

On the fauna of Scathophagidae (Diptera) of Taimyr Peninsular (Russia: Krasnoyarskiy Krai)

К фауне Scathophagidae (Diptera) полуострова Таймыр (Россия: Красноярский край)

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Ключевые слова: Diptera, Scathophagidae, Таймыр, Россия.

Abstract. 34 species of 15 genera of Scathophagidae are registered on Taimyr Peninsular. *Allomyella unguiculata* is a new record for Palaearctic region and Russia. *Gimnomera lasiostoma* and *Microprosopa heteromyzina* are new records for Russia. *Gonarcticus abdominalis* is a new record for Siberia.

Резюме. 34 вида из 15 родов двукрылых семейства Scathophagidae отмечено на полуострове Таймыр. *Allomyella unguiculata* впервые отмечен для Палеарктики и России. *Gimnomera lasiostoma* и *Microprosopa heteromyzina* впервые отмечены для России. *Gonarcticus abdominalis* впервые отмечен для Сибири.

Introduction

The Scathophagidae is a small family of calyptrate Diptera. This family is characterized by the following combination of characters: antennal pedicel with a complete dorsal suture; eyes dichoptic in both sexes, separated by a broad frontal vitta in males as well as in females; frontal vitta without setae; ventral calypter linear; meron bare, without setae; ventral surface of scutellum without hairs.

The world fauna of Scathophagidae currently comprises 419 species in 58 genera [Pape et al., 2011; Šifner, 2012]. The greatest diversity of the Scathophagidae is found in the northern hemisphere, on Arctic coasts of the oceans, and in the tundra and taiga zones. Most of the species in the Afrotropical, Oriental and Neotropical regions are known from high altitudes. No Scathophagidae are known to occur in Australia and Oceania.

The biology and ecology of Scathophagidae is rather varied. Most species with known larval biology are phytophagous, although scavenger and

carnivorous species are known, and larvae of *S. stercoraria* are carnivorous in dung. De Jong [2000] summarized the data on the Palaearctic species with known immature biology. The adults are predaceous. Species are found in a variety of biotopes, including forests, meadows, marshes, and seashores, but seldom in deserts.

The Scathophagidae fauna of Russia needs revision. Few works are known on Scathophagidae fauna of the north of Russia [Becker, 1897, 1900, 1907; Stackelberg, 1952; Gorodkov, 1978, 1980, 1981, 1984, 1986; Engelmark, 1999; Ozerov, 2010, 2012, 2013; Ozerov, Krivosheina, 2012], and six species only were recorded on Taimyr. We discovered 34 species from 15 genera. The list of these species is given below.

Material and methods

Almost all the material discussed was collected in 2010–2012 years during the Taimyr expedition of the Institute of Systematics and Ecology of Animals to the following points (Fig. 1).

I. Northern taiga:

South-East of Taimyr Peninsular, 114 km from Khatanga settlement by river Kotuj (71.4° N, 103.0° E), on the floodplain meadow of Bavushny creek (point № 1 on the map) (Fig. 2).

II. Southern tundra:

Ary-Mas locality, the Taimyr Biosphere Reserve, bank of Novaya River (72.5° N, 101.94° E) on the floodplain meadow of unnamed creek and along the river (point № 2 on the map) (Fig. 3).

Bank of the river Zakharova Rassokha (72.7° N, 101.0° E), on the floodplain meadow along left bank of the river (point № 3) (Fig. 4).

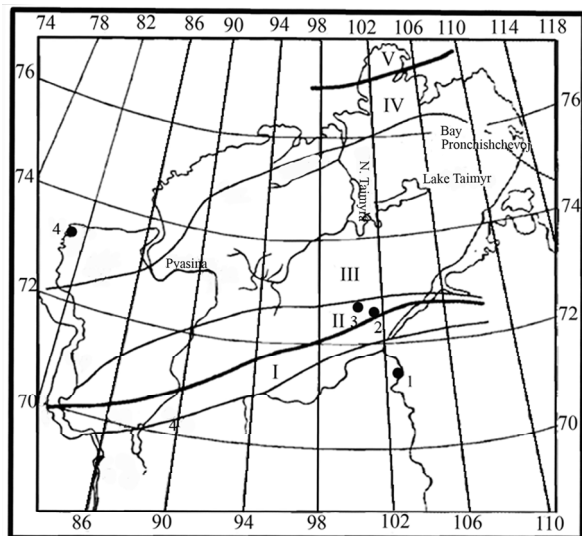


Fig. 1. Locality map in Taimyr Peninsula. Explanations in the text. (After Chernov, Matveeva, 1979 with changes).

Рис. 1. Карта мест сбора на полуострове Таймыр. Объяснения в тексте. (По Чернов, Матвеева, 1979 с изменениями).

III. Arctic tundra:

Bank of the river Malaya Lemberova, 12.5 km South of Dixon settlement (73.24° N, 80.39° E), on meadow slopes of the river and Enisej bay (point №4) (Fig. 5).

The Materials from collections of Zoological Museum of the Moscow State University was used too. The following abbreviations are used for depositories of the studied specimens: ISEA — Institute of Systematics and Ecology of Animals, Siberian Branch of the Russian Academy of Sciences, Novosibirsk, Russia; ZMUM — Zoological Museum, Moscow State University, Moscow, Russia.

List of genera and species

Acerocnema arctica Ozerov, 2013

Ozerov, 2013: 85.

Material. №4 — 26.07.2012, coll. A. Barkalov — 12♂♂, 3♀♀ (ISEA, ZMUM).

Distribution. Russia: Taimyr; possibly in the places of occurrence of *Corydalis arctica* Popov.

Acerocnema paradoxopyga Stackelberg, 1952

Material. Lower reaches of the river Lenivaya (74.9666° N, 89.9166° E) — 4.VII.1980, coll. Yu. Chernov — 1♂, on flowers of *Sieversia glacialis* (ZMUM).

Distribution. Russia: Novaya Zemlya, Taimyr.

Allomyella frigida (Holmgren, 1883)

Material. № 4 — 9, 26.07.2012. Coll. A. Barkalov — 24♂♂, 92♀♀ (ISEA, ZMUM); Khatanga Distr. (75.951° N, 103.652° E) — 10.07–10.09.2010, coll. A. Shmanyak — 12♂♂, 7♀♀ (ZMUM).

Distribution. Russia: Arctic tundra from Kola Peninsula to Chukotka; Europe: Sweden [Šifner, 2008: 138]; North

America: Northern Alaska [Vockeroth, 1965: 835]; arctic species not found south of the tree line.

Allomyella unguiculata (Malloch, 1919)

Material. №4 — 9, 26.07.2012, coll. A. Barkalov — 4♂♂ (in ISEA); Khatanga Distr. (75.951° N, 103.652° E) — 10.07–10.09.2010, coll. A. Shmanyak — 9♂♂, 2♀♀ (ZMUM).

Distribution. Russia: Taimyr; North America: Northwest Territories and northern Yukon [Vockeroth, 1965: 835]; arctic species, together with the previous species.

Cordilura ustulata (Zetterstedt, 1838)

Material. № 2 — 8.07.2010, coll. O. Khruleva — 1♂ (ZMUM); Khatanga (71.975° N, 102.482° E) — 11–12.07.1970, coll. V. Zherikhin, A. Ponomarenko, A. Rasnitsyn, I. Sukatshva — 1♂ (ZMUM).

Distribution. Russia: north and middle of European part, Siberia, Far East; Europe: from Great Britain east to Finland, south to Hungary [Šifner, 2008: 126]; Asia: Mongolia [Šifner, 1975: 220]; North America: Alberta, Saskatchewan [Vockeroth, 1965: 830].

Delina nigrita (Fallén, 1819)

Material. № 1 — 2–5.07.2010, coll. O. Khruleva — 2♂♂, 2♀♀ (ZMUM).

Distribution. Russia: Karelia, Yamalo-Nenetskiy AO, Taimyr; Europe: from Great Britain east to Finland, south to Spain and Italy [Šifner, 2008: 126]; Asia: Mongolia [Gorodkov, 1974: 394]; North America: from south Alaska east to northern Northwest Territories and northern Quebec, south to central Saskatchewan and central Ontario, also Colorado [Vockeroth, 1965: 841].

Ernoneura argus (Zetterstedt, 1838)

Material. № 3 — 5.07.2011, coll. A. Barkalov — 1♀ (ISEA).

Distribution. Russia: northern part from Kola Peninsula to Chukotka; Europe: Great Britain, Poland, Scandinavia [Šifner, 2008: 143]; North America: southern Alaska, northern Yukon, Northwest Territories, northern Quebec [Vockeroth, 1965: 837]; adults on stony shores of lakes [Hackman, 1956: 59], in humus accumulations along river banks.

Gimnomera hirta Hendel, 1930

Material. № 2 — 10–12.07.2010, coll. A. Barkalov — 1♀ (ISEA).

Distribution. Russia: European part (Archangelskaya oblast'), Siberia, Far East (Amurskaya oblast'); Europe: Finland, Sweden [Šifner, 2008: 133]; the larvae are miners of *Pedicularis sceptrum-carolinum*.

Gimnomera lasiostoma (Becker, 1894)

Material. № 2 — 12–22.07.2010, coll. A. Barkalov — 2♀♀ (ISEA).

Distribution. Russia: Altay, Taimyr; Europe: Austria, Bosnia-Herzegovina, Switzerland [Šifner, 2008: 133].

Gimnomera sibirica (Engelmark, 1999)

Material. № 1 — 2–5.07.2010, coll. A. Barkalov — 1♀ (ISEA); № 2 — 10–13.07.2010, coll. A. Barkalov — 73♂♂, 16♀♀ (ISEA, ZMUM); idem. — 19, 23.07.2010, coll. O. Khruleva — 4♂♂, 2♀♀ (ZMUM); № 3 — 10.07.2011, coll. A. Barkalov — 1♂ (ISEA); № 4 — 9, 26.07.2012, coll. A. Barkalov — 4♂♂ (ISEA).

Note. The species is described from the materials from Wrangel Island and delta of Indigirka River [Engelmark, 1999].

Distribution. Russia: Siberia and Far East; arctic species.



Figs 2–5. Place of collecting flies in northern taiga (2), in southern tundra, Ary-Mas locality (3), in southern tundra, bank of Zakharova Rassokha River (4), in arctic tundra, bank of Malaya Lemberova River (5).

Рис. 2. Места сбора мух в северной тайге (2), в южной тундре, урочище Ары-Мас (3), в южной тундре, берег реки Захарова Рассоха (4), в арктической тундре, берег реки Малая Лемберова (5).

Gonarcticus abdominalis (Zetterstedt, 1846)

Material. № 3 — 5.07.2011, coll. A. Barkalov — 1♂ (ISEA).

Distribution. **Russia:** Kanin Peninsula [Gorodkov, 1970: 449], Taimyr; **Europe:** Czech Republic, Finland, Norway, Sweden [Šifner, 2008: 149]; **Asia:** Mongolia [Šifner, 1975: 221]; everywhere is a rather rare species.

Microprosopa haemorrhoidalis (Meigen, 1826)

Material. Dudinka (69.4° N, 86.2° E) — 26–29.07.2011, coll. N. Vikhrev — 2♂♂ (ZMUM); estuary of Naymechi River (~ 71.307° N, 99.471° E) — 29.07.1971, coll. A. Ponomarenko, A. Rasnitsyn — 2♂♂, 2♀♀ (ZMUM); Khatanga (71.975° N, 102.482° E) — 11–12.07.1970, coll. V. Zherikhin, I. Sukatsheva — 3♂♂, 2♀♀ (ZMUM).

Distribution. **Russia:** arctic and subarctic zones from Kola Peninsula to Chukotka, Far East (Amurskaya oblast', Magadanskaya oblast'); **Europe:** from France east to Finland, south to Spain and Romania [Šifner, 2008: 139]; **North America:** from northern Alaska east to southern Greenland, south to southern Alaska and southern Labrador, and in mountains to central New Hampshire and Maine [Vockeroth, 1965: 835]; in meadows along rivers and springs, in some localities is common.

Microprosopa heteromyzina (Zetterstedt, 1838)

Material. № 1 — 24.06.2010, coll. A. Barkalov — 1♂ (ISEA); № 2 — 13.07.2010, coll. A. Barkalov — 1♂ (ISEA).

Distribution. **Russia:** Taimyr; **Europe:** Czech Republic, Slovakia, and Sweden [Šifner, 2008: 139]; **North America:** from southern Alaska and British Columbia east to Newfoundland and Labrador, also *Colorado* [Vockeroth, 1965: 835].

Microprosopa lineata (Zetterstedt, 1838)

Material. № 2 — 8–13.07.2010, coll. A. Barkalov — 4♂♂, 7♀♀ (ISEA, ZMUM); № 3 — 10.07.2011, coll. A. Barkalov — 1♀ (ISEA).

Distribution. **Russia:** arctic and subarctic zones from Kola Peninsula to Siberia; **Europe:** Finland, Sweden [Šifner, 2008: 140]; **North America:** central Alaska, Northwest Territories, northern Quebec [Vockeroth, 1965: 835]; adults on young stems of *Salix*.

Okiniella dasyprocta (Loew, 1864)

Gorodkov, 1984: 57.

Material. № 1 — 25.06.2010, coll. A. Barkalov — 1♂ (ISEA); № 2 — 7–26.07.2012, coll. A. Barkalov, V. Zinchenko — 14♂♂ (ISEA); Dudinka settlement (69.4° N, 86.2° E) — 26–29.07.2011, coll. N. Vikhrev — 7♂♂, 4♀♀ (ZMUM).

Distribution. **Russia:** north of European part, and from northern Siberia east to Chukotka, also in mountains to Altay; **Europe:** Finland, Norway [Šifner, 2008: 144]; **North America:** from Alaska east to Northwest Territories (southern Baffin Island), south in mountains to central Alberta and central Quebec, also Colorado [Vockeroth, 1965: 834].

Orthacheta pilosa (Zetterstedt, 1838)

Material. № 2 — 10–22.07.2010, coll. A. Barkalov — 2♂♂, 2♀♀ (ISEA, ZMUM).

Distribution. **Russia:** European part from Kola Peninsula and Arkhangelskaya oblast' south to Astrakhanskaya oblast'; **Europe:** northern and central parts [Šifner, 2008: 156]; **Asia:** Mongolia [Šifner, 1975: 221]; widely distributed, but is not a common species.

Paracosmetopus helleni Hackman, 1956

Material. № 2 — 10–12.07.2010, coll. A. Barkalov — 14♂♂, 6♀♀ (ISEA, ZMUM).

Distribution. **Russia:** European part (Komi Republic and Murmanskaya oblast'), Siberia (Taimyr); **Europe:** Czech Republic [Šifner, 2008: 145].

Pleurochaetella barkalovi Ozerov in Ozerov, Krivosheina, 2012

Ozerov, Krivosheina, 2012: 439.

Material. № 4 — 6–26.07.2012, coll. A. Barkalov — 28♂♂, 4♀♀ (ISEA, ZMUM).

Distribution. **Russia:** Siberia [Ozerov, Krivosheina, 2012]; arctic species not found south of the tree line.

Pleurochaetella simplicipes (Becker, 1900)

Material. № 2 — 9–11.07.2010, coll. A. Barkalov — 1♂, 1♀ (ISEA); idem. — 19.07.2010, coll. O. Khruleva — 4♂♂ (ZMUM); № 3 — 1.07.2011, coll. V. Zinchenko — 5♂♂, 4♀♀ (ISEA, ZMUM); № 4 — 26.07.2012, coll. A. Barkalov — 1♂ (ISEA); Khatanga (71.975° N, 102.482° E) — 11–12.07.1970, coll. V. Zherikhin, I. Sukatsheva — 1♀ (ZMUM).

Distribution. **Russia:** European part [Šifner, 2008: 145], and from northern Siberia east to Chukotka [Ozerov, Krivosheina, 2012]; **Europe:** Andorra and Sweden [Šifner, 2008: 145]; **Asia:** Mongolia [Šifner 1975: 221]; **North America:** from northern Alaska east to northern Labrador, south to south-western Alaska and northern Manitoba [Vockeroth, 1965: 834].

Pogonota immunda (Zetterstedt, 1838)

Material. № 2 — 9–22.07.2010, coll. A. Barkalov — 3♂♂, 1♀ (ISEA, ZMUM); idem. — 9.07.2010, coll. O. Khruleva — 1♂, 1♀ (ZMUM); river Nizhnyaya Agapa, 40 km below the source (~ 70.0972° N, 86.6883° E) — 12–14.07.1973, coll. V. Zherikhin, I. Sukatsheva — 1♂ (ZMUM).

Distribution. **Russia:** arctic and subarctic zones from Arkhangelskaya oblast' to Chukotka; **Europe:** Andorra, Finland, Norway and Sweden [Šifner, 2008: 143]; **North America:** from northern Yukon east to northern Labrador, south to south-western Alaska and northern Manitoba [Vockeroth, 1965: 833]; arctic species rarely found south of the tree line.

Pogonota sahlbergi (Becker, 1900)

Material. № 2 — 9–10.07.2010, coll. A. Barkalov — 4♂♂ (ISEA, ZMUM); № 3 — 7, 11.07.2011, coll. A. Barkalov — 2♂♂ (ISEA, ZMUM).

Distribution. **Russia:** north from Arkhangelskaya oblast' to Chukotka; **Europe:** Finland, Norway and Sweden [Šifner,

2008: 144]; **Asia:** Mongolia [Šifner, 1975: 221]; **North America:** from north-west Northwest Territories east to southern Baffin Island, to south-east Northwest Territories [Vockeroth, 1965: 833]; another species rarely found south on the tree line.

Scathophaga apicalis (Curtis, 1835)

Becker, 1907: 3 (as *S. arctica* Becker, 1907).

Material. № 3 — 16.07.2011, coll. A. Barkalov — 1♀ (ISEA); № 4 — 7–29.07.2012, coll. A. Barkalov, V. Zinchenko — 12♂♂, 6♀♀ (ISEA, ZMUM).

Distribution. **Russia:** north from Kola Peninsula to Chukotka; **Europe:** Sweden [Nelson, Greve, 2002: 46]; **North America:** from northern Alaska east to northern Greenland, south to northern Quebec [Vockeroth, 1965: 838].

Scathophaga cordylurina (Holmgren, 1883)

Material. № 4 — 6–26.07.2012, coll. A. Barkalov — 159♂♂, 127♀♀ (ISEA, ZMUM); idem. — 9–26.07.2012, coll. V. Zinchenko — 14♂♂ 12♀♀ (ISEA).

Distribution. **Russia:** north from Kola Peninsula to Chukotka; possibly is a littoral species.

Scathophaga furcata (Say, 1823)

Gorodkov, 1978: map 20.

Material. № 1 — 24.06 and 2.07.2010, coll. A. Barkalov — 3♀♀ (ISEA); № 2 — 9–23.07.2010, coll. A. Barkalov — 2♂♂, 1♀ (ISEA); № 3 — 2–18.07.2011, coll. A. Barkalov, V. Zinchenko — 1♂, 2♀♀ (ISEA); № 4 — 9, 26.07.2012, coll. A. Barkalov — 22♂♂, 12♀♀ (ISEA, ZMUM); Dudinka settlement (69.4° N, 86.2° E) — 26–29.07.2011, coll. N. Vikhrev — 2♂♂, 1♀ (ZMUM).

Distribution. Throughout Europe and Russia; **Asia:** Japan, Mongolia [Šifner, 2008: 164]; **North America:** from central Alaska to southern Greenland east, south to southern California, Mexico (D.F.), Mississippi, and Georgia [Vockeroth, 1965: 838]; a widespread and usually a common species.

Scathophaga incola (Becker, 1900)

Material. № 4 — 23.07.2012, coll. A. Barkalov — 1♂ (ISEA); river Kheta, 12 km below the Novaya (71.640° N, 101.225° E) — 18.07.1971, coll. V. Zherikhin, I. Sukatsheva — 1♂ (ZMUM).

Distribution. **Russia:** Siberia and Far East from Ural Mountains to Chukotka east, south to Altay, Baikal, and Magadanskaya oblast'; **Europe:** Finland, Norway [Šifner, 2008: 164]; **North America:** Alaska, Northwest Territories, northern Labrador [Vockeroth, 1965: 838].

Scathophaga lutaria (Fabricius, 1794)

Material. Dudinka (69.4° N 86.2° E) — 25–27.VII.2011, coll. N. Vikhrev — 1♂ (ZMUM).

Distribution. **Russia:** throughout midland, north to southern tundra; throughout **Europe;** known also from Algeria, Tunisia, Lebanon, Turkey and Israel [Šifner, 2008: 197; Ozerov, Freidberg, 2011: 175–176].

Scathophaga multisetosa (Holmgren, 1883)

Material. № 1 — 29.06.2010, coll. V. Zinchenko — 1♂ (ISEA); № 2 — 9–20.07.2010, coll. A. Barkalov — 1♂ (ISEA); idem. — 18.07.2010, coll. V. Zinchenko — 1♂ (ISEA); № 3 — 3–25.07.2011, coll. A. Barkalov, V. Zinchenko — 12♂♂, 11♀♀ (ISEA, ZMUM); № 4 — 14–26.07.2012, coll. V. Zinchenko — 7♂♂, 6♀♀ (ISEA).

Distribution. **Russia:** arctic coast from Ural Mountains to Chukotka; **North America:** northern Alaska to Northwest

Territories (northern Ellesmere Island, Baffin Island) [Vockeroth, 1965: 839]; a littoral species.

Scathophaga obscura (Fallén, 1819)

Material. Zhdanikha (72.171° N, 102.868° E) — 27–30.08.1971, coll. V. Zherikhin and I. Sukatsheva — 1♂ (ZMUM);

Distribution. **Russia:** throughout midland, north to southern tundra; **North America:** southwest Alaska, northwest of Northwest Territories [Vockeroth, 1965: 839].

Scathophaga obscurinervis (Becker, 1900)

Material. № 3 — 3–17.07.2011, coll. A. Barkalov, V. Zinchenko — 5♂♂, 4♀♀ (ISEA, ZMUM); № 4 — 7.07.2012, coll. A. Barkalov — 1♀ (ISEA); river Kheta, 12 km below the Novaya (71.640° N, 101.225° E) — 18.07.1971, coll. V. Zherikhin, I. Sukatsheva — 1♂ (ZMUM); river Nizhnaya Agapa, 40 km below the source (70.0972° N, 86.6883° E) — 12–14.07.1973, coll. V. Zherikhin, I. Sukatsheva — 1♂ (ZMUM);

Distribution. **Russia:** Siberia (tundra); **Europe:** Scandinavia [Šifner, 2008: 168]; **North America:** Alaska to northern Quebec [Vockeroth, 1965: 839]; a rare northern holarctic species.

Scathophaga stercoraria (Linnaeus, 1758)

Gorodkov, 1981: map 121.

Material. №1 — 20–30.06.2010, coll. A. Barkalov — 5♂♂ (ISEA); №2 — 9–10.07.2010, coll. A. Barkalov — 13♂♂, 1♀ (ISEA, ZMUM).

Distribution. Throughout Holarctic region; **Oriental region:** China, India, Nepal [Vockeroth, 1977: 438], Vietnam [Ozerov, Krivosheina, 2011]; the commonest species, an ubiquitous frequently found around human settlements; larvae are predators in various dung.

Scathophaga suilla (Fabricius, 1794)

Material. №1 — 20.06.2010, coll. A. Barkalov — 1♀ (ISEA); №2 — 16.07.2010, coll. A. Barkalov — 1♂ (ISEA); №4 — 23.07.2012, coll. A. Barkalov — 1♂ (ISEA); Zhdanikha settlement (72.171° N, 102.868° E) — 27–30.07.1971, coll. V. Zherikhin, I. Sukacheva — 1♂ (ZMUM);

Distribution. **Russia:** throughout midland, north to southern tundra; throughout **Europe;** **Asia:** China, Japan, Kazakhstan, Mongolia, Syria [Šifner, 2008: 172]; **North America:** central Alaska to northern Quebec, south to Oregon, Colorado, southern Manitoba, and North Carolina [Vockeroth, 1965: 839]; a widespread and common species, but more abundant in the forest zone.

Scathophaga varipes (Holmgren, 1883)

Becker, 1907: 2.

Material. №2 — 10–22.07.2010, coll. A. Barkalov — 5♂♂, 3♀♀ (ISEA, ZMUM); №4 — 6–26.07.2012, coll. A. Barkalov — 201♂♂, 159♀♀ (ISEA, ZMUM);

Distribution. **Russia:** northern tundra from Siberia to Chukotka, Novaya Zemlia; **North America:** islands of Bering Sea, northern Alaska, northern Northwest Territories, Hudson Strait [Vockeroth, 1965: 839]; possibly is a littoral species.

Trichopalpus punctipes (Meigen, 1826)

Material. Dudinka (69.4° N, 86.2° E) — 26–29.07.2011, coll. N. Vikhrev — 2♂♂, 1♀ (ZMUM);

Distribution. **Russia:** throughout midland, north to southern tundra; **Europe:** from Ireland and Great Britain east to Finland, south to France and Romania [Šifner, 2008: 141–142]; **Asia:** Mongolia [Šifner, 1975: 221]; **North America:**

central Alaska to southern Labrador, south to California, Colorado, Minnesota, and Maine [Vockeroth, 1965: 837]; a widespread and common species in different lowlands habitats; larva on Oraminae.

Discussion

Analysis of the species' distribution of the subzones in the Taimyr Peninsula revealed that most Scathophagidae (26 species, 76.47 % of the total fauna) were observed in the southern tundra. This is 12 species more than in the forest-tundra. On the other hand, in typical tundra so far only three species were observed. This is primarily due to the almost complete absence of material from this subzone, as in the arctic Taimyr tundra found 15 species of Scathophagidae. However, the number of species there could increase substantially after analysing extra material received from the northern taiga, tundra and typical tundra.

High species' diversity was observed in the arctic tundra. There were 15 species, nearly half of all found on the peninsula. In addition to the high species diversity in the Arctic tundra also observed an unusual species abundance of Scathophagidae. Thus, in the vicinity of the village of Dixon in 2012 flies were noted in almost all habitats, and were everywhere in the mass. Such an abundance of representatives of the studied family no longer observed in any of the subbands of Taimyr. Apparently, in the Arctic tundra is most pronounced compensatory effect described in Chernoff [Chernov, 2005]. Representatives of the studied family, apparently in ecosystems with the most extreme conditions of existence assumed the functions performed in the more southern latitudes species of other families of Diptera. The study of this interesting problem requires, in our opinion, more attention of ecologists studying Arctic biogeocoenoses.

Interestingly, a large number of species in the studied fauna with Holarctic distribution. 22 species or 64.71 % of the fauna found in both Eurasia and North America. Among them, the vast majority of species tend to northern latitudes, and only four of them are marked as in the more southern (*S. ustulata*, *S. stercoraria*, *S. suilla* and *T. punctipes*). Five species in the spread do not go beyond the tundra zone and, apparently, they are endemic (*A. arctica*, *A. frigida*, *A. unguiculata*, *P. barkalovi*, *S. cordylurina*).

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