

**Two new species of biting midges from Norway
(Diptera: Ceratopogonidae)**

RYSZARD SZADZIEWSKI¹ & DANIEL V. HAGAN²

¹Department of Invertebrate Zoology, University of Gdańsk,
Piłsudskiego 46, 81-378 Gdynia, Poland
e-mail: szadz@ocean.univ.gda.pl

²Department of Biology, Institute of Anthropodology & Parasitology,
Georgia Southern University, Statesboro,
GA 30460-8041 USA

ABSTRACT. *Brachypogon (Isohelea) norvegicus* sp. n. and *Dasyhelea (Pseudoculicoides) norvegica* sp. n. from Norway are described and illustrated.

KEY WORDS: Diptera, Ceratopogonidae, *Brachypogon*, *Dasyhelea*, new species, Norway.

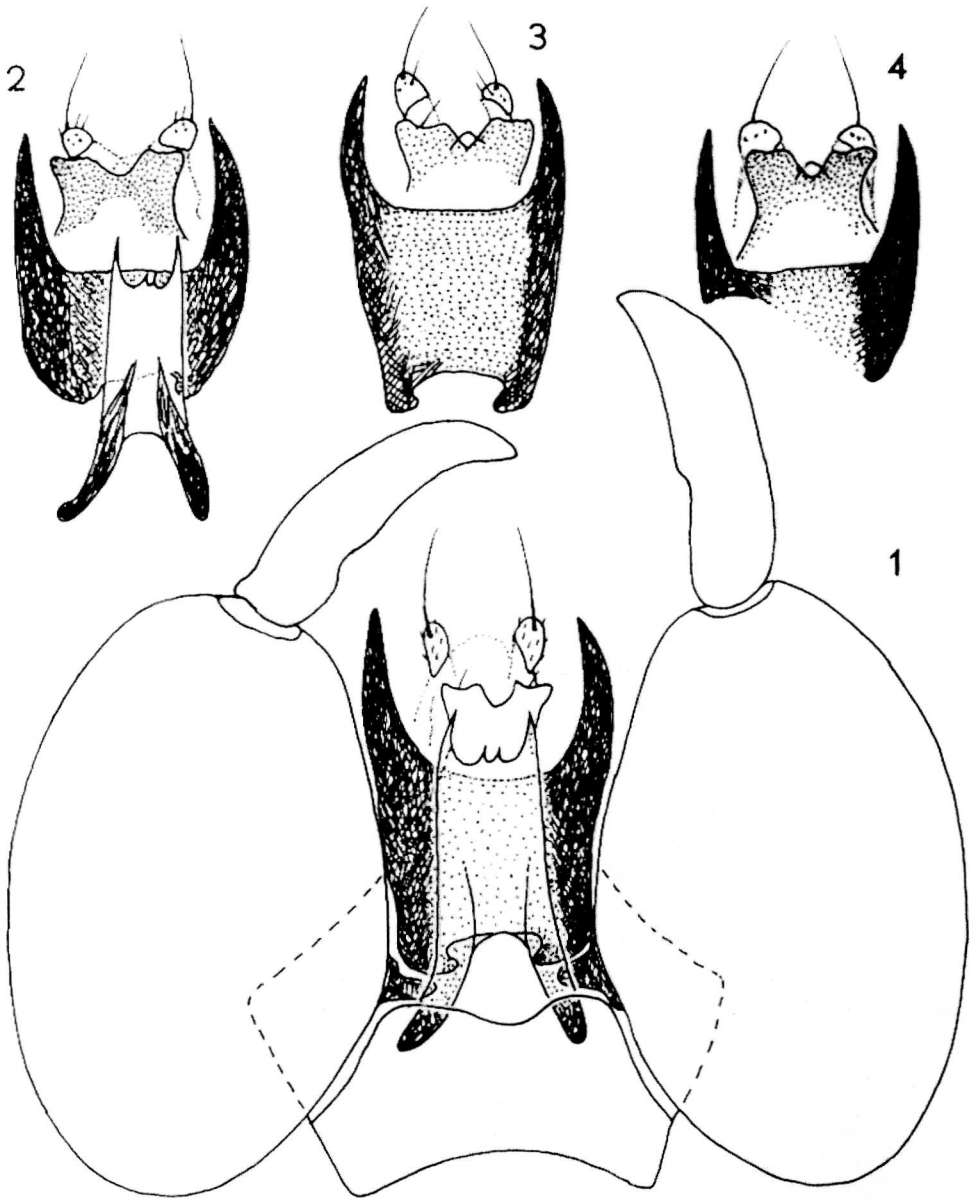
Among the biting midges collected in pine dominated forests in Norway were found two unknown species in the genera *Brachypogon* KIEFFER and *Dasyhelea* KIEFFER which are named and described below. Detailed information on study sites and Norwegian biting midges are presented in the paper by HAGAN et al. (2000). Special terms used at descriptions are explained in taxonomic papers on *Dasyhelea* (SZADZIEWSKI 1985) and *Brachypogon* (SZADZIEWSKI et al. 1994).

***Brachypogon (Isohelea) norvegicus* sp. n.**

Figs. 1-4

Diagnosis

Males of the new species can be distinguished from *Brachypogon (Isohelea) nitidulus* by having stout, heavily sclerotized parameres and small cerci. Females of both species, with a single seminal capsule, are not distinguishable.



Figs. 1-4. *Brachypogon (Isohelea) norvegicus* sp. n., male genitalia. 1 – ventral aspect, 2-4 – various shapes of parameres and cerci.

Description

Male. Flagellum length 525-634 μm ; plume well developed, two distal flagellomeres separated; first flagellomere with 2-3 sensilla coeloconica. Proboscis short. Third palpal segment slender with sensory pit at apex, length 52-58 μm ; fourth palpal segment bearing 1-2 setae.

Katepisternum with 1 seta, anepisternum bare. Tibial comb composed of 7-8 spines. Hind basitarsus swollen, with a single row of palisade setae. Fourth tarsomeres subcylindrical. Tarsal ratio of fore leg TR(I) 1.6-1.7, of mid leg TR(II) 1.7-1.9, of hind leg TR(III) 1.6-1.9. Wing transparent, length 0.98-1.12 mm, costal ratio 0.53-0.54. Two radial cells well developed, vein M2 obsolete. Wing membrane without microtrichia, with a few macrotrichia along wing margin in cell r4+5. Haltere pale.

Genitalia (Figs. 1-4). Sternite IX narrow, usually with distinct caudomedian excavation; tergite IX long, with distinct subapical constriction and blunt apicolateral processes armed with a single seta; cerci small (Figs. 2-4). Gonocoxite stout. Gonostyle stout, slightly curved, apex slightly pointed. Aedeagus broad, apex with well developed lateral shoulders and 2 short submedian projections. Parameres heavily sclerotized, broadly fused, apices hornlike.

Female with single symmetrical seminal capsule and 1 katepisternal seta.

Material examined

Holotype, male: Norway, Gudbrandsseterfjellet, Sigdal municipality, Buskerud County (9°25' E, 60°03' N, 400-450 m), Heimseterasen Furu Krone Sektor 1, 0.5 m, 5 June 1998, J. Skartveit & K.H. Thunes leg.

Paratypes: Gudbrandsseterfjellet, Sigdal municipality: 3 males, 5 June 1998; 1 male, 11 June 1999; 1 male, 24 June 1999; 1 male, 26 June 1999; 1 male, 9 July 1999; all collected by J. Skartveit & K.H. Thunes. Geitaknottane, Kvam municipality in Hordaland County (5°53' E, 60°05' N, 180-200 m), 1 male, 2 June 1998, J. Skartveit & K.H. Thunes leg.

The holotype and paratypes are deposited in the collection of the Department of Invertebrate Zoology, University of Gdańsk, Poland.

Other materials

Sigdal: 5 June 1998, 3 males; 19 June 1999 3 males, 1 intersex, 1 female; 5-16 June 1998, 4 males, 1 intersex; 24 June 1999, 2 males; Kvam: 5-16 June 1998, 2 males; all collected by J. Skartveit & K.H. Thunes.

Discussion

The new species is very similar to common in Europe *Brachypogon nitidulus* (EDWARDS, 1921) (SZADZIEWSKI et al. 1994). Two important differences are only in the construction of male genitalia. Males of *B. nitidulus* have more weakly sclerotized parameres connected by a transparent membrane and large cerci (Fig. 5). Females of both species are very similar and despite they are present in the material we are not able to find any diagnostic feature. *B. norvegicus* is evidently a boreal sister species of the widely distributed in the Palaearctic region *B. nitidulus*. They cannot be treated as subspecies as they both occur together.

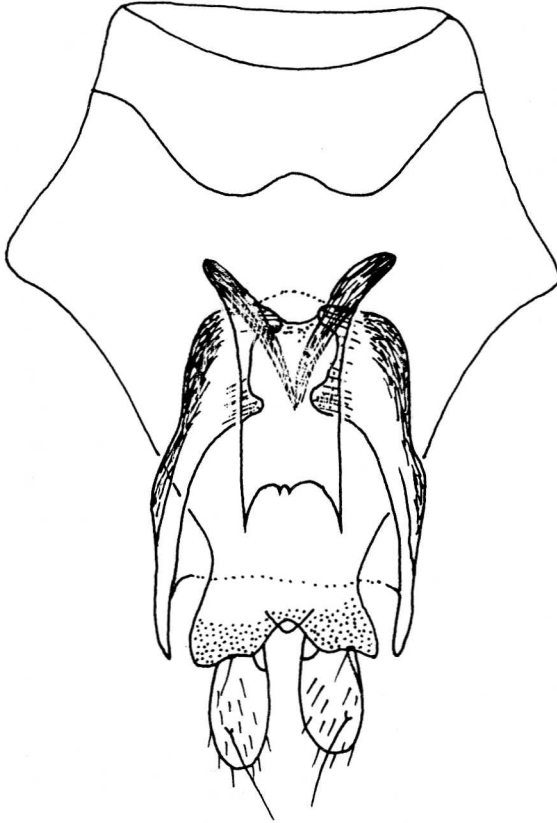


Fig. 5. *Brachypogon (Isohelea) nitidulus* (EDWARDS). Ventral aspect of male genitalia, without gonopodes.

***Dasyhelea (Pseudoculicoides) norvegica* sp. n.**

Figs. 6–8

Diagnosis

Males of the new species are characteristic in having gonostyles strongly bent just beyond the shortly enlarged base and lateral projections of the aedeagus slightly curved.

Description

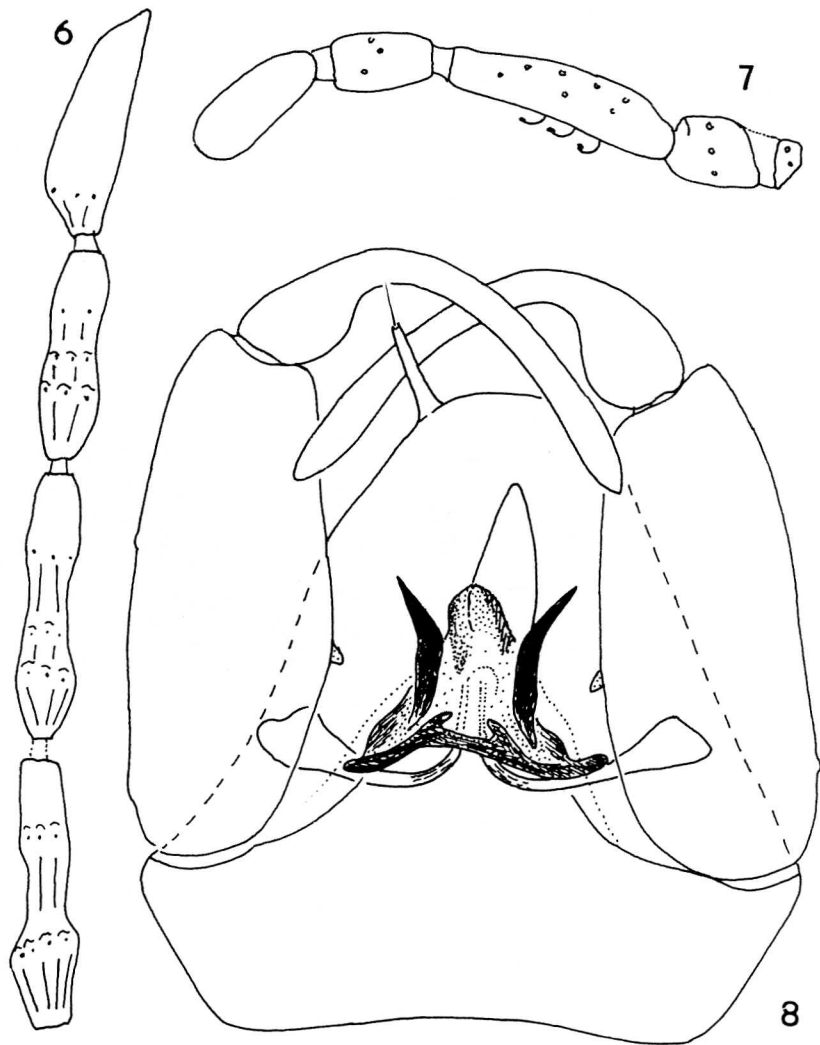
Male. Body black. Flagellum length 645 μm ; flagellomere X long (Fig. 6); XI/X 1.07. Palpus as in Fig. 7; third palpal segment 76 μm long.

Scutellum black, haltere dark. Wing length 1.08 mm, costal ratio (CR) 0.46. Legs black with pale tarsi. TR(I) 2.1, TR(II) 2.3, TR(III) 2.4.

Genitalia (Fig. 8). Sternite IX covers more than half of aedeagus; tergite IX with long

and slender cylindrical apicolateral processes; gonostyle strongly curved beyond the swollen base. Parameres symmetrical and fused. Median projection of aedeagus subconical and blunt; only one pair of lateral projections present, slightly divergent, with evenly pointed apices.

Female unknown.



Figs. 6-8. *Dasyhelea norvegica* sp. n., male. 6 – distal flagellomeres, 7 – palpus, 8 – genitalia.

Material examined

Holotype, male. Norway, Geitaknottane, Kvam municipality in Hordaland County (5°53' E, 60°05' N, 180-200 m), Furukrone 53 B, sector 3.0 m, 2 June 1998, J. Skartveit & K.H. Thunes leg. The holotype is deposited in the collection of the Department of Invertebrate Zoology, University of Gdańsk.

Discussion

The new species is a typical member of the *johannseni* group distributed in the Palaearctic, Afrotropical and Nearctic regions (SZADZIEWSKI 1985). In the Palaearctic region the group is represented by 12 species (SZADZIEWSKI 1985, REMM 1993). *Dasyhelea norvegica* is somewhat similar to *D. maricola* REMM described from the Kuril Islands, Kunashir (REMM 1993). Males of the latter species are distinct in having gonostyles bent at midlength, proximal half of gonostyles enlarged, and lateral projections of aedeagus strongly curved.

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