

## Scuttle flies from lake shore habitats in NW Russia (Diptera: Phoridae)

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Nine species of Phoridae are recorded from lake shores in NW Russia. Of these species, *Megaselia chaetopyga* and *M. pulicaria* are found to develop in the zone of water margin; data on their larval habitats are given. Eight species are recorded from NW Russia for the first time.

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The paper is based on the materials collected by A. Przhiboro in 1995-2000 at five small lakes in the North-West of Russia: lake Krivoe (66°21'N 33°35'E; Loukhi Distr. of Karelia), lakes Pionerskoe and Gladyshevskoe (60°18'N 29°17'E and 60°17'N 29°23'E, respectively; Vyborg Distr. of Leningrad Prov.), lakes Anninskoe and Anisimovo (56°12'N 28°40'E; Sebezh Distr. of Pskov Prov.). Below, in the "Material" section for each species, only the names of lakes are given.

All preimaginal Phoridae were collected in the zone of water margin (= water line; within the borders: from 5 cm below the water level to 10 cm above it). Here, three morphological types of this zone are recognized (see Przhiboro, 2001b, 2003).

In the northernmost Krivoe Lake, the zone of water margin is almost entirely represented by type 1 (10-20 cm wide, with steep profile, covered mainly with mosses and liverworts). In lakes of the southern group, the water margin zone is mainly represented by types 2 (up to 1 m wide, with distinctly sloping, not steep profile, diverse vegetation conditions and usually with drifted plant remains) and 3 (shore marsh 10-50 m wide, with very low profile, large quantity of plant remains, densely covered with monocotyledones). Lakes in Leningrad Prov. are characterized by types 1 and 2 predominating. For details of study lakes and habitats, and for methods used, see Przhiboro (1999, 2000, 2001a, 2001b, 2003).

The material is deposited mainly at the Zoological Institute, St.Petersburg, except for some specimens of species asterisked which are kept in the M. Michailovskaya's collection.

The list below includes phorids identified to a species level, both imagines reared from pupae or shore substrata collected in the zone of water margin and imagines collected at lake shores.

### **Megaselia brevior** (Schmitz, 1924)

*Material.* Lake Pionerskoe: 1 ♂, net sweeping, 27.VI.1998.

### **Megaselia brevissima** (Schmitz, 1924)

*Material.* Lake Anninskoe: 1 ♂, by aspirator, 10.V.1998. Lake Anisimovo: 1 ♂, by aspirator, 25.VII.1998.

### **Megaselia chaetopyga** (Lundbeck, 1921)

*Material.* Lake Gladyshevskoe: 1 ♂ reared 28.VI.1995 from puparium collected 8.VI.1995. Lake Anninskoe: 1 ♂ reared 24.II.1998 from puparium collected 10.IX.1997 (only after thermic reactivation); 1 ♀ (aff. *chaetopyga*) reared 11.VI.1998 from puparium collected 15.V.1998; 1 ♀ (aff. *chaetopyga*) reared 29.V.1998 from puparium collected 9.V.1998. Lake Anisimovo: 1 ♂ reared 1.X.1998 from puparium collected 25.VII.1998.

*Notes.* At all lakes, puparia were collected only within marshy sites belonging to type 3. Probably, puparia of this species can overwinter (judging from the imago reared only after thermic reactivation from the puparium collected in Autumn).

**Megaselia pulicaria** (Fallén, 1823)

*Material.* Lake Krivoe: 2 ♀ reared 4.VII.2000 from substratum collected 25.VI.2000; 1 ♂ reared 20.VII.2000 from substratum collected 8.VII.2000; 1 ♂, net sweeping, 28.VI.1997; 1 ♂, net sweeping, 8.VII.1997. Lake Pionerskoe: 1 ♂ reared 4.VII.1998 from puparium collected 8.VI.1998. Lake Anninskoe: 1 ♂, 1 ♀, emergence trap, 19.V.1998; 1 ♀, emergence trap, 25.V.1998; 4 ♀, by aspirator, 9.V.1998. Lake Anisimovo: 2 ♂, 1 ♀, by aspirator, 12.V.1998.

*Notes.* *M. pulicaria* was reared from sites with various conditions: type 1 at Krivoe Lake, type 2 at Pionerskoe Lake, and type 3 at Anninskoe and Anisimovo lakes. According to laboratory observations, the imagines reared from substrata collected at the Krivoe Lake kept to the layer of above-ground parts of mosses and did not leave this microhabitat.

**Megaselia pygmaea** (Zetterstedt, 1848) \*

*Material.* Lake Anninskoe: 1 ♂, 1 ♀, net sweeping, 4.IX.1997; 3 ♂, 1 ♀, net sweeping, 10.IX.1997. Lake Anisimovo: 1 ♂, 2 ♀, net sweeping, 7.IX.1997.

**Megaselia sepulchralis** (Lundbeck, 1920) \*

*Material.* Lake Krivoe: 1 ♂, net sweeping, 17.VI.1997.

**Peromitra carinifrons** (Zetterstedt, 1848) \*

*Material.* Lake Pionerskoe: 1 ♂, net sweeping, 7.VIII.1998.

**Phora dubia** (Zetterstedt, 1848) \*

*Material.* Lake Krivoe: 1 ♂, 1 ♀, net sweeping, 17.VI.1997.

**Phora hamata** Schmitz, 1927

*Material.* Lake Anninskoe: 1 ♂, by aspirator, 10.V.1998.

The two species of *Megaselia*, *M. chaetopyga* and *M. pulicaria*, along with *Diplonevra* sp. (puparia collected at Anninskoe and Anisimovo lakes, in September 1997 and 25.VII.1998, types 1 and 3 of the water margin zone, not reared), are the scuttle flies undeniably developing within the water margin zone of lakes studied. Puparia of *M. chaetopyga* were found only at marshy shores, whereas larvae of *M. pulicaria* inhabit a broad range of lake shore habitats and develop in the zone of water margin at all three latitudes. In these two species, the pupal stage always lasted in laboratory more than two weeks at a room temperature (ca. 20 °C).

There are only a few works containing data on Phoridae of NW Russia (Stackelberg, 1922; Krogerus, 1960; Zaitsev, 1969; Kandybina, 1984; Yakovlev, 1986). Thus, all species listed except for *Megaselia pulicaria* are recorded from this region for the first time.

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