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Thalassosmittia atlantica (Storå) comb. nov. Description of adult female and immature stages from Tenerife, Canary Islands

(Diptera, Chironomidae)

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Abstract

Descriptions of adult female, pupa and larva of the species *Eukiefferiella atlantica* Storå are presented. On the basis of these new data and re-examination of adult males the species is transferred to *Thalassosmittia*.

Introduction

Armitage (1986) redescribed the male of *Eukiefferiella atlantica* Storå from type material and specimens collected in December 1983 over rock pools at El Medano, Tenerife. Generic placement of the species was however still in doubt and further data were required to confirm its identity. In December 1985 collections at the same site were made by P. D. A. in and around rock pools. These collections contained *E. atlantica* males, together with associated females which keyed-out to *Thalassosmittia* Strenzke & Remmert with Saether (1977) although the Tenerife specimens had finely pubescent eyes. In addition, pupal exuviae and last instar larvae associated with the adults were also identified as *Thalassosmittia* from descriptions given in Strenzke & Remmert (1957). Further evidence for the new combination is provided by adult males of *E. atlantica* which key-out to *Thalassosmittia* with the most recent key to holarctic adult male Orthocladiinae (Cranston et al., in prep.). The species *atlantica* Storå is therefore transferred to *Thalassosmittia*.

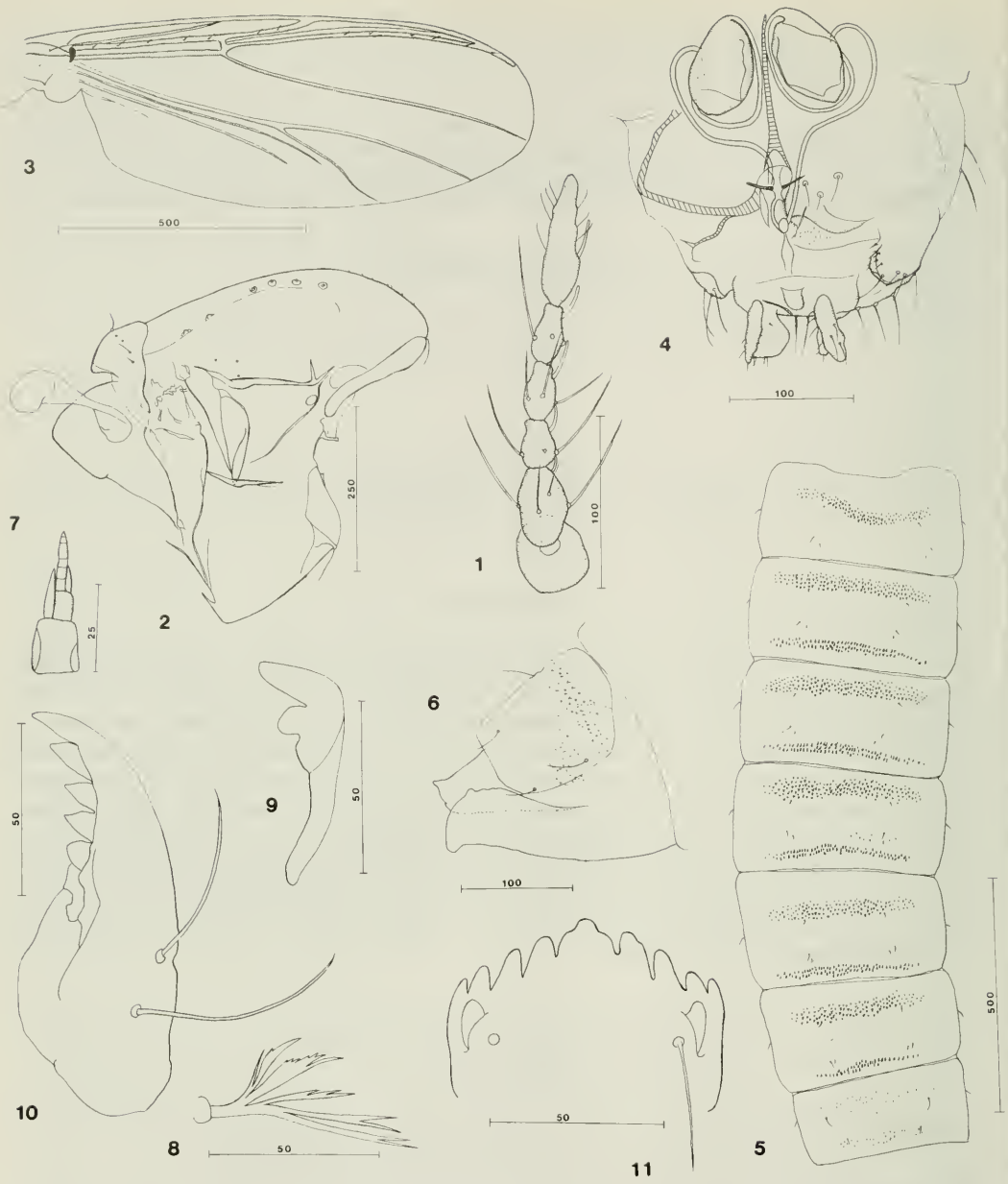
Thalassosmittia atlantica (Storå) comb. nov.
(Figs. 1–11)

Eukiefferiella atlantica Storå (1936). Lectotype (♂ imago, specimen A) Tenerife, Puerto Cruz, coll. R. Frey 28.7.1931. Slide mounted lectotype deposited in Zoological Museum, Helsinki, Finland.

Adult female (n = 6)

Colour: Abdomen and ground colour of thorax greenish grey. Scutal stripes well separated, brown. Wings pale brown.

Head: Temporal setae 4–5, clypeals 17–25. Eyes not produced dorsally, with pubescence. Palps 5-segmented, lengths of 4 ultimate segments: 18–26 μm, 38–50 μm, 44–62 μm, 74–88 μm. Sensilla clavata of segment 3 lacking. Antennal flagellum (Fig. 1) 5-segmented, lengths of segments: 48–60 μm, 30–40 μm, 32–42 μm, 32–42 μm, 68–86 μm. AR 0.46–0.52. Sensillar setae present on all flagellar segments.



Figs 1–11. *Thalassosmittia atlantica* (Storå): adult female, 1 Antenna, 2 Thorax lateral, 3 Wing. 4 Genitalia; pupa, 5 Tergites II–VIII. 6 Tergite IX and genital sac (♂); larva, 7 Antenna, 8 Seta interna of mandible, 9 Premandible, 10 Mandible, 11 Mentum. (Bar lines in μm.)

Thorax: (Fig. 2). Antepronotals 0 (rarely 1). Some very weak and curved acrostichals present in anterior 1/3–1/4 of thorax. Dorsocentrals 7–11, uniserial, arising from pale spots. Prealars 3, scutellars 6–8 in one row.

Wing (Fig. 3): Membrane without macrotrichia. Granulation fairly coarse, visible at a magnification of ×100. Veins bare except R with 4–8, R_1 with 2–4 and R_{4+5} with 7–10 setae. Brachiolum with 1 seta. Squama bare. Costa extending beyond R_{4+5}, free end about 70–100 μm. R_{2+3} poorly separated, reaching wing margin near the tip of R_{4+5}. Cu_2 slightly curved. Anal lobe moderately developed. Wing length 1.05–1.24.

Legs: LR (P_1) 0.44–0.49, P_2 0.44–0.45, P_3 0.52–0.57. All tibiae with one spur. Length of front tibial spur 20–22 μm, mid tibial spur 20–22 μm and hind tibial spur 22–26 μm. Hind tibial comb with 9–11 setae. Pulvilli lacking. BR of hind tibia 2–3.

Genitalia (Fig. 4): Gonocoxite with 3–6 longer and 3–7 shorter setae. Cercus 50–80 μm long. Seminal capsule oval, with indistinct neck, 75–80 μm long and 46–56 μm broad. Seminal duct with a loop.

Pupa (n = 2)

Total length 2.0–2.3 mm. Colour: pale brown, thorax somewhat darker than abdomen.

Cephalothorax: Thoracic horn absent. Frontal setae obviously lacking (not identifiable on both slides examined). Frontal warts normally developed. One postorbital seta present. Verticals absent. 2 moderately developed medial antepronotals, 3 precorneals of about equal length. 4 dorsocentrals, 2 of which very short. Thorax somewhat rugulose dorsally. Wing sheaths smooth.

Abdomen: Tergite I without shagreenation. Spinules of tergites II–VIII as in Fig. 5. Medial spinule group very weak, lacking on tergite II–IV but present on V-VIII. Spinules of anterior group directed backwards but those of posterior group forward, consisting of 2–4 rows of spinules. Spinules of anterior and posterior groups distinctly weaker in segment VIII than in other segments. Sternites I–IV without shagreenation. Sternites V–VIII with 2–3 rows of moderately strong spinules near posterior margin of segment, and a group of very weak, irregularly arranged spinules on the anterior part of sternites. Coffman et al. (1986) refer to conjunctives of both tergites and sternites. These do not occur in the present specimens and are not shown in the figure of *Thalassosmittia* in Langton (1984). Poorly developed pedes spurii A present on sternites II–VI. Pedes spurii B absent.

Chaetotaxy of abdomen: Dorsal setae of segment II–VIII as in Fig. 5. II–VIII with 3 weak, VIII with 2 somewhat longer setae. Setae of tergite I not visible on examined exuviae. Lateral setae obviously 1 on each segment. Ventral setae 3 in each sternite except VIII with 1. Tergite IX (Fig. 6) more or less rectangular, with posteriorly directed spinules on anterior half and with 2 moderately long setae. Genital sac with ventral groups of well developed spinules.

Larva (n = 2) (fourth instar)

Body length 2.4–2.7 mm. Head capsule 280–360 μm long. Body colour (after preservation) pale, head capsule brown with mentum, mandibles and caudal margins darker brown.

Head: Antenna (Fig. 7) 5-segmented, lengths of segments: 16 μm, 8–10 μm, 4–6 μm, 5–6 μm. AR 1.63. Antennal blade 20 μm long, antennal style 7 μm long. Labrum: SI setae with about 6 branches, other S-setae simple. Pecten epipharyngis indistinct in preparations. Premandible (Fig. 9) 54–66 μm long, dark brown apically, pale basally. Mandible as in Fig. 10, 100–120 μm long, with 5 teeth. Seta interna of mandible as in Fig. 8, with 4–5 branches. Mentum (Fig. 11) with single pointed (or rounded) median tooth and 4 pairs of more or less pointed lateral teeth. At sides of the mentum a pair of toothlike structures arising from the ventral surface. Width of mentum 84–90 μm.

Body: Parapods present divided and short. Anterior parapods with both simple and serrate claws. Posterior parapods with simple claws only. Procercus absent. Remaining features of anal segment not clear in specimens available.

Discussion

Thalassosmittia was erected by Strenzke & Remmert (1957) for the species *thalassophila* Bequaert & Goetghebuer. The genus also includes 3 Nearctic species formerly in *Camptocladius* van der Wulp, *pacificus* Saunders 1928, *marinus* Saunders 1928 and *clavicornis* Saunders 1928, and a species from Japan *nemalione* Tokunaga 1936 formerly in *Spaniotoma (Smittia).* To these five holarctic species can now be added *T. atlantica* (Storå) which is known at present from the Canary Isles, the Azores and Madeira. Male adults of *atlantica* may be separated from the other palaearctic species *T. thalassophila* on the hypopygium which is distinctive in *T. thalassophila.* Other points of difference are the A. R. (0.68 in *thalassophila,* 0.29 in *atlantica)* and the eyes which are bare in *thalassophila* and finely pubescent in *atlantica* (Armitage 1986).

The ecology and life histories of the 3 Nearctic species are discussed in Morley & Ring (1972 b) and a key to these species (as *Saunderia* Sublette 1967, spp.) is presented in Morley & Ring (1972 a). Tokunaga (1936) provides detailed descriptions of all life history stages of *T. nemalione* which is found in algal mats in the tidal zone of rocky shores in Japan. Strenzke & Remmert (1957) give similar information for the western palaearctic species *T. thalassophila.* All 6 Holarctic species are found in the marine littoral zone. The genus is widely distributed in the Holarctic region and further collections in the southern hemisphere may reveal a worldwide distribution.

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