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The larva of Radotanypus submarginella (Sublette)

(Diptera, Chironomidae)

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Abstract

The larva of *Radotanypus submarginella* (Sublette) is described from Wyoming. Larval morphology confirms the close relationship of *Radotanypus* Fittkau et Murray with *Brundiniella* Roback.

The genus *Radotanypus* was recently established by Fittkau and Murray (1985) for the species *Anatopynia (Anatopynia) submarginella* Sublette. (It should be noted that although the date of publication listed on the Fittkau and Murray paper is December 1985, Spixiana Supplement 11 was not distributed until 1986.) The pupa of this species had been described earlier by Roback (1978 a) and tentatively placed in *Brundiniella* Roback (as *Brundinia;* see Roback 1978 b). Fittkau and Murray (1985) established the genus *Radotanypus* for this pupa on the basis of associated material from Colorado made available to them. The larva remained unknown. This paper describes the larva of *R. submarginella* based on reared material collected recently in Wyoming.

A total of 3 larvae were collected, 2 of which were reared to imagines. Both were females and agree with the description given by Sublette (1964); the pupal exuviae were as described by Fittkau and Murray (1985) and leave no doubt as to the identity of the larvae.

Terminology follows Fittkau and Roback (1983). All measurements are in micrometers unless stated otherwise, and consist of the range followed by a number in parentheses if different from the number of specimens (n) stated at the beginning. Because of cover slip pressure, head capsule measurements can only be approximated.

Description of 4th instar larva (n = 3)

Head capsule light yellow-brown, with dorsal and lateral posterior portions brown. Body of living larva red.

Total length about 6 mm. Head capsule approximately 575–625 (2) long, 625 (1) wide. Cephalic index about 1.00 (1). Narrow ventral median suture present. Labral setae as in *Brundiniella* (see Roback 1978: fig. 41).

Antenna (Figs. 1–2) with segment 1 160–173 long, 40–42 wide at base, ring organ 129–149 from base; segment 2 15–16 long; segment 3 2 long; segment 4 4 long. AR 7.6–8.0. Lauterborn organs 5 long; style 7–9 long; antennal blade 21–22 (2) long; accessory blade 19–21 (2) long.

Mandible (Fig. 3) 148–153 long; slender, smoothly curved, with bifid basal tooth. Seta subdentalis 37 (1) long. Ventrolateral seta 1 simple, setae 2 and 3 each with 4 branches.

Maxillary palp (Fig. 4) basal segment 42–46 long, 18–20 wide at base; 2.3–2.4 × as long as wide; ring organ 19–21 from base, slightly proximal to midpoint.

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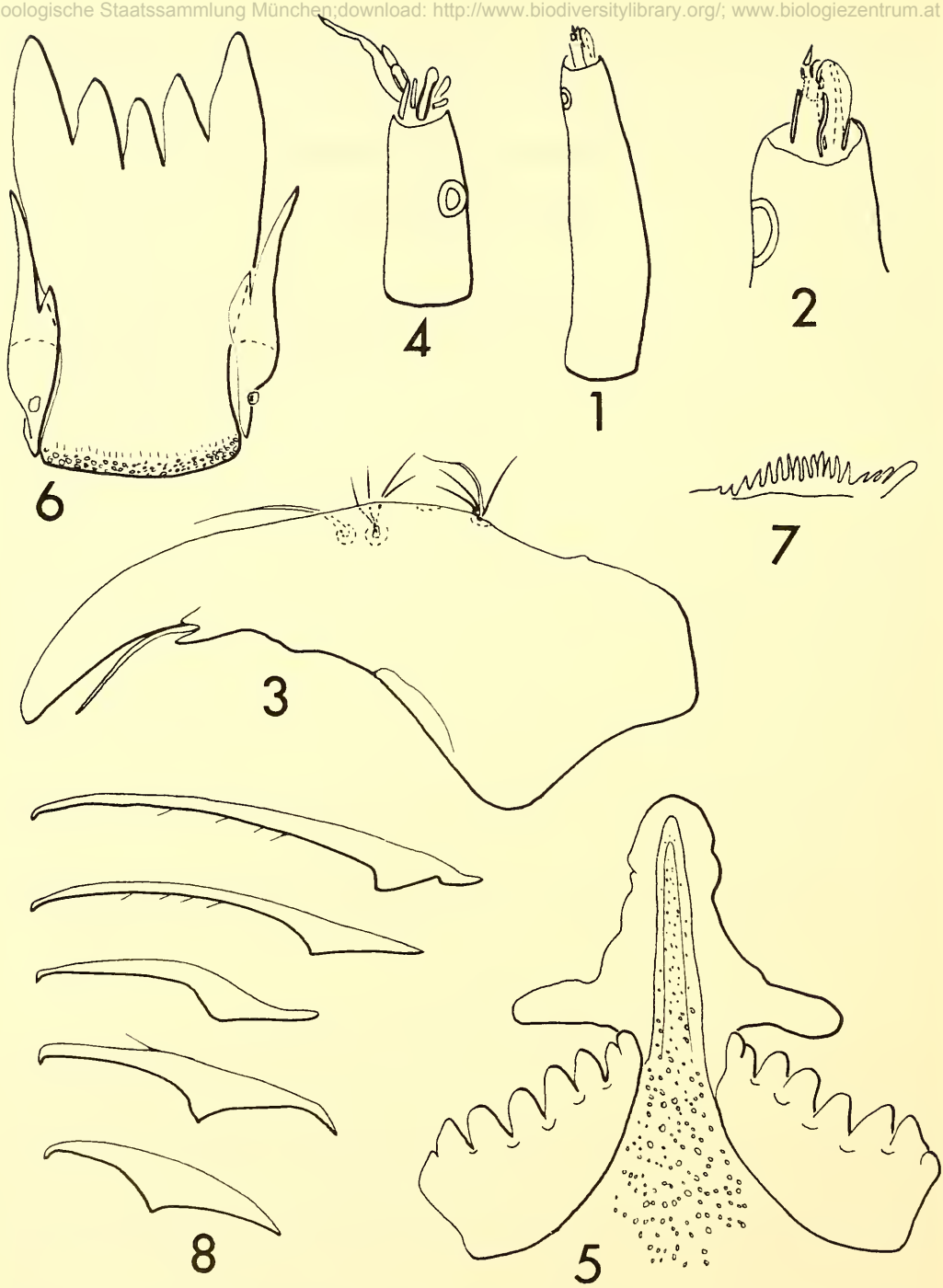

Figs. 1–8: *Radotanypus submarginella* (Sublette). 1. Antenna. 2. Apex of antenna. 3. Mandible. 4. Maxillary palp. 5. Dorsomentum and M appendage. 6. Ligula and paraligula. 7. Pecten hypopharyngis. 8. Claws of posterior parapods.

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Dorsomentum (Fig. 5) 113–115 (2) wide, with 5 well developed teeth on each side, 1 small outer tooth somewhat appressed to tooth #5, and a bifid inner lobe. M appendage sagittate, with labial vesicles. Pseudoradula with granulation evenly distributed, granules larger proximally.

Ligula (Fig. 6) 98–102 long, constricted in proximal third, with concave row of 5 teeth, all teeth directed forward. Paraligula 53–58 long, unevenly bifid. Pecten hypopharyngis (Fig. 7) with 16–20 teeth, apical (inner) tooth moderately broadened.

Body with fringe of setae and 4 conical anal tubules, 95–115 (2) long. Procerci 95–98 long, 21–27 wide; with 10–12 anal setae. Posterior parapods each with 16 claws (Fig. 8), some with appressed spines along inner side near middle and apex, none visible near base; at least 1 claw with a dorsal spine; smallest claws moderately broadened.

Material examined: Wyoming: Grand Teton National Park, backwater area of stream below Christian Pond, el. 2073 m, 29-V-1986, leg. J. H. Epler, 1 reared female with pupal and larval exuviae. Yellowstone National Park, Gibbon River at Norris Campground, el. 2290 m, 31-V-1986, leg. J. H. Epler, 1 reared female with pupal and larval exuviae, 1 larva.

Remarks

The larva of *Radotanypus* is most similar to *Brundiniella*. In Fittkau and Roback (1983) it will key to couplet 13. *Radotanypus* can be distinguished from *Brundiniella* by the following characters (*Brundiniella* in parentheses): dorsomentum without pointed inner lobes (pointed); granulation of pseudoradula largest proximally (medially); pecten hypopharyngis with 16–20 teeth, apical tooth not greatly broadened (11–13 teeth, apical tooth broadened); base of smaller claws of posterior parapods not expanded laterally (expanded); 16 claws on each parapod (10 claws). *Radotanypus* can be distinguished from other Macropelopiini by the characters given in the key in Fittkau and Roback (1983).

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