

## A new species of *Corethrella* (Diptera, Corethrellidae) from Miocene Saxonian amber

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**Abstract.** A male of *Corethrella miocaenica* sp. n. from Miocene Saxonian amber (22 Ma) is described and illustrated. This is the first record on a fossil species of the subgenus *Notocorethrella* which includes one extant species known from New Zealand.

**Key words:** *Diptera*, *Corethrellidae*, fossil, Miocene, Saxonian amber.

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The *Corethrellidae* with the single genus *Corethrella* COQUILLET is a small family previously included in the *Chaoboridae*. At present the group is of pantropical distribution, absent in Europe. In the Palaearctic Region only 5 extant species are recorded from Japan and Saudi Arabia (BORKENT 1993). An undetermined female of *Corethrella* was collected in North Korea (unpublished data). Haematophagous females feed on frogs. First fossil representatives of the family are described by BORKENT & SZADZIEWSKI (1992) from Miocene Saxonian amber (*C. prisca*) and from Oligocene/Miocene Dominican amber (*C. nudistyla*).

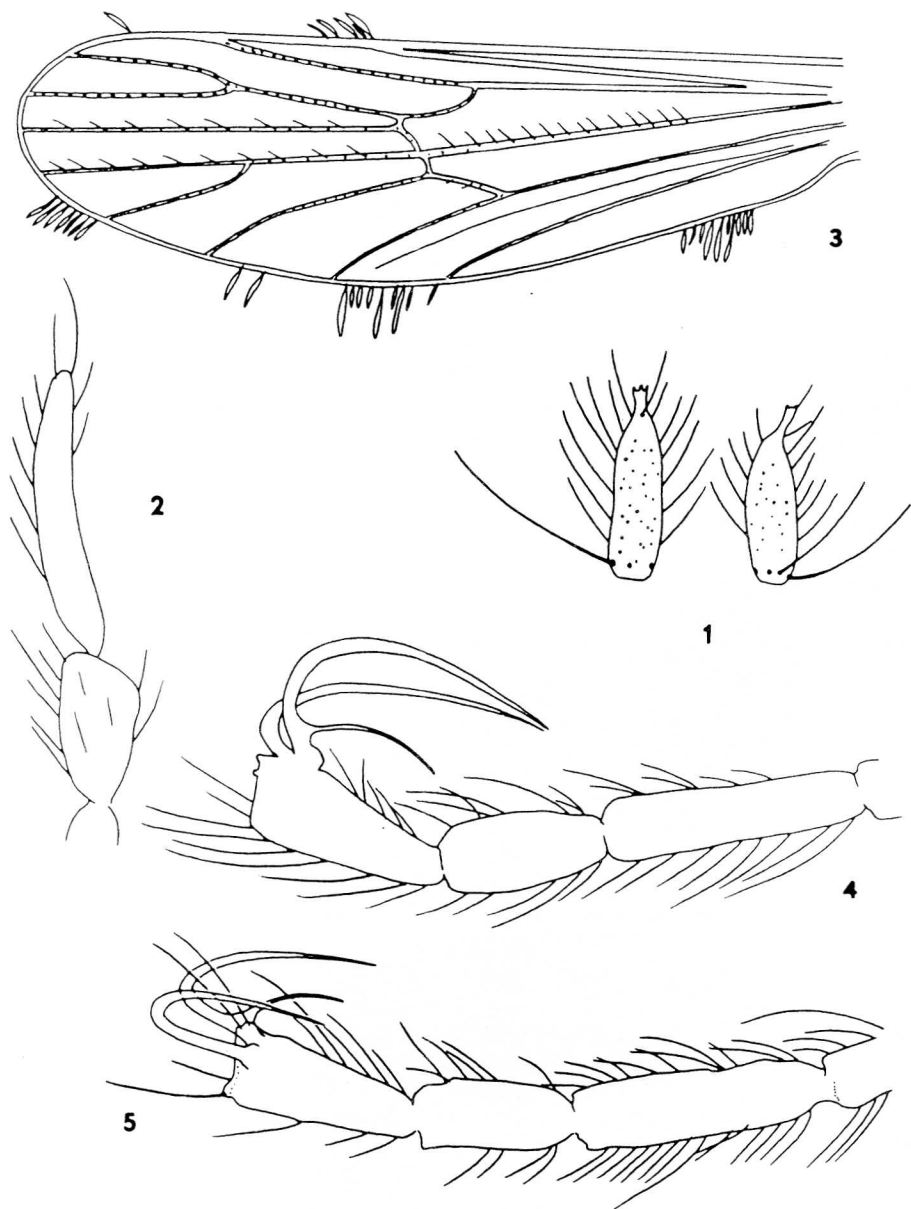
Genus: *Corethrella* COQUILLET, 1902

Subgenus: *Notocorethrella* BELKIN, 1968

*Corethrella miocaenica* sp. n.

Figs. 1 - 9

**D i a g n o s i s .** The only species in the family with male claws of fore leg equal, long, lacking inner tooth, and the outer claw with long basal talon. Terminal flagellomere with apical prolongation bearing 2 apical setae.



Figs 1-5. *Corethrella miocaenica* sp. n., male: 1 – terminal flagellomere; 2 – distal palpal segments; 3 – wing; 4 – distal tarsomeres of foreleg; 5 – distal tarsomeres of middle leg.

**Description.** ♂. Body dark, uniformly coloured. Total length 2.5 mm (from tip of genitalia to base of antennae). Flagellum typical of the genus, composed of 13 flagellomeres, length 1.2 mm. Lengths of particular flagellomeres in  $\mu\text{m}$  as follows: 1 - 104, 2 - 60, 3 - 68, 4 - 76, 5 - 88, 6 - 96, 7 - 104, 8 - 108, 9 - 112, 10 - 120, 11 - 108, 12 - 68, 13 - 80. Sensilla coeloconica not visible. Terminal flagellomere with slender apical projection bearing 2 apical setae (Fig. 1). Palpus 5-segmented, long. Fifth palpal segment slender (Fig. 2), 124  $\mu\text{m}$  long.

Wing length 1.56 mm. Costal vein with lanceolate scales, other veins with simple hairs (Fig. 3). R1 ending in half way between Sc and R2; petiole of R2 and R3 relatively long. Tarsi typical of the subgenus. Fourth tarsomeres relatively short (Figs 4, 5). Fifth tarsomeres of fore and middle legs similar (of hind legs missing), armed with long equal claws (Figs 4, 5). Claws without inner teeth; outer claw armed with long slender talon. Empodium not developed.

Genitalia not inverted, slightly rotated. Sternite IX covers aedeagus, tergite IX relatively long (Figs 6, 7). Gonocoxite with 4 stout setae on inner surface. Gonostylus broad, with expanded apex, probably with apical tooth (Fig. 8). Aedeagus short, not extending beyond level of sternite IX (Fig. 9).

♀. Unknown.

**Material examined.** Holotype male, Saxonian amber from Bitterfeld in Germany (coll. M. KUTSCHER); in excellent condition, only tarsi of hind legs missing. Deposited in the Institute of Systematics and Evolution of Animals, Polish Acad. Sci., Cracow.

## DISCUSSION

We placed the new species in the subgenus *Notocorethrella* BELKIN which includes only one extant species, *C. novaezealandiae* TONNOIR living in New Zealand. Males of both species have similar broad gonostyli, and long, equal claws of fore legs. However, in an extant species each claw is armed with inner basal tooth, and claws of hind legs are distinctly smaller than others (BELKIN 1968); moreover, the terminal flagellomere is rounded, without apical prolongation (BORKENT & SZADZIEWSKI 1992). Moreover, we found that the "apparently unique apomorphic character state 3 – terminal antennal flagellomere bifurcate, with each apex bearing a terminal sensillum" in the phylogenetic analysis of *Corethrella* interpreted by BORKENT & SZADZIEWSKI (l.c.) as important synapomorphy for a clade that includes all extant and fossil species other than *C. novaezealandiae* is present also in the new species. This character state is in conflict with synapomorphy No. 4 proposed for the same clade. Moreover, we found that this "apomorphic 3" character state is common within *Culicidae* (*Anopheles*, *Aedes*, *Culex*) and cannot be recognized as synapomorphy for some *Corethrella*. This character state is rather homoplastic, not associated with synapomorphy found in male claws. It seems that the reduced apical bifurcate prolongation of terminal flagellomere in male of *C. novaezealandiae* is a derived condition.



Figs 6-9. *Corethrella miocaenica* sp. n., male genitalia: 6 – laterodorsal aspect; 7 – lateroventral aspect; 8 – gonostyli; 9 – aedeagus.

## REFERENCES

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