

12.

Dryadotanytarsus edentulus n. g. et sp.
(Dipt. Chiron.) from late glacial Period
in Denmark.

By

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In the paper *Spätglaciale Chironomiden* (Andersen 1938) the author promised the description of the genus *Dryadotanytarsus*, which is published here.

Description.

As described in the earlier paper, 19 specimens of the new form was found in the lower and upper *Dryas* layers. In one case, in the 162 cm horizon, the whole exuvia was found; it is 6 mm long (measured in a somewhat crumpled condition); the posterior pseudopods are armed with hooks of the common *Tanytarsus* form; the hair pencils consist of 8 long hairs each. On one segment is present one example of the very delicate, double feathered bristles, which are characteristic of the *Tanytarsaria* (Kraatz 1911 fig. 44 and Bause 1913 fig. 14). In all other cases the head capsules alone were found (fig. 1). They are 0,3—0,5 mm long. The antennæ are in all cases wanting, but the antennal sockets are always present; they are long, constituting $\frac{1}{6}$ of the length of the head.

The labrum agrees well in its main features with the description by Kraatz (1911) of *Tanytarsus inermis* Kieff.: on the apical line (the *Stirmlinie* of Thienemann) stands a pair of crooked bristles on strong, chitinous

sockets (Kraatz fig. 45 f); in distinction from *Tanytarsus inermis* they are feathered (compare Bause fig. 4). Laterally to them on both sides are 5 elongated, curved bristles and some smaller chitinous points. In the apical field (the *Stirnfeld* of Thienemann) a pair of chitinous bars provided with backwardly pointing needles stands on chitinous sockets. Behind them is the epipharynx comb. In the mouth field (the *Mundfeld* of Thienemann) are many chitinous appendices, some of them fringed distally. The premandible (fig. 2) is provided with 5 teeth and

has a thick, pale bristle on the "back". One would suppose that this was an unusual form of premandible among *Tanytarsaria*, for only two drawings of premandibles fairly like it have been published, and they are both from modified, East Asiatic, marine forms (Edwards 1926 fig. 4 d and Tokunaga 1936 fig. 24). The figures of ordinary *Tanytarsus* forms show quite a different premandible (Kraatz 1911 fig. 46 and Bause 1913 fig. 5), but it is apparently only because they are not drawn in sufficient detail. To show the premandible of an ordinary *Tanytarsus* form, the author has placed

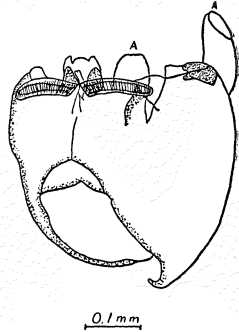


Fig. 1. Ventral view of the head capsule of *Dryadotanytarsus* larva from the 75 cm layer; A: antennal socket.

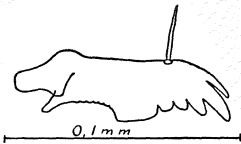


Fig. 2. Premandible of *Dryadotanytarsus* larva from the 162 cm layer.

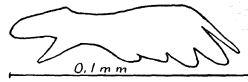


Fig. 3. Premandible of *Tanytarsus niger* Andersen from Langsø, Ella Island, East Greenland, 5. X. 1931.

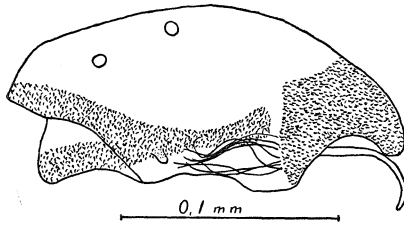


Fig. 4. Mandible of *Dryadotanytarsus* larva from the 162 cm layer; the inner bristle is lacking.

alongside fig. 2 the outline of the premandible (fig. 3) of a larva of the *Tanytarsus gregarius* group from East Greenland (compare Andersen 1937).

The mandible (fig. 4) has no teeth, but a strongly chitinated edge. Otherwise it is a characteristic *Tanytarsus* mandible with two strong hairs on the "back", a divided inner bristle (*Innenborste*) with penniform parts, a fringe of fine hairs along the apical chitination, and a long, curved, hyaline bristle (*Zahnborste*) at the base of the biting edge. The labium (figs. 1 and 5) is very unusual: it is provided with one middle tooth and 2 pairs of side teeth; the 3 median teeth are light coloured (slightly chitinated), the 2 lateral ones are dark (strongly chitinated). The whole labium is so rolled up (with the convexity ventral), that the two lateral side teeth are just dorsal to the median ones; the labium thus forms a not entirely closed tube, which encloses the hypopharynx. The paralabial, fan-like plates of the common *Tanytarsus* form are present (fig. 1).

In spite of only the larva of this form being known, the author has decided to describe it as a new genus and species, because the peculiar form of the labium and mandible exclude it from any genus of which the early stages have been described, and the chance of finding it still alive is not very great. The name *Drya-*

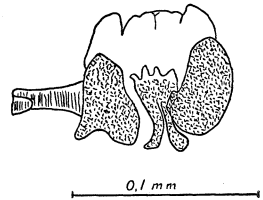


Fig. 5. Labium of *Dryadotanytarsus* larva from the 75 cm layer; dorsal view.

dotanytarsus was chosen, because the form was found in the *Dryas* layers, and *edentulus* alludes to the lack of teeth on the mandible.

Discussion.

From the preceding description it appears that *Dryadotanytarsus* shows all the criteria of an ordinary *Tanytarsaria* larva, only the mandible and labium differing. This can only be explained by supposing that the *Dryadotanytarsus* larva differed in feeding habits from the ordinary *Tanytarsaria* larvæ. Lang (1931) has shown that the larvæ of the *Tanytarsus gregarius* group feed partly on particles suspended in the water and partly on precipitated material, and that the metamorphosis is retarded if suspended material is not at hand. The robust form of the mandible and the lateral labial teeth of *Dryadotanytarsus* suggest that this form has, to a greater extent, taken food in larger fragments, which demanded crushing, such as, for example, pieces of *Chara* plants, the fruits of which are common in the layers, but this is only a supposition. But whatever is the ecological meaning of the uncommon form of mandible and labium, it must be a sign of extreme specialization, and that is probably the reason why the form has become extinct, or, if it is recent, has become so scarce that it has not yet been found alive. As it has not been able to live under warmer conditions, which can be judged from its absence in the Allerød layer, the last population of the form perhaps died when the ice and the forest met in Central Sweden (Spärck 1928, p. 10).

To mag. scient. S. L. Tuxen, who gave valuable criticism, and Dr. C. Crossland, who also read the manuscript, I wish to express my sincere thanks.

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 Dansk Oversigt.

Forfatteren beskriver *Dryadotanytarsus edentulus* (ny slægt og art) og indfrieder dermed et løfte givet i et tidligere arbejde (Andersen 1938). Arten er kun kendt fra rester af larven fundet i lag fra *Dryastid* (Senglacial). Disse viser, at larven er en typisk *Tanytarsaria*-larve; dog afviger kindbakkerne (fig. 4) og underlæben (fig. 1 og 5) stærkt fra det typiske, og det er grunden til, at en ny slægt og art opstilles. Især er underlæben mærkelig, idet de to yderste sidetænder, der i modsætning til de øvrige tænder er stærkt chitiniserede, er bøjet om mod rygside og ligger lige over de inderste, saaledes, at underlæben danner et rør, et forhold, der ligesom de brede utandede kindbakker, er ganske enestaaende indenfor dansemyggenes ellers saa rigt varierede familie. Dette tages som tegn paa vidtdreven specialisation med hensyn til fødeoptagelsen. Da arten tilmed ikke kan leve i mere tempereret klima (den mangler i Allerød-lagene), kan det ikke undre, at den er uddød. Maaske er den sidste mulighed for dens eksistens forsvundet, da skoven under sin indvandring indhentede isen i Mellemsverrig (Spärck 1928 p. 10).
