



***Manota unifurcata* Lundström (Diptera: Mycetophilidae), a peculiar and scarce fungus gnat species found in Estonia**

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The first Estonian record of *Manota unifurcata* Lundström, 1913 is presented on the basis of a male specimen collected with a Malaise trap from the Alam-Pedja Nature Reserve in 2009. The habitus and male terminalia have been illustrated and the distribution data by relevant literature are provided.

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The cosmopolitan genus *Manota* Williston, 1896 is the most speciose among fungus gnat subfamily Manotinae comprising totally more than 160 species (Hippen & Huerta 2009, Hippen & Ševčík 2010). **The majority of them were recorded quite recently from tropical areas.** There are eight species recorded from the Palaearctic region (Hippen & Huerta 2009) but only one of them – *Manota unifurcata* Lundström, 1913 – has been found in the western Palaearctic including Europe. The species was described by Lundström (1913) on the basis of a single female from Hungary and since then recorded from the Crimea in the Ukraine (Bukowski 1934), Czech and Slovak Republics (Ševčík 1999, 2006), Finland (Jakovlev & Penttinen 2007), Russian Karelia (Polevoi 2000), Vologda province in Northwest Russia (Zaitzev 2003), Great Britain (Edwards 1941, Chandler 1977), France (Matile 1970), Denmark (Chandler 2005), Poland (Mikołajczyk 2001) **and Romania (Chandler 2005).** Notwithstanding quite a wide distribution in Europe the species is extremely rare and most of the records consist of a single or a few specimens only. Despite large scale studies of fungus gnats, the species has not been recorded from Sweden and Nor-

way (e.g. Kjærandsen et al. 2007, Kjærandsen & Jordal 2007). However, there are no evident zoogeographical limitations and, therefore, *M. unifurcata* will probably be discovered there too, in near future. The absence of the species in the other Baltic countries is caused, obviously, by insufficient study effort.

Male terminalia have been figured by Bukowski (1934) and subsequently by Hutson et al. (1980), while habitus of a female and its terminalia have been figured by Matile (1970). From other European fungus gnats species, *M. unifurcata* is easy to distinguish by general facies (see Fig. 1) and wing venation, especially by the absence of medial stem (see also Söli et al. 2000).

The species has been reared from rotten deciduous wood bearing mycelium or fruiting bodies of fungi or myxomycete (Chandler 1978, Zaitzev 1990, Jakovlev & Penttinen 2007). Zaitzev (1990) described the larval stage of the species morphologically and found it to be unique among Mycetophilidae, however, considering biology, he stressed the similarity to Sciophilinae species (*Leptomorphus* spp., *Phthinia* spp.). In other respect, recent analyses, not questioning monophyly of the Manotinae,

show morphological affinities to some Leiinae genera (e.g. *Hippa*, Jaschhof & Vilkkamaa 2005)

The Estonian specimen (Figs. 1, 2) was found while sorting the Malaise trap material collected from the Alam-Pedja Nature Reserve (see Fig. 3) in 2009. The Townes type trap, which was set up in a herb-rich edge of a mixed forest (see Fig. 4), was operated by Villu Soon during the whole vegetation period, but only a sole male specimen was found in a sample from the beginning of July.

The illustration of male terminalia (Fig. 2) is given to present their detailed structure not outlined in previously published figures. The illustration was created using Helicon Focus 4.47 software and combined from four partially focused images.

Figures

Figure 1. *Manota unifurcata* Lundst., male specimen from Estonian. Last five antennal segments absent.



Figure 2. *Manota unifurcata* Lundst., male terminalia. Dorsal view, tergite IX removed.



The collecting data and the habitus photo were also inserted into the Estonian biodiversity database (see <http://elurikkus.ut.ee/>) summarising observations, references and collection specimens linked to Estonian biota. The material is deposited in the Institute of Agricultural and Environmental Sciences, Estonian University of Life Sciences (former Institute of Zoology and Botany).

Material

1 ♂, Kaha village near Palupõhja in Alam-Pedja Nature Reserve, N=58°25'54,68" E=026°14'28,9", Malaise trap, V. Soon leg., 29.VI. – 8.VII. 2009 [IZBE0200001].

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Figure 3. Collecting locality in Estonia.



Figure 4. A Townes style Malaise trap set up in a herb-rich edge of a mixed forest nearby Kaha village in the Alam-Pedja Nature Reserve.



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