is deposited in Mátra Museum, Gyöngyös, Hungary.

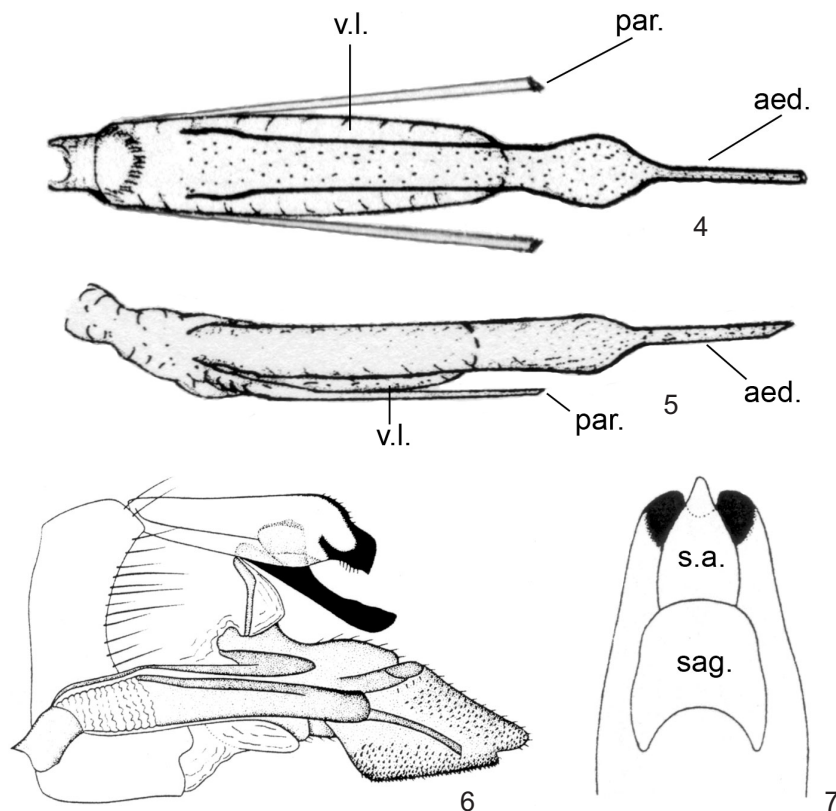


Figs 1–3. *Rhyacophila horvathmargiti* sp. n. male genitalia: 1= lateral view; 2 = apicodorsal lobe of segment 9 and second joint of inferior appendages, dorsal view; 3 = ventral lobe of aedeagus and second joint of inferior appendages, ventral view. (Abbreviations: a.b. = apical band; aed. = aedeagus; a.l. = apicodorsal lobe of segment 9; a.s. = anal sclerite; f.j. = first joint of inferior appendages; s.j. = second joint of inferior appendages)

Differential diagnosis: This species is similar to *Rhyacophila langdarma* SCHMID, 1970 (Figs 6–7) but differs from it in that:

- distal end of anal sclerite not broad and not longer than apicodorsal lobe of segment 9 in lateral view;
- apical band shorter with curved and pointed apex;
- distal part of aedeagus forms tube without slightly bending downwards;
- proximal part of second joint of inferior appendages broader with definitely curved dorsal and ventral edges and not subrhomboid.

Derivatio nominis: This species is named after my wife MARGIT HORVÁTH.



Figs 4–7. 4–5 = *Rhyacophila horvathmargiti* sp. n. male genitalia: 4 = aedeagus, ventral lobe of aedeagus and paramere, ventral view, 5 = aedeagus and paramere, lateral view. 6–7 = *Rhyacophila langdarma* SCHMID, 1970 male genitalia: 6 = lateral view; 7 = male genitalia ventral view. (Abbreviations: aed. = aedeagus; a.l. = apicodorsal lobe; par. = paramere; sa = anal sclerite; sag = sagittal appendages; v.l. = ventral lobe of aedeagus) (Figs 6–7 by SCHMID 1970)

***Rhyacophila vajoni* sp. n.**
(Figs 10–12, 15–16)

Body length of male 9 mm, forewing length 11 mm, forewing width 4 mm, length of antenna 18 mm. Body, antennae, palpi and wings as well as legs and abdomen brown, genitalia yellowish brown (Figs 15–16).

Male genitalia (Figs 10–12, 16): Apicodorsal lobe of segment 9 relatively short with broad base and conical distal part in dorsal view (Fig. 11). Praeanal appendages subtriangular in lateral view (Fig. 10). Aedeagus tubular, basal part broad, middle portion undulated, distal part thin with apex pointing upwards in lateral view (Figs 10, 16). Paramere shorter than aedeagus, basal part protruding ventrally, then attenuating, middle part bulging dorsally, distal part slender and slightly curved upwards with tapering apex in lateral view (Figs 10, 16). Ventral lobe of aedeagus short with tips curved outwards (Fig. 12). First joint of inferior appendages relatively short, broad at base, dorsal and ventral edges slightly curved, distal edge broad in lateral view (Figs 10, 16). Posterior edge of second joint of inferior appendages deeply excised forming small dorsal auricle with curved tip and big concave tapering ventral part in lateral view (Figs 10, 16).

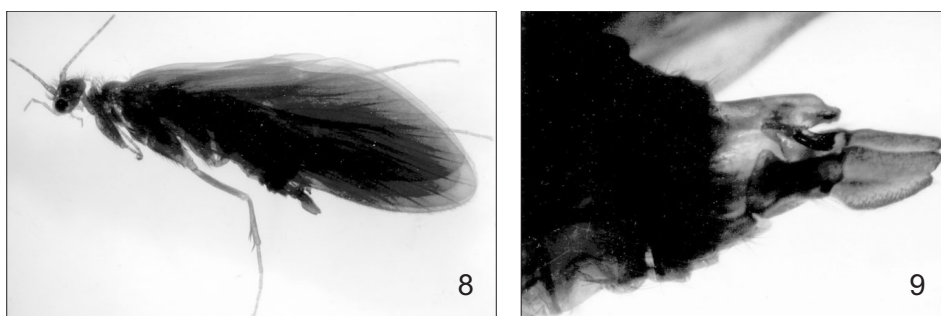
Female. Unknown.

Material – Holotype: male, 2 km N of Tarebhir (27°23'N, 86°04'E, 2600 m), Mt. Kalinchok, Central Nepal, by light trapping, 02.07.1997, leg. MÁRTON HREBLAY and KRISZTINA CSÁK. Holotype is deposited in Mátra Museum, Gyöngyös, Hungary.

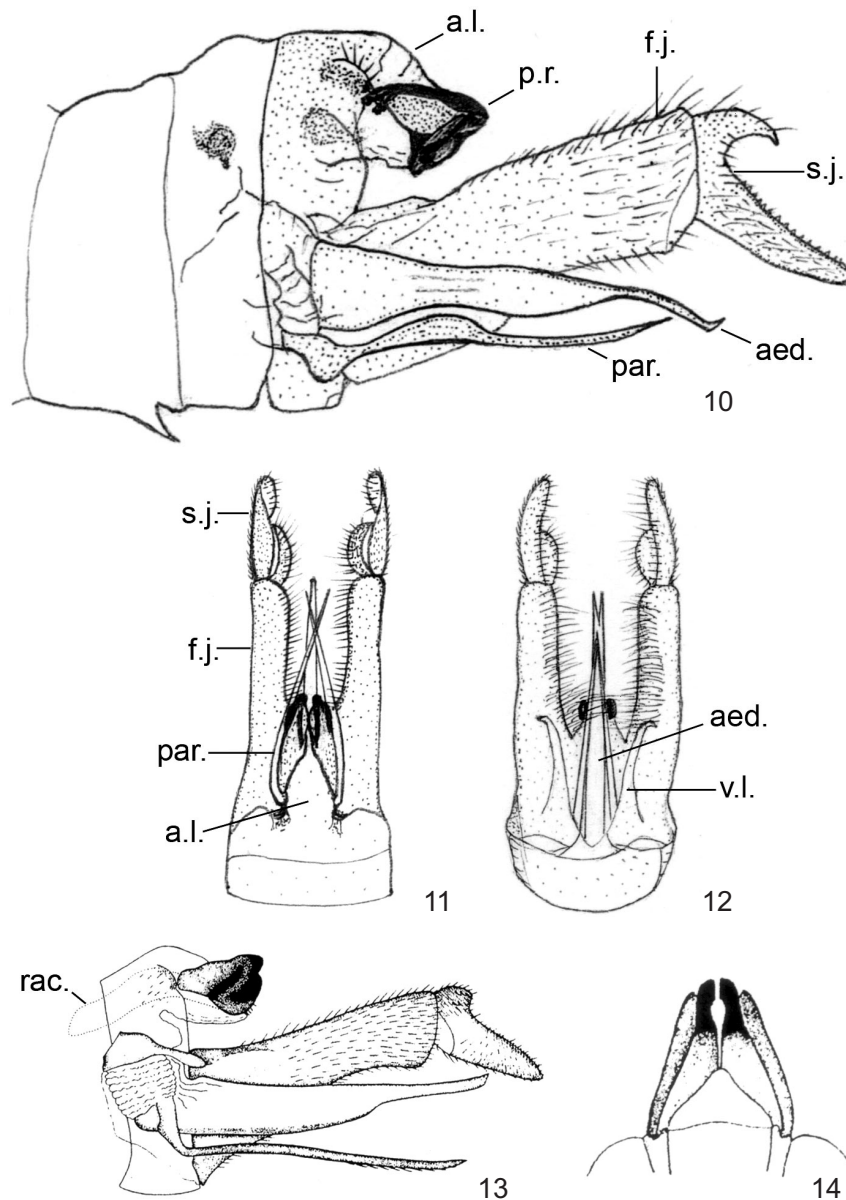
Paratypes: 1 male, 2 km N of Tarebhir (27°63'N, 86°09'E, 2600 m), Mt. Kalinchok, Central Nepal, by light trapping, 02.07.1997, leg. MÁRTON HREBLAY and KRISZTINA CSÁK (coll. OTTÓ KISS). 1 male, 5 km W of Bigu, 2300 m, Mt. Kalinchok, Central Nepal, by light trapping, 03.07.1997, leg. MÁRTON HREBLAY and KRISZTINA CSÁK (coll. OTTÓ KISS).

Differential diagnosis: This species is similar to *Rhyacophila lepcha* SCHMID 1970 (Figs 13–14) but differs from it in that:

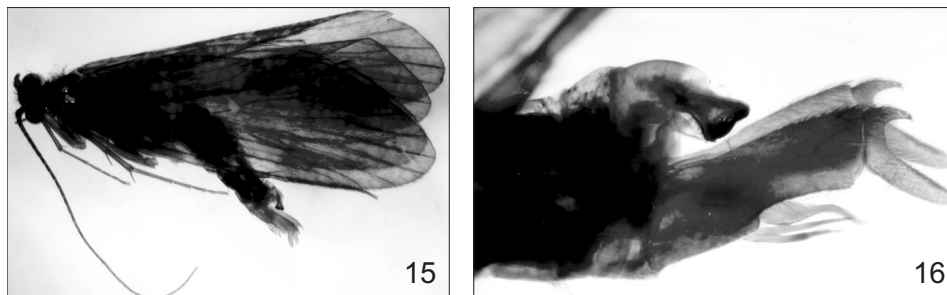
- apicodorsal lobe of segment 9 not short;
- aedeagus not evenly broad in 2/3 length from base, distal 1/3 thinner;
- paramere not uniform in width;
- first joint of inferior appendages shorter;



Figs 8–9. *Rhyacophila horvathmargiti* sp. n., holotype, 8 = habitus, lateral view, 9 = genitalia, lateral view



Figs 10–14. 10–12 = *Rhyacophila vajoni* sp. n., male genitalia: 10 = lateral view; 11 = apicodorsal lobe of segment 9, first and second joints of inferior appendages, dorsal view; 12 = aedeagus, ventral lobe of aedeagus, paramere, and first and second joints of inferior appendages, ventral view. 13–14 = *Rhyacophila lepcha* SCHMID, 1970, male genitalia (drawings by SCHMID 1970): 13 = lateral view; 14 = apicodorsal lobe of segment 9, dorsal view. (Abbreviations: aed. = aedeagus; a.l. = apicodorsal lobe of segment; f.j. = first joint of inferior appendages; par. = paramere; p.r. = praeanal appendages; rac. = radix of anal sclerite; s.j. = second joint of inferior appendages, v.l. = ventral lobe of aedeagus)



Figs 15–16. *Rhyacophila vajoni* sp. n. holotype, male, lateral view: 15 = habitus, 16 = genitalia

- dorsal tip of second joint of inferior appendages not blunt, concave ventral portion not stout.

Derivatio nominis: This species is cordially dedicated to Prof. Dr. IMRE VAJON, who was my professor and encouraged me in my professional career.

*

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REFERENCES

- KIMMINS, D. E. (1964) On the Trichoptera of Nepal. *Bulletin of the British Museum Natural History, Entomology, London* **15**(2): 35–55.
- KISS, O. & MALICKY, H. (2003) Data to the distribution of Trichoptera Nepal. Pp. 44–66. In: KISS, O. (ed.): *Trichoptera from Nepal*. Published by the author, Eger, Hungary.
- MALICKY, H. (1997) Weitere neue Köcherfliegen-Arten (Trichoptera) aus Asien. *Linzer biologische Beiträge* **29**(1): 217–228.
- MALICKY, H. (2006) Caddisflies from Bardia National Park, Nepal, with a preliminary survey of Nepalese species (Insecta, Trichoptera). *Entomofauna. Zeitschrift für Entomologie* **27**(20): 241–264.
- MARTYNOV, A. B. (1930) On the Trichopterous fauna of China and Eastern Tibet. *Proceedings of the Zoological Society* **5**: 65–112.
- MARTYNOV, A. B., (1935) On a collection of Trichoptera from the Indian Museum. *Records of the Indian Museum* **27**: 93–209.
- SUN, C. & YANG, L. (1995) Studies on the genus *Rhyacophila* of China (2). *Braueria (Lunz am See, Austria)* **25**: 15–17.
- SCHMID, F. (1970) Le genre *Rhyacophila* et la famille des Rhyacophilidae (Trichoptera). *Mémoires de la Société entomologique du Canada, Ottawa* **66**: 1–230.

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