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A new species of *Forcipomyia* from Paleocene Sakhalin amber (Diptera: Ceratopogonidae)

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ABSTRACT. *Forcipomyia nadicola* sp. n. from Paleocene Sakhalin amber (60 mya) is described and illustrated. This is the oldest named fossil species reported in the extant genus *Forcipomyia* and the tribe Forcipomyiini.

KEY WORDS: Diptera, Ceratopogonidae, *Forcipomyia*, Sakhalin, amber, Paleocene.

INTRODUCTION

Biting midges in Sakhalin amber (Paleocene, about 60 mya) are poorly preserved. As a result, only *Eohelea sakhalinica* SZADZIEWSKI has been described from this amber, along with some unidentified members of three extant genera *Stilobezzia* KIEFFER, *Forcipomyia* MEIGEN and *Leptoconops* SKUSE (SZADZIEWSKI 1990). The genus *Forcipomyia* is predominant in Sakhalin amber, making up 72% of the inclusions studied by SZADZIEWSKI (1990); in other Paleogene ambers it is less abundant. Over thirty fossil species of this genus have been reported from Eocene Baltic amber (SZADZIEWSKI 1988, 1993, SONTAG & SZADZIEWSKI 2011), Miocene Dominican amber (SZADZIEWSKI & GROGAN 1998) and Miocene Mexican amber (SZADZIEWSKI & GROGAN 1996). *Forcipomyia* is an extant genus with a worldwide distribution, including over 1000 extant species with larvae usually living in terrestrial habitats.

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RESULTS

Forcipomyia nadicola SZADZIEWSKI sp. n.

Diagnosis

Males of the new species are distinguished from other fossil species of *Forcipomyia* by having a 5-segmented palpus and a high tarsal ratio of 2.1-2.3. Females unknown.

Description

Male. Body slender, hairy, black (Fig. A). Total body length about 1.6 mm. Flagellum distorted, proportions of distal four elongated flagellomeres as follows: X – 22, XI – 16, XII – 12, XIII – 14 (Fig. B). Proboscis long. Palpus 5-segmented. Third palpal segment slender, sensory pit not visible. Fourth palpal segment relatively long, same length as fifth one. Scutum covered with long setae. Scutellum with about 10 marginal long setae. Anterior anepisternum narrow, D-shaped with small emargination. Tibial spur of fore leg distinct, spur of hind leg long, clavate (Fig. D). Tarsal ratio of fore leg 2.3, of mid leg 2.1, of hind leg 2.1. Claws long, similar in size and shape on all legs, empodium distinct. Wing hairy, length 1.0 mm, costa reaching mid length of wing measured from basal arculus. First radial cell slit-like, second one distinct. Genitalia (Fig. C). Sternite IX long with straight caudal margin. Gonocoxite slender. Gonostylus slender, slightly curved. Aedeagus barely visible with low basal arch. Parameres not visible.

Female. Unknown.

Material examined

Holotype male, Sakhalin amber, collected on 26 June 2011 by Nadia Mutnykh, eastern shore of the Sea of Okhotsk on southern Sakhalin, the beach near the village of Starodubskoe (Sakhalinskaya obl., Dolinski rayon). The holotype will be deposited at the Paleontological Institute of the Russian Academy of Sciences, 117997 Moscow, Russia.

Etymology

We are pleased to name this fossil species in honour of Nadia Mutnykh of Juzhno-Sakhalinsk (Russia), who collected the holotype and takes a great interest in ambers from various countries.

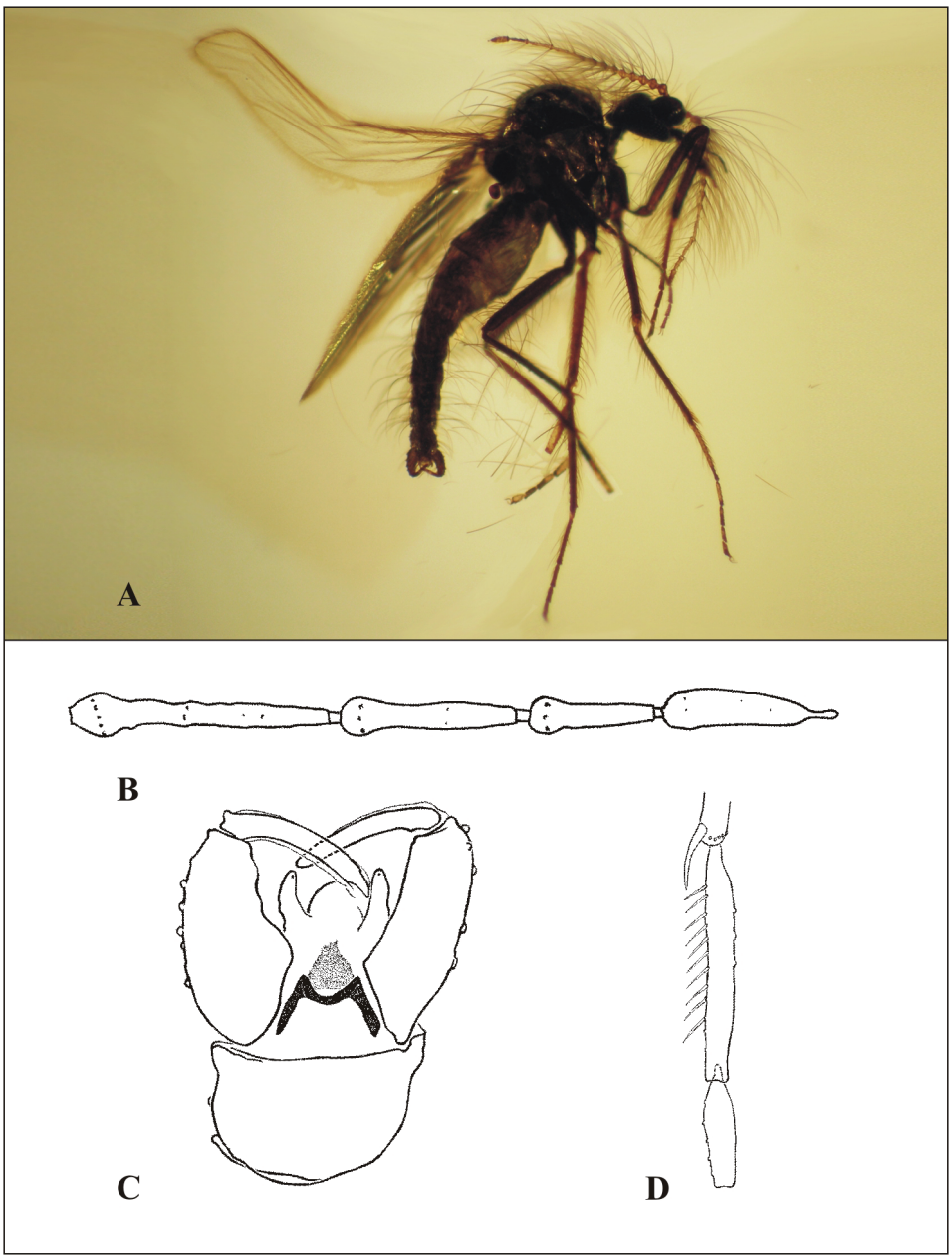

Fig. Holotype male of *Forcipomyia nadicola* SZADZIEWSKI sp. n.: A – total habitus, B – distal flagellomeres, C – ventral aspect of genitalia, D – two proximal tarsomeres of hind leg.

DISCUSSION

The subgeneric position of the new species is unknown. It is similar to members of the subgenera *Forcipomyia* s. str. or *Euprojoannisia* BRÉTHES but has a much higher TR. In *Euprojoannisia*, moreover, the fourth and fifth palpal segments are fused. The oldest *Forcipomyia* are reported from the Paleocene Sakhalin amber and *F. nadicola* is the oldest named species in the genus. The phylogenetic history of the genus goes back to the Cretaceous period and the extinct tribe Atriculicoidini (Forcipomyiinae), which includes the single genus *Atriculicoides* REMM (SZADZIEWSKI 1996, 2008). *Atriculicoides*, common in Upper Cretaceous ambers, was most probably the ancestral group for the extant tribes Forcipomyiini and Dasyheleini, traditionally treated as subfamilies of Forcipomyiinae and Dasyheleinae (SZADZIEWSKI 1996).

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