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ON SOME RHYACOPHILA FROM DOI SUTHEP MOUNTAIN, NORTHERN THAILAND

Hans MALICKY

In February 1987 I collected caddisflies near streams on Doi Suthep mountain, most of them along a small stream which comes down the southern slope and enters the Zoological Garden of the town of Chiangmai. Six species of Rhyacophila were found; four new ones are described below, and R.cornuta Kimmins and R.petersorum Schmid & Denning. The latter was described some years ago from the same place. R.inaequalis Denning & Schmid which was also described from this place but was not be found this time. The specimens are in my collection. The other material will be studied later.

Rhyacophila suthepensis n.sp. Head, body and appendages yellowish to light brown. Wings brownish, forewings with brown speckles. Fore wing length of 8,5 mm, 9 10.mm. Male genitalia (see figure) as in the group of similar species, consisting of R.curvata Morton, R.jayadurga Schmid, R.sumatrana Ulmer and R.zhungya Schmid (KIMMINS 1953, SCHMID 1970, MALICKY 1978). The second article of the inferior appendages is dorsally strongly rounded in its basal part, and long and slender in its distal half. The aedeagus is bifid distally, with a much shorter dorsal lobe. The parameres consist of long, almost straight sticks which are S - curved distally and which have a short ventral branch in the middle of their length. Holotype δ and paratype 9: Doi Suthep, cca. 500 - 1400m, 98°53°E, 18°49'N, 18.-21.2.1987.

Rhyacophila ramingwongi n.sp.

Head, appendages and wings dark brown, almost black. Abdomen yellow. Forewing length 6 - 6,5 mm. Male genitalia (figure) as in the group of R.divaricata, and similar to R.kyimdongpa Schmid. Seen laterally, the upper and lower edge of the preanal appendages and of tergite 9 are in one line. The anal sclerites which have the same size as the preanal appendages are in ventral to these. The 2nd article of the inferior appendages is almost quadratic, with rounded corners. Both articles have a covering of long hairs on the inner surface, and the second has there a dense mat of short bristles in the distal part. The aedeagus consists of three parts; a basal pair of broad triangular pointed sclerites, a bifid middle branch, and a ventral pair of sticks which are bent down distally. There is another pair of big appendages, almost mushroom-like, with many spines on their inner surface; possibly they are the parameres. Holotype \mathcal{F} and paratype \mathcal{F} : Doi Suthep (like above).

species is dedicated to Professor Dr. Tavisakdi RAMINGWONG, Dean of the Faculty of Science, Chiangmai University.

Rhyacophila wanichacheewai n.sp.

Body, appendages and wings pale brown, venation dark brown. Forewing length 6 mm. Male genitalia (figure): Close to R.parva Kimmins and R.discoidalis Kimmins. Segment 9 is narrower than in these, its dorsal part is similar. The second article of the inferior appendages is elongate, its dorsal edge is strongly convex at its base, and slightly concave in its distal half. The aedeagus is thin and somewhat curved upwards distally; its dorsal branch is big, hemispherical, and hollow below. Its ventral plate is big and spoonlike as in R.parva. The parameres consist of long and this sticks which are slightly curved upwards and which are covered with long bristles in their terminal quarter. – Holotype $\vec{\sigma}$: Doi Suthep, as above.

This species is dedicated to Professor Somsak WANICHACHEEWA, Head of the Department of Biology, Chiangmai University.

Rhyacophila porntipae n.sp.

body and appendages light to dark pale brown, wings pale darker veins. Contrasting with the similar R.cornuta, with brown the coxae and femora of the hindlegs are not bright yellow but only somewhat lighter than those of the other legs. Forewing length 6 - 7 mm. Male genitalia (figure) are of the type of R.nigrocephala group, and similar to R.cornuta. The dorsal part of segment 9 is gradually enlarged ventrally, and not in one sudden step as in cornuta. The dorsal lobe of segment 9 (sensu SCHMID; 10th tergite sensu KIMMINS) is of medium length, with two laterocaudal wings. From its underside two anal sclerites arise which continue the lobe caudally, each bearing dorsally a big triangular wing. The second article of the inferior appendages is bilobate, with a big dorsal and a small ventral lobe which are covered with fine black bristles on the inner surface. The aedeagus is simple and forms a long spine which originates from a bulbous base. No parameres could be seen. Holotype σ and several paratypes σ and $\varphi \varphi$: Doi Suthep, as above.

This species is dedicated to Dr.Porntip CHANTARAMONGKOL.

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