

New data on the hover-fly fauna (Diptera: Syrphidae) of Magadanskaya Oblast of Russia

Новые сведения по фауне мух-журчалок (Diptera, Syrphidae) Магаданской области (Россия)

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Ключевые слова: сирфиды, список видов, тайга, Магаданская область.

Abstract. 198 hoverfly species belonging to 45 genera of three subfamilies were collected from Magadanskaya Oblast. Representatives of the subfamily Microdontinae have not been found in the study area as well as in many other northern regions. Most species were recorded in the subfamily Syrphinae (104 species), followed by Eristalinae (88 species) with a difference of 14 taxa, and the subfamily Pipizinae with 6 species closes the list. At the same time, in terms of the number of generic taxa, Eristalinae is noticeably ahead of Syrphinae, 24 and 19 genera, respectively. The species rich Syrphinae genus *Platycheirus* Lepeletier et Serville, 1828 includes 30 species, which share 15.7 % of the fauna. The genus *Cheilosia* is the most species rich in the subfamily Eristalinae and includes 13 species. Analysis of species distribution showed that the fauna is formed mainly by widely spread species with multi regional, Holarctic or Trans-Eurasian ranges.

Резюме. В результате проведённого исследования на территории Магаданской области обнаружено 198 видов мух-журчалок, относящихся к 45 родам трёх подсемейств. Представителей подсемейства Microdontinae, как и во многих других северных фаунах, не обнаружено. Наибольшее число, 104 вида, отмечено в подсемействе Syrphinae, в подсемействе Eristalinae — 88 видов, в Pipizinae — 6 видов; количество родов в Eristalinae — 24, в Syrphinae — 19. Род *Platycheirus* Lepeletier et Serville, 1828 в Syrphinae представлен 30 видами, которые составляют 15,7 % от всей фауны журчалок, в подсемействе Eristalinae наиболее разнообразен род *Cheilosia*, включающий 13 видов. Анализ распространения показал, что основную часть фауны журчалок составляют широко распространённые виды с мультирегиональными, голарктическими и трансевразийскими ареалами.

Introduction

Hoverflies or Syrphidae, due to their bright color, ubiquity and relatively large size, represent one of the most studied groups of Dipteran insects. In recent years studies of the Syrphidae of the tundra and forest-tundra zones of the Palearctic have made it possible to get

a general idea of the distribution of representatives of this family in the extreme North of Asia [Barkalov, 2012, 2015a, b, 2020; Barkalov, Mutin, 2015, 2016]. The faunas of this family in mountainous regions and in the taiga territories of Siberia remain unexplored.

Information on the hoverflies of the taiga zone of the Magadanskaya Oblast is available in the scattered works of N.A. Violovich with descriptions of new species [Violovich, 1975, 1982, 1985], and in two works by L.V. Zimina dedicated to the Syrphidae fauna of the Magadanskaya Oblast and the description of rare findings of hoverflies, including those from the Magadanskaya Oblast [Zimina, 1972, 1981]. The last purposeful study of this region was carried out quite recently [Mutin, Tridrikh, 2016]. Unfortunately, a rather large collection kept in the Siberian Zoological Museum of the Institute of Systematics and Ecology of Animals of the Siberian Branch of RAS (SZMN, Novosibirsk) remained unexplored in this work. Below we have tried to fill this gap.

Material and methods

The purpose of this work is to give the most complete picture of the hoverfly fauna of the north-eastern Palearctic within the Magadan region.

We have studied a lot of new material obtained by N.N. Tridrikh during 2017–2020 and V.S. Sorokina in 2017. The work also used materials received in different years from the staff of the Institute of Biological Problems of the North FEB RAS (Magadan) — E.G. Matis, D.I. Berman and Yu.M. Marusik.

The list of species below gives information on the collection sites, which have not been published anywhere else. If a species has been indicated in any publication from Magadanskaya Oblast, literature sources are also given. The taxa in the list are sorted by subfamily, with the genus listed in alphabetical order. If there

are subgeneric taxa in a genus, they are also listed in alphabetical order. Species whose presence in the study area is in doubt are given in the list with a question mark (?).

Since the collections of recent years were carried out in a limited number of places, in order to reduce their repetition in the lists of studied materials for each species, we give a full description of the localities once, and in the text we give only the corresponding abbreviated names: **1** — Bolshoj Annachag mountain ridge, basin of Sibit-Tyellakh river; **2** — Chelomdzha River, environs of Kheta Kordon, 60°14' N, 147°28' E; **3** — confluens Kava and Chelomdzha rivers, environs of Tsentralnyi cordon, 60°14' N, 147°28' E; **4** — environs of Magadan, foot of Marchekan hill, 59°31' N, 150°48' E; **5** — environs of Magadan town, 59°36' N, 150°51' E, 131 m a.s.l.; **6** — Seimchan settlement, 62°56' N, 152°24' E, 209 m a.s.l.; **7** — 100 km NNE Seimchan settlement, 63°39' N, 153°16' E; **8** — 150 km NNE Seimchan settlement, 63°50' N, 153°31' E; **9** — environs of Evensk settlement, 61°54' N, 159°12' E, 1 m a.s.l.; **10** — mouth of Yana river, 2 km E Taulsk village, 59°43' N, 149°23' E, 2 m a.s.l.; **11** — environs Jack London lake, 62°08' N, 149°27' E, 149 m a.s.l.; **12** — Koni Peninsula, environs of cordon Mys Ploskij, valley of Khindzha river, 59°09' N, 151°38' E; **13** — Mouth of Kegali river, 64°45' N, 161°05' E, 482 m a.s.l.; **14** — 5 km W Arman village, 59°42' N, 150°04' E, 15 m a.s.l.

The most often meeting families of collectors are given in following abbreviations: D.I. Berman — B., L.F. Levina — L., Yu.M. Ma-rusik — M., N.N. Tridrikh — T., V.S. Sorokina — S.

Determination was made by Mutin, Barkalov, 1999, Violovitsh, 1983 and Bartsch et al., 2009a, b. In difficult cases specimens compared with specimens from collection of the Siberian Zoological Museum of the Institute of Animal Systematics and Ecology (SZMN, Novosibirsk).

The list of hover-fly species of Magadanskaya Oblast of Russia

Syrphinae

Baccha elongata (Fabricius, 1775)

Baccha elongata (Fabricius, 1775): Zimina, 1972: 38; Mutin, Barkalov, 1999: 361; Mutin, Tridrikh, 2016: 134.

Material. **5** — 1♂, 30.07–4.08.2020 (T); **12** — 1♂, 1♀, 5.07.2017, 7.07.2018 (T).

Chrysotoxum arcuatum Linnaeus, 1758

Chrysotoxum arcuatum Linnaeus, 1758: Violovitsh, 1982: 194; Mutin, Tridrikh, 2016: 134.

Material. **13** — 4♀♀, 11–22.08.1968 (L.).

Chrysotoxum fasciolatum (De Geer, 1776)

Chrysotoxum fasciolatum (De Geer, 1776): Zimina, 1972: 42; Violovitsh, 1982: 195; Mutin, Tridrikh, 2016: 134.

Material. **1** — 1♀, 16.07.1979 (Zhigul'skij), 1♂, 4.08.1979 (Budarin); **5** — 1♂, 29.07.1992 (B.); **7** — 1♂, 10.07.2019 (T); **12** — 1♀, 2–3.07.2017 (S.); 1♀, 326 km from Debin settlement,

valley of Kolyma river, 18.06.1974 (Korotyayev); 1♀, environs of Khasyn settlement, 21.07.1972 (Matis).

Dasysyrphus friuliensis Goot, 1960

Dasysyrphus friuliensis Goot, 1960: Violovitsh, 1982: 191; 1983: 39; Mutin, Barkalov, 1999: 381; Mutin, Tridrikh, 2016: 134.

Material. **4** — 1♂, 2♀♀, 22.06.2019 (T); **9** — 1♂, 28.07.2020 (T); **11** — 2♂♂, 1♀, 21.06.1974 (Matis); **12** — 1♂, 2♀♀, 30.06–6.07.2017 (S.); **13** — 1♂, 1♀, 16.06.1968, 12.07.1968 (L.); 1♀, environs of Debin settlement, 18.06.1974 (Korotyayev); 1♀, 10 km N mouth of Detrin river, 16.07.1992 (B.).

Dasysyrphus kegali Violovitsh, 1975

Dasysyrphus kegali Violovitsh, 1975: Violovitsh, 1975:79, 1982: 192; 1983: 39; Mutin, Tridrikh, 2016: 134.

Material. **9** — 1♀, 28.06–4.07.2020 (T); 1♀, 92 km NE Magadan 60°20' N, 151°23' E, 10.07.2017 (S.).

Dasysyrphus pinastri (De Geer, 1776)

Dasysyrphus pinastri (De Geer, 1776): Mutin, Barkalov, 1999: 381; Mutin, Tridrikh, 2016: 134.

Dasysyrphus pauxillus (Williston, 1887)

Dasysyrphus pauxillus (Williston, 1887): Mutin, Barkalov, 1999: 381.

Material. **12** — 1♀, 2–3.07.2017 (S.).

Dasysyrphus tricinctus (Fallén, 1817)

Syrphus tricinctus (Fallén, 1817): Zimina, 1972: 41;

Dasysyrphus tricinctus (Fallén, 1817): Violovitsh, 1982: 192; Mutin, Barkalov, 1999: 379; Mutin, Tridrikh, 2016: 134.

Material. **5** — 1♂, 8.07.1986 (Popova), 1♀, 29.07.1992 (B.); **13** — 1♀, 20.07.1968 (L.).

Dasysyrphus venustus (Meigen, 1822)

Dasysyrphus arcuatus (Fallén, 1817): Zimina, 1972: 41; Violovitsh, 1982: 191;

Dasysyrphus venustus (Meigen, 1822): Mutin, Barkalov, 1999: 381; Mutin, Tridrikh, 2016: 134.

Material. **5** — 1♂, 28.06.1976 (?); **12** — 2♂♂, 3♀♀, 2–6.07.2017 (S.); **13** — 2♂♂, 4♀♀, 11.06–17.07.1968 (L.); 2♀♀, upper river Kolyma, 10 km N mouth of Detrin river, 16.07.1992 (B.); 1♀, upper river Kolyma, 35 km ENE Taloj settlement, 13.06.1974 (Matis); 2♀♀, Stekolnyj settlement, 8.06.1971 (Glushkova); 1♀, Madaun settlement, 15.06.1971 (?); 1♀, environs of Debin settlement, 18.06.1974 (Korotyayev); 1♀, upper stream of Kolyma river, opposite mouth of Elgenya river, 10.07.1992 (B.).

Dasysyrphus zinchenkoi Mutin et Barkalov, 1997

Dasysyrphus zinchenkoi Mutin et Barkalov, 1997: Mutin, Tridrikh, 2016: 134.

Didea alneti (Fallén, 1817)

Didea alneti (Fallén, 1817): Zimina, 1972: 40, 1981: 152; Violovitsh, 1982: 192; Mutin, Barkalov, 1999: 382; Mutin, Tridrikh, 2016: 134.

Material. **1** — 1♂, 07.1978 (Budarin); **6** — 1♀, 2.07.1966 (Chelyayev); **13** — 6♂♂, 19♀♀, 17.06–26.08.1968 (L.); 1♂, 2♀♀, Lamutskoe settlement, 25.08.1965, 5.08.1968 (Bobrova); 4♂♂, 3♀♀, upper river Kolyma, 10 km N mouth of Detrin river, 16.07.1992 (B.); 5♂♂, 2♀♀, upper river Kolyma, opposite mouth of Elegenya river, 10.07.1992 (B.).

Didea fasciata Macquart, 1834

Didea fasciata Macquart, 1834: Mutin, Barkalov, 1999: 381; Mutin, Tridrikh, 2016: 134.

Material. 5 — 1♀, 29.07.1992 (B.); 6 — 2♀♀, 20.07.1966 (Chelyaev); 1♀, upper river Kolyma, 10 km N mouth of Detrin river, 16.07.1992 (B).

Epistrophe annulitarsis (Stackelberg, 1918)

Epistrophe annulitarsis (Stackelberg, 1918): Mutin, Tridrikh, 2016: 134.

Epistrophe grossulariae (Meigen, 1822)

Epistrophe grossulariae (Meigen, 1822): Violovitsh, 1982: 189; Mutin, Barkalov, 1999: 382; Mutin, Tridrikh, 2016: 134.

Epistrophe nitidicollis (Meigen, 1822)

Syrphus nitidicollis Meigen, 1822: Zimina, 1972: 41;
Epistrophe nitidicollis (Meigen, 1822): Mutin, Barkalov, 1999: 385; Mutin, Tridrikh, 2016: 134.

Epistrophe ochrostoma (Zetterstedt, 1849)

Material. 13 — 1♂, 1♀, 15–17.06.1968 (L).

Episyrphus balteatus (De Geer, 1776)

Episyrphus balteatus (De Geer, 1776): Violovitsh, 1982: 193; Mutin, Tridrikh, 2016: 134.

Eriozona (Megasyrphus) erratica (Linnaeus, 1758)

Eriozona (Megasyrphus) erratica (Linnaeus, 1758): Mutin, Barkalov, 1999: 386; Mutin, Tridrikh, 2016: 134.

Material. 5 — 1♂, 1♀, 29.07.1992 (B.); 3♀♀, headwaters of Kolyma river, opposite mouth Elegenya river, 10.08.1992 (B.); 1♀, 10 km N mouth Detrin river, 16.07.1992 (B).

Eriozona (Eriozona) syrphoides (Fallén, 1817)

Eriozona (Eriozona) syrphoides (Fallén, 1817): Violovitsh, 1982: 193; Mutin, Barkalov, 1999: 386; Mutin, Tridrikh, 2016: 134.

Material. 1♀, 17 km N Magadan, 2.08.1996 (Marusik).

Eupeodes bucculatus (Rondani, 1857)

Eupeodes bucculatus (Rondani, 1857): Mutin, Tridrikh, 2016: 134.

Material. 2♀♀, 7 — 10–13.07.2019 (T).

Eupeodes corollae (Fabricius, 1794)

Metasyrphus corollae (Fabricius, 1794): Violovitsh, 1982: 190;

Eupeodes corollae (Fabricius, 1794): Mutin, Tridrikh, 2016: 134.

Material. 12 — 1♀, 2–3.07.2017 (S.); 1♀, environs of Evensk settlement, 3–26.07.2020 (T).

Eupeodes latifasciatus (Macquart, 1829)

Material. 9 — 1♀, 3–26.07.2020 (T); 14 — 1♀, 18.06.2020 (T).

Eupeodes lundbecki (Soot-Rien, 1946)

Syrphus lundbecki Soot-Rien, 1946: Zimina, 1981: 153;
Eupeodes lundbecki (Soot-Rien, 1946): Mutin, Tridrikh, 2016: 134.

Eupeodes nitens (Zetterstedt, 1843)

Postosyrphus nitens Zetterstedt, 1843: Violovitsh, 1982: 191;

Eupeodes nitens (Zetterstedt, 1843): Mutin, Barkalov, 1999: 389; Mutin, Tridrikh, 2016: 134.

Eupeodes punctifer (Frey in Kanervo, 1934)

Eupeodes punctifer (Frey in Kanervo, 1934): Mutin, Tridrikh, 2016: 134.

Leucozона (Ischyrosyrphus) glaucia (Linnaeus, 1758)

Ischyrosyrphus glaucius Linnaeus, 1758: Zimina, 1981: 151; Violovitsh, 1982: 189;

Leucozона (Ischyrosyrphus) glaucia (Linnaeus, 1758): Mutin, Barkalov, 1999: 390; Mutin, Tridrikh, 2016: 134.

Material. 5 — 3♀♀, 29.07.1992 (B).

Leucozона (Ischyrosyrphus) laternaria (Müller, 1776)

Ischyrosyrphus laternarius Müller, 1776: Zimina, 1972: 40;

Leucozона (Ischyrosyrphus) laternaria (Müller, 1776): Mutin, Barkalov, 1999: 390; Mutin, Tridrikh, 2016: 134.

Leucozона (Leucozона) lucorum (Linnaeus, 1758)

Leucozона (Leucozона) lucorum (Linnaeus, 1758): Zimina, 1972: 40; Violovitsh, 1982: 189; Mutin, Barkalov, 1999: 389; Mutin, Tridrikh, 2016: 134.

Melangyna (Melangyna) arctica (Zetterstedt, 1838)

Melangyna (Melangyna) arctica (Zetterstedt, 1838): Mutin, Barkalov, 1999: 392; Mutin, Tridrikh, 2016: 134.

Material. 9 — 1♀, 2–26.07.2020 (T); 9 — 1♀, 26.06.2020 (T).

Melangyna (Melangyna) barbifrons (Fallén, 1817)

Melangyna (Melangyna) barbifrons (Fallén, 1817): Mutin, Barkalov, 1999: 392.

Material. 5 — 1♀, 26.08.2019 (T).

Melangyna (Melangyna) basarukini Mutin, 1998

Melangyna (Melangyna) basarukini Mutin, 1998: Mutin, Barkalov, 1999: 392; Mutin, Tridrikh, 2016: 134.

Material. 4 — 1♂, 9♀♀, 18, 22.06.2019, 3.7–8.08.2020 (T) 5 — 1♂, 12.07.2017 (S).

Melangyna (Melangyna) coei Nielsen, 1971

Melangyna (Melangyna) coei Nielsen, 1971: Mutin, Barkalov, 1999: 391; Mutin, Tridrikh, 2016: 134.

Melangyna (Melangyna) compositarum (Verrall, 1873)

Melangyna (Melangyna) compositarum (Verrall, 1873): Violovitsh, 1982: 188; Mutin, Tridrikh, 2016: 134.

Material. 13 — 1♂, 6♀♀, 13, 22.07.1968 (L).

Melangyna (Melangyna) lasiophthalma (Zetterstedt, 1843)

Syrphus lasiophthalmus Zetterstedt, 1843: Zimina, 1972: 40;

Melangyna (Melangyna) lasiophthalma (Zetterstedt, 1843): Mutin, Tridrikh, 2016: 134.

Material. 10 — 1♂, 17.06.2020 (T).

- Melangyna (Melangyna) lucifera* Nielsen, 1980
Melangyna (Melangyna) lucifera Nielsen, 1980: Mutin, Tridrikh, 2016: 134.
Material. 13 — 1♂, 1♀, 3, 28.06.1968 (L.).
- Melangyna (Melangyna) olsufjevi* (Violovitsh, 1956)
Material. 9 — 3♀♀, 28.06–4.07.2020 (T.), 1♀, 3.07.2020 (T.), 2♀♀, 3.07.2020 (T.); 14 — 1♀, 17.06.2020 (T.).
- Melangyna (Melangyna) quadrimaculata* (Verrall, 1873)
Melangyna (Melangyna) quadrimaculata (Verrall, 1873): Zimina, 1972: 39; Mutin, Barkalov, 1999: 390; Mutin, Tridrikh, 2016: 134.
Material. 1♂, Dunga river, Snezhnyj settlement, 24.05.1975 (Korotyayev).
- Melangyna (Melangyna) umbellatarum* (Fabricius, 1794)
Melangyna (Melangyna) umbellatarum (Fabricius, 1794): Violovitsh, 1982: 189; Mutin, Barkalov, 1999: 392.
Material. 13 — 4♂, 14♀♀, 12–26.07.1968 (L.).
- Melangyna (Meligramma) guttata* (Fallén, 1817)
Syrphus guttatus Fallén, 1817: Zimina, 1972: 40;
Melangyna (Meligramma) guttata (Fallén, 1817): Mutin, Barkalov, 1999: 393; Mutin, Tridrikh, 2016: 134.
Material. 13 — 8♀♀, 12.07–19.08.1968 (L.); 1♀, Markovo settlement, 2.07.1968 (Bobrova).
- Melangyna (Meligramma) triangulifera* (Zetterstedt, 1843)
Melangyna (Meligramma) triangulifera (Zetterstedt, 1843): Mutin, Barkalov, 1999: 393; Mutin, Tridrikh, 2016: 134.
Material. 13 — 1♂, 1♀, 25.06.1968, 19.08.1968 (L.); 8 — 1♀, 5.07.2019 (T.).
- Melanostoma boreomontanum* Mutin, 1986
Material. 4 — 3♂♂, 16–22.06. 2019 (T.); 12 — 2♂♂, 30.06–3.07.2020 (S.).
- Melanostoma mellinum* (Linnaeus, 1758)
Melanostoma mellinum (Linnaeus, 1758): Zimina, 1972: 39; Violovitsh, 1982: 188; Mutin, Barkalov, 1999: 362; Mutin, Tridrikh, 2016: 134.
Material. 3 — 2♀♀, 07.2017 (T.); 4 — 2♂♂, 2♀, 22.06.2019, 30.07–4.08.2020 (T.); 6 — 1♀, 30.06.1966 (Romashova); 7 — 4♀♀, 10–27.2019 (T.); 9 — 4♂, 3♀, 25.06–7.07.2020 (T.); 10 — 6♂♂, 4♀♀, 16–17.06.2020 (T.); 12 — 1♂, 1♀, 2–6.07.2017 (S.); 14 — 3♂♂, 6♀♀, 16.06.2020 (T.).
- Melanostoma scalarae* (Fabricius, 1794)
Melanostoma scalarae (Fabricius, 1794): Violovitsh, 1982: 188.
Material. 4 — 1♂, 1♀, 22.06.2019, 30.07–4.08.2020 (T.).
- Meliscaeva cinctella* (Zetterstedt, 1843)
Syrphus cinctellus Zetterstedt, 1843: Zimina, 1972: 40, 1981: 152;
Meliscaeva cinctella (Zetterstedt, 1843): Violovitsh, 1982: 192; Mutin, Barkalov, 1999: 393; Mutin, Tridrikh, 2016: 134.
Material. 5 — 1♀, 12.07.2017 (S.), 3♂♂, 4♀♀, 18, 22.06.2019, 30.07–1.08.2020 (T.); 6 — 3♀♀, 20–23.07.1966, 26.07.1966 (Romasheva, Polyakova); 7 — 1♀, 13.07.2019 (T.); 12 — 1♂, 2♀♀, 2–6. 07.2017 (S.); 1♀, Magadan, 17.08.1978 (Vedernikov); 1♀, 12 km N Klepka settlement, 16.08.1975 (Barkalov).
- Paragus (Pandasyophthalmus) haemorrhous* Meigen, 1822
Paragus (Pandasyophthalmus) haemorrhous Meigen, 1822: Mutin, Barkalov, 1999: 276; Mutin, Tridrikh, 2016: 135.
Material. 11 — 1♂, 8.06.1974 (Matis); 1♂, upstream of Kolyma river, 15 km S mouth Elegenya river, 25.06.1992 (B.); 1♂, upstream of Kolyma river, environs of Peak Aborigen, 11.08.1986 (Dubatolov).
- Paragus (Paragus) gulangensis* Li et Li, 1990
Material. 13 — 2♂♂, 1–2.07.1968 (L.).
- Paragus (Paragus) leleji* Mutin, 1986
Material. 1♂, Lamutskoe settlement, 28.07.1968 (Bobrova).
- Parasyrphus annulatus* (Zetterstedt, 1838)
Syrphus annulatus Zetterstedt, 1838: Zimina, 1972: 40;
Mesosyrphus annulatus (Zetterstedt, 1838): Violovitsh, 1982: 191;
Parasyrphus annulatus (Zetterstedt, 1838): Mutin, Barkalov, 1999: 394; Mutin, Tridrikh, 2016: 134.
Material. 13 — 1♀, 13.07.1968 (L.).
- Parasyrphus lineolus* (Zetterstedt, 1843)
Mesosyrphus lineola Zetterstedt, 1843: Violovitsh, 1982: 191;
Parasyrphus lineolus (Zetterstedt, 1843): Mutin, Barkalov, 1999: 394.
Material. 1 — 1♀, 28.07.1978 (Bukhalo).
- Parasyrphus macularis* (Zetterstedt, 1843)
Material. 5 — 1♂, 12.07.2017 (S.).
- Parasyrphus magadanensis* Mutin, 1990
Parasyrphus magadanensis Mutin, 1990: Mutin, Barkalov, 1999: 394; Mutin, Tridrikh, 2016: 134.
- Parasyrphus malinellus* (Collin, 1952)
Parasyrphus malinellus (Collin, 1952): Mutin, Barkalov, 1999: 399; Mutin, Tridrikh, 2016: 134.
Material. 6 — 4♀♀, 15–26.07.1966 (Guzhina, Polyakova).
- Parasyrphus nigratarsis* (Zetterstedt, 1843)
Syrphus nigratarsis Zetterstedt, 1843: Zimina, 1972: 40, 1981: 153;
Parasyrphus nigratarsis (Zetterstedt, 1843): Mutin, Barkalov, 1999: 394; Mutin, Tridrikh, 2016: 134.
- Parasyrphus tarsatus* (Zetterstedt, 1838)
Mesosyrphus tarsatus Zetterstedt, 1838: Zimina, 1972: 41; Violovitsh, 1982: 191;
Parasyrphus tarsatus (Zetterstedt, 1838): Mutin, Tridrikh, 2016: 134.
Material. 5 — 1♂, 12.07.2017 (S.); 9 — 13♀♀, 17.06–26.07.2020 (T.); 13 — 53♂♂, 61♀♀, 10–25.06.1968 (L.); 2♀♀, Bolshoj Anachan mountain ridge, 7–29.06.1979 (B., Budarin).
- Parasyrphus vittiger* (Zetterstedt, 1843)
Parasyrphus vittiger (Zetterstedt, 1843): Mutin, Barkalov, 1999: 394; Mutin, Tridrikh, 2016: 134.

Material. 11 — 1♂, 1♀, 20–21.06.1974 (Matis); 12 — 1♀, 4.06.2017 (S.); 1♀, basin Sybyt-Tyellakh, 24.06.1979 (Andreev).

Platycheirus (Pachysphyria) ambiguus (Fallén, 1817)

Melanostoma ambiguum Fallén, 1817: Zimina, 1972: 39.

Material. 6 — 1♂, 20.07.1966 (Romashova).

Platycheirus (Pachysphyria) brunnifrons
Nielsen, 2004

Platycheirus coerulescens (Williston, 1887): Mutin, Barkalov, 1999: 365;

Platycheirus (Pachysphyria) brunnifrons Nielsen, 2004: Mutin, Tridrikh, 2016: 134.

Platycheirus (Platycheirus) albimanus
(Fabricius, 1781)

Platycheirus (Platycheirus) albimanus (Fabricius, 1781): Zimina, 1972: 39; Violovitsh, 1982: 187; Mutin, Barkalov, 1999: 369; Mutin, Tridrikh, 2016: 134.

Material. 13 — 1♂, 29.06.1968 (L.); 14 — 3♀♀, 16–18.06.2020 (T.); 1♀, 32 km Seimchan, 17.07.1974 (Korotyayev).

Platycheirus (Platycheirus) amplus (Curran, 1927)

Platycheirus (Platycheirus) amplus (Curran, 1927): Mutin, Barkalov, 1999: 367; Mutin, Tridrikh, 2016: 134.

Material. 9 — 1♀, 6♂♂, 28.06–4.07.2020 (T.); 13 — 2♂♂, 10.07.1968 (L.); 2♂♂, Markovo settlement, 7.07.1968 (Bobrova, L.).

Platycheirus (Platycheirus) angustatus
(Zetterstedt, 1843)

Platycheirus (Platycheirus) angustatus (Zetterstedt, 1843): Zimina, 1972: 39; Mutin, Barkalov, 1999: 370; Mutin, Tridrikh, 2016: 134.

Material. 6 — 2♀♀, 30.06.1966, 5.07.1966 (Romashova), 1♀, 26.07.1966 (Guzhina); 8 — 1♀, 5.07.2019 (T.); 9 — 3♂♂, 2♀♀, 26.06–7.07.2020 (T.); 12 — 3♂♂, 1♀, 2–7.07.2017 (S.); 13 — 1♂, 10.07.1968 (L.); 1♀, 3 km N Garmanda vill., 14.07.2020 (T.).

Platycheirus (Platycheirus) beringiensis
Barkalov et Mutin, 2014

Material. 9 — 6♂♂, 5♀♀, 3–26.06.2020 (T.).

Platycheirus (Platycheirus) chilisia (Curran, 1922)

Platycheirus hirtipes Kanervo, 1938: Violovitsh, 1982: 187; Zimina, 1972: 39;

Platycheirus carinatus Curran, 1927: Mutin, Barkalov, 1999: 365; Mutin, Tridrikh, 2016: 134.

Material. 1♂, 2♀♀, Egvekinot settlement, 8.07.1989; 1♂, 118 km on road Egvekinot–Iultin, 27.06.1989 (M.).

Platycheirus (Platycheirus) clypeatus (Meigen, 1822)

Platycheirus (Platycheirus) clypeatus (Meigen, 1822): Zimina, 1972: 39; Mutin, Tridrikh, 2016: 134.

Material. 9 — 2♂, 26.06–26.07.2020 (T.).

Platycheirus (Platycheirus) complicatus Becker, 1889

Material. 13 — 1♂, 2.07.1968 (L.); 1♂, 30 km W Magadan, 28.06.2017 (S.).

Platycheirus (Platycheirus) discimanus (Loew, 1871)

Platycheirus (Platycheirus) discimanus (Loew, 1871): Zimina, 1972: 39; Mutin, Barkalov, 1999: 365; Mutin, Tridrikh, 2016: 134.

Material. 13 — 1♂, 8.06.1968 (L.).

Platycheirus (Platycheirus) goeldlini Nielsen, 2004

Material. 1♂, SE end of Bolshoj Anochan mountain ridge, Olen' river, 7.06.1979 (B.).

Platycheirus (Platycheirus) groenlandicus
Curran, 1927

Material. 13 — 2♂♂, 15, 16.06.1968 (L.).

Platycheirus (Platycheirus) naso (Walker, 1849)

Platycheirus (Platycheirus) naso (Walker, 1849): Mutin, Barkalov, 1999: 367; Mutin, Tridrikh, 2016: 134.

Material. 7 — 1♂, 1♀, 24.07.2019 (T.); 9 — 2♂♂, 2–26.07.2020 (T.); 13 — 15♂♂, 16.06–10.07.1968 (L.); 1♂, 120 km NNE Seimchan, 7.07.2019 (T.).

Platycheirus (Platycheirus) hyperboreus
(Staeger, 1845)

Platycheirus (Platycheirus) hyperboreus (Staeger, 1845): Zimina, 1972: 39; Violovitsh, 1982: 187; Mutin, Barkalov, 1999: 372; Mutin, Tridrikh, 2016: 134.

Platycheirus (Platycheirus) jakuticus
Violovitsh, 1978

Platycheirus (Platycheirus) jakuticus Violovitsh, 1978: Mutin, Barkalov, 1999: 365; Mutin, Tridrikh, 2016: 134.

Material. 13 — 1♂, 15.07.1968 (L.); 1♂, Ust'-Omchug settlement, 23.06.1963 (Zhelokhovcev).

Platycheirus (Platycheirus) latimanus
Wahlberg, 1844

Platycheirus (Platycheirus) latimanus Wahlberg, 1844: Violovitsh, 1982: 187; Peck, 1988: 71; Mutin, Barkalov, 1999: 365; Mutin, Tridrikh, 2016: 134.

Material. 12 — 1♂, 30.06.2017 (S.).

Platycheirus (Platycheirus) magadanensis
Mutin in Mutin et Barkalov, 1999

Platycheirus (Platycheirus) magadanensis Mutin, 1999: Mutin, Barkalov, 1999: 372; Mutin, Tridrikh, 2016: 134.

Material. 9 — 2♂♂, 2–26.07.2020 (T.).

Platycheirus (Platycheirus) manicatus
(Meigen, 1822)

Material. 10 — 2♂♂, 16–17.06. 2020 (T.).

Platycheirus (Platycheirus) nielseni
Vockeroth, 1990

Platycheirus (Platycheirus) nielseni Vockeroth, 1990: Mutin, Barkalov, 1999: 367; Mutin, Tridrikh, 2016: 134.

Material. 6 — 1♂, 15.07.1966 (Polyakova); 14 — 1♂, 18.06.2020 (T.); 1♂, floodplain of Khinikandzha river, 12.07.1971 (Glushkova).

Platycheirus (Platycheirus) parmatus
Rondani, 1857

Platycheirus (Platycheirus) parmatus Rondani, 1857: Mutin, Tridrikh, 2016: 134.

Material. 12 — 1♂, 2–3.07.2017 (S.).

Platycheirus (Platycheirus) peltatus
(Meigen, 1822)

Platycheirus (Platycheirus) peltatus (Meigen, 1822): Zimina, 1972: 39; Violovitsh, 1982: 188; Mutin, Tridrikh, 2016: 134.

Material. 6 — 4♀♀, 4–15.07.1966.1966 (Guzhina); 13 — 15♀♀, 26.06–26.08.1968 (L.).

Platycheirus (Platycheirus) perpallidus Verrall, 1901

Platycheirus (Platycheirus) perpallidus Verrall, 1901: Mutin, Barkalov, 1999: 370; Mutin, Tridrikh, 2016: 134.

Platycheirus (Platycheirus) podagratus
(Zetterstedt, 1838)

Platycheirus (Platycheirus) podagratus (Zetterstedt, 1838): Zimina, 1972: 39; Violovitsh, 1982: 188; Mutin, Barkalov, 1999: 370; Mutin, Tridrikh, 2016: 134.

Material. 9 — 1♂, 7.07.2020 (T.); 13 — 2♂♂, 26.06.1968, 2.07.1968 (Levin).

Platycheirus (Platycheirus) scambus (Staeger, 1843)

Material. 10 — 1♂, 17.06.2020 (T.)

Platycheirus (Platycheirus) scutatus (Meigen, 1822)

Platycheirus (Platycheirus) scutatus (Meigen, 1822): Zimina, 1972: 39; Violovitsh, 1982: 188; 1983: 32; Mutin, Barkalov, 1999: 367.

Material. 9 — 1♂, 28.06.2020 (T.); 13 — 1♂, 15.06.1968 (L.).

? *Platycheirus (Platycheirus) aff. scutatus*
(Meigen, 1822)

Platycheirus (Platycheirus) aff. scutatus (Meigen, 1822): Mutin, Tridrikh, 2016: 134.

Platycheirus (Platycheirus) sigiktae
Mutin in Mutin et Barkalov, 1999

Material. 9 — 1♂, 29.07.2020 (T.).

Platycheirus (Platycheirus) setitarsis
Vockeroth, 1990

Platycheirus (Platycheirus) setitarsis Vockeroth, 1990: Mutin, Barkalov, 1999: 365; Mutin, Tridrikh, 2016: 134.

Material. 13 — 1♂, 15.06.1968 (L.).

Platycheirus (Platycheirus) sibiricus
Barkalov et Nielsen, 2007

Material. 13 — 2♂♂, 15–17.06.1968 (L.).

Platycheirus (Platycheirus) varipes Curran, 1923

Material. 1 — 1♂, 7.06.1979 (B.).

Platycheirus (Platycheirus) urakawensis
Matsumura, 1919

Material. 12 — 1♂, 6.07.2017 (S.)

Pyrophaena granditarsa (Forster, 1771)

Pyrophaena granditarsa (Forster, 1771): Violovitsh, 1982: 186; Mutin, Barkalov, 1999: 373; Mutin, Tridrikh, 2016: 134.

Material. 13 — 7♂♂, 7♀♀, 19.06–17.07.1968 (L.); 1♀, upper reaches of Kolyma river, 27.06.1974 (Korotyayev); 1♂, 76 km NE of Magadan, 31.07.1975 (Matis); 1♂, environs of Shirokij settlement, 4.07.1974 (Korotyayev); 3♂♂, 14♀, Seimchan, 7.06–15.07.1966 (Guzhina).

Pyrophaena platygastra (Loew, 1871)

Pyrophaena platygastra (Loew, 1871): Violovitsh, 1982: 187; Mutin, Barkalov, 1999: 373; Mutin, Tridrikh, 2016: 134.

Material. 6 — 2♀♀, 17–27.07.1966 (Guzhina, Romashova); 13 — 4♂♂, 1♀, 5.06–4.07.1968 (L.).

Pyrophaena rosarum Fabricius, 1787

Pyrophaena rosarum Fabricius, 1787: Mutin, Barkalov, 1999: 373; Mutin, Tridrikh, 2016: 134.

Material. 1 — 1♀, 27.06.1979 (Andreev); 1♀, 12 km N Klepka settlement, 16.08.1975 (Barkalov).

Scaeva lapponica (Zetterstedt, 1838)

Syrphus lapponicus Zetterstedt, 1838: Zimina, 1972: 40, 1981: 153;

Eupeodes (Lapposyrphus) lapponicus (Zetterstedt, 1838): Mutin, Barkalov, 1999: 386;

Lapposyrphus lapponicus (Zetterstedt, 1838): Mutin, Tridrikh, 2016: 134.

Material. 1 — 21♂♂, 21♀♀, 24.07–3.08.1979 (Budarin); 5 — 1♀, 29.08–2.09.2019 (T.); 6 — 2♀♀, 23.07.1966 (Polyakova); 11 — 1♀, 21.06.1974 (Matis); 13 — 52♂♂, 106♀♀, 27.05–30.08.1968 (L.); 1♀, 120 km NNE Seimchan, 7.07.2019 (T.); 1♂, 2♀♀, Solnechnyj settlement, Magadanka river, 20.08.1978 (Vedernikov); 1♂, Madaun settlement, 11.08.1962 (Kononov); 2♂♂, 10 km N Detrin river mouth, 16.07.1992 (B.); 1♂, opposite Elegenya river mouth, 10.07.1992 (B.).

Scaeva pyrastris (Linnaeus, 1758)

Scaeva pyrastris (Linnaeus, 1758): Violovitsh, 1982: 190; Mutin, Tridrikh, 2016: 134.

Material. 1 — 1♀, 07.1978 (Budarin).

Sphaerophoria (Sphaerophoria) abbreviata
Zetterstedt, 1849

Sphaerophoria (Sphaerophoria) abbreviata Zetterstedt, 1849: Mutin, Barkalov, 1999: 404; Mutin, Tridrikh, 2016: 134.

Material. 13 — 2♂♂, 25.06.1968 (L.).

Sphaerophoria (Sphaerophoria) borealpina
Goeldlin, 1899

Material. 1♂, 4♀♀, 10 km NNE Seimchan, 12–19.07.2019 (T.).

Sphaerophoria (Sphaerophoria) makarkini
Mutin in Mutin et Barkalov, 1999

Sphaerophoria (Sphaerophoria) makarkini Mutin, 1999: Mutin, Barkalov, 1999: 404; Mutin, Tridrikh, 2016: 134.

Material. 9 — 2♂♂, 2–26.07.2020 (T.).

Sphaerophoria (Sphaerophoria) pallidula
Mutin in Mutin et Barkalov, 1999

Sphaerophoria (Sphaerophoria) pallidula Mutin, 1999: Mutin, Barkalov, 1999: 404; Mutin, Tridrikh, 2016: 134.

Material. 9 — 6♂♂, 6♀♀, 2–26.07.2020 (T.), 6♂♂, 20.07.2020 (T.), 1♂, 1.08.2020 (T.).

Sphaerophoria (Sphaerophoria) philanthus
(Meigen, 1822)

Sphaerophoria (Sphaerophoria) philanthus (Meigen, 1822): Violovitsh, 1983: 53; Mutin, Barkalov, 1999: 402; Mutin, Tridrikh, 2016: 135.

Material. 1 — 1♂, 19.08.1979 (Budarin); 7 — 1♂, 16.07.2019 (T.); 8 — 6♂♂, 2♀♀, 5.07.2019 (T.), 1♂, 5.07.2019 (T.); 9 — 11♂♂, 1♀, 20.07–4.08.2020 (T.), 18♂♂, 2♀♀, 2–26.07.2020 (T.), 2♂♂, 2♀♀, 26.06.2020 (T.), 3♂♂, 4♀♀, 27.06–27.07.2020 (T.); 11 — 2♂♂, 9.08.2020 (T.); 13 — 1♂, 26.06.1968 (L.); 1♂, 3 km N Garmanda village, S. Khulikagchan stream, 62°12' N, 159°06' E, 192 m a.s.l. 9.08.2020 (T.); 1♂, 3 km N Garmanda village, 14.07.2020 (T.); 1♂, upper stream of Kolyma river, 10 km N mouth of Detrin river, 16.07.1992 (B.).

Sphaerophoria (Sphaerophoria) taeniata
(Meigen, 1822)**Material.** 14 — 1♂, 17.06.2020 (T.).*Sphaerophoria (Sphaerophoria) virgata*
Goeldlin, 1974*Sphaerophoria (Sphaerophoria) virgata* Goeldlin, 1974: Mutin, Barkalov, 1999: 404; Mutin, Tridrikh, 2016: 135.*Syrphus admirandus* Goeldlin, 1996*Syrphus admirandus* Goeldlin, 1996: Mutin, Barkalov, 1999: 409; Mutin, Tridrikh, 2016: 135.**Material.** 7 — 1♂♂, 1♀, 13.07.2019 (T.); 12 — 6♂♂, 1♀, 2–7.07.2017 (S.).*Syrphus attenuatus* Hine, 1922*Syrphus pilisquamis* Ringdahl, 1928: Zimina, 1972: 41, 1981: 154;*Syrphus attenuatus* Hine, 1922: Mutin, Barkalov, 1999: 408; Mutin, Tridrikh, 2016: 135.**Material.** 9 — 1♀, 2–26.07.2020 (T.); 1♀, Markovo settlement, 12.07.1968 (Bobrova).*Syrphus ribesii* (Linnaeus, 1758)*Syrphus beringi* Violovitsh, 1975: Violovitsh, 1975: 78; 1982: 190;*Syrphus ribesii* (Linnaeus, 1758): Zimina, 1972: 41, 1981: 154; Mutin, Tridrikh, 2016: 135.**Material.** 1 — 8♀♀, 5.08.1979 (Budarin); 4 — 1♀, 25.08.2020 (T.); 5 — 29.07.1992 (B.), 1♂, 12.07.2017 (S.), 1♂, 2♀♀, 10, 26.08.2019, 30.07.2020 (T.), 1♀, floodplain of Magadanka river, 17.08.1971 (Matis); 6 — 5♂♂, 16♀♀, 20.07–23.08.1963 (Polyakova), 4♂♂, 20♀♀, 15–16.07.1966 (Romashova); 7 — 1♂, 5♀♀, 10–24.07.2019 (T.); 8 — 1♀, 5.07.2019 (T.); 9 — 1♂, 8♀♀, 3–26.07.2020 (T.); 11 — 1♀, 9.08.2020 (T.); 5♂♂, 3♀♀, 21.06.1974 (Korotyayev, Matis); 12 — 1♂, 6.07.2017 (S.); 13 — 3♂♂, 18♀♀, 17.06–27.08.1968 (Gomoyunova, L.); 1♂, 9♀♀, upper stream of Kolyma river, 10 km N mouth of Detrin river, 16.07.1992 (B.); 1♂, 14♀♀, opposite mouth of Elen'ga river, 10.07.1992 (B.); 1♂, 2♀♀, Khinikandzha, 12.08.1971 (Budarin); 1♀, 10 km E Nechaevsk settlement, 5.08.1978 (Matis); 2♂♂, 1♀, environs of Debin settlement, 18.06.1974, 18.06.1979 (Korotyayev); 1♂, 2♀♀, Solnechnyj settlement, 1.08.1978 (Vedernikov); 1♀, Tal-Yuryakh river, 35 km NW Myandzhi, 18.07.1971 (Budarin); 1♂, 4♀♀, Magadan, 16.08–3.09.1978 (Vedernikov); 3♀♀, 1♀, environs of Magadan town, Nyuklya settlement, 1.08.1992 (B.); 1♂, 5♀♀, 17 km N Magadan town, 1–2.08.1996 (M.).*Syrphus sexmaculatus* (Zetterstedt, 1838)*Syrphus sexmaculatus* (Zetterstedt, 1838): Zimina, 1972: 41; Violovitsh, 1982: 190; 1983: 37; Peck, 1988: 48; Mutin, Barkalov, 1999: 407; Mutin, Tridrikh, 2016: 135.**Material.** 13 — 4♀♀, 14.08–2.09.1968 (L.).*Syrphus torvus* Osten-Sacken, 1875*Syrphus torvus* Osten-Sacken, 1875: Zimina, 1972: 41, 1981: 154; Violovitsh, 1982: 191; Mutin, Tridrikh, 2016: 135.**Material.** 1 — 1♀, 8.08.1978 (B.), 2♀♀, 5.08.1979 (Budarin); 5 — 3♂♂, 5♀♀, 30.07–16.08.1978 (Vedernikov), 1♀, 10, 29.08.2019 (T.); 6 — 1♀, 23.07.1966 (Romashova); 12 — 1♀, 2.3.07.2017 (S.), 1♂, 2♀♀, 24, 28.08.2020 (T.); 13 — 1♀, 6.07.1968 (Gomoyunova); 1♂, upper stream of Kolyma river, 21.06.1974 (Korotyayev).*Syrphus vitripennis* Meigen, 1822*Syrphus vitripennis* Meigen, 1822: Zimina, 1972: 41, 1981: 154; Violovitsh, 1982: 191; Mutin, Tridrikh, 2016: 135.**Material.** 4 — 2♂♂, 2♀♀, 26.08–2.09.2019 (T.); 6 — 2♂♂, 3♀♀, 20–21.07.1966 (Romashova); 13 — 1♂, 9♀♀, 08.1968 (L.); 1♀, Magadan town, 16.08.1978 (Vedernikov); 5♂♂, 1♀, Khasyn settlement, 18–21.07.1972 (Matis).

Pipizinae

Neocnemodon jakutorum (Stackelberg, 1952)*Neocnemodon jakutorum* (Stackelberg, 1952): Mutin, Tridrikh, 2016: 134.**Material.** 5 — 2♂♂, 3♀♀, 1–8.08.2020 (T.); 9 — 5♂♂, 5♀♀, 29.06–23.07.2020 (T.).*Neocnemodon vitripennis* (Meigen, 1822)*Neocnemodon vitripennis* (Meigen, 1822): Zimina, 1972: 42; Mutin, Barkalov, 1999: 498; Mutin, Tridrikh, 2016: 134.**Material.** 7 — 7♂♂, 6♀♀, 10.07.2019 (T.), 3♂♂, 4♀♀, 5–15.07.2010 (T.); 12 — 1♂, 1♀, 6.07.2018 (T.).*Pipiza accola* Violovitsh, 1985*Pipiza magadanica* Violovitsh, 1985: Violovitsh, 1985: 90;*Pipiza accola* Violovitsh, 1985: Mutin, Tridrikh, 2016: 134.*Pipiza austriaca* Meigen, 1822*Pipiza austriaca* Meigen, 1822: Mutin, Tridrikh, 2016: 134.**Material.** 7 — 1♀, 13.07.2019 (T.).*Pipiza bimaculata* Meigen, 1822**Material.** 9 — 4♀♀, 17.06–7.07.2020 (T.); 1♂, 100 NNE Seimchan, 13.07.2019 (T.).*Pipiza noctiluca* (Linnaeus, 1758)**Material.** 8 — 1♂, 5.07.2019 (T.).

Eristalinae

Anasimya lineata (Fabricius, 1787)*Eurimya lineata* (Fabricius, 1787): Violovitsh, 1982: 209;*Anasimya lineata* (Fabricius, 1787): Mutin, Tridrikh, 2016: 133.**Material.** 5 — 1♂, 10.08.1975 (Barkalov); 7 — 1♀, 10.07.2019 (T.); 1♀, 120 km NNE Seimchan, 7.07.2019 (T.); 6♀♀, Seimchan, 27.06–2.07.1966 (Romashova).*Anasimya lunulata* (Meigen, 1822)*Helophilus lunulatus* Meigen, 1822: Zimina, 1972: 44;*Anasimya lunulata* (Meigen, 1822): Violovitsh, 1982: 209; Mutin, Tridrikh, 2016: 133.**Material.** 6 — 1♂, 3♀♀, 1–16.07.1966 (Guzhina, Romashova, Polyakova); 7 — 3♂♂, 7♀♀, 10, 24.07.2019 (T.), 1♂, 10♀♀, 13–27.07.2019 (T.); 1♂, 9 — 28.06–4.07.2020 (T.); 13 — 1♀, 28.06.1968 (L.); 2♀♀, 120 km NNE Seimchan, 7.07.2019 (T.);*Anasimya interpuncta* (Harris, 1776)**Material.** 7 — 1♂, 10♀♀, 13–19.2019 (T.).*Arctosyrphus willingii* (Smith, 1912)*Arctosyrphus willingii* (Smith, 1912): Mutin, Tridrikh, 2016: 133.**Material.** 5 — 1♂, 1♀, 15.06.2020 (T.).*Blera (Blera) fallax* (Linnaeus, 1758)*Blera (Blera) fallax* (Linnaeus, 1758): Zimina, 1972: 44; Violovitsh, 1982: 212; Mutin, Tridrikh, 2016: 133.**Material.** 1 — 1♀, 15.07.1977 (Budarin).

Blera (Blera) nitens (Stackelberg, 1923)

Syrphus nitens (Zetterstedt, 1843): Zimina, 1972: 40, 1981: 153;

Blera (Blera) nitens (Stackelberg, 1923): Mutin, Barkalov, 1999: 480; Mutin, Tridrikh, 2016: 133.

Blera (Silvina) eoa (Stackelberg, 1928)

Blera (Silvina) eoa (Stackelberg, 1928); Mutin, Barkalov, 1999: 480; Mutin, Tridrikh, 2016: 133.

Blera (Silvina) yudini

Barkalov in Barkalov et Mutin, 1991

Blera (Silvina) yudini Barkalov, 1991: Mutin, Barkalov, 1999: 480; Mutin, Tridrikh, 2016: 133.

Brachyopa dorsata Zetterstedt, 1837

Brachyopa dorsata Zetterstedt, 1837: Zimina, 1972: 42.

Material. 12 — 1♀, 6.07.2017 (S.); 3♂♂, 13 — 2♀♀, 23.06.1968, 19.08.1968 (L.).

Brachyopa panzeri Goffe, 1945

Material. 12 — 1♂, 6.07.2017 (S.).

Brachyopa testacea (Fallén, 1817)

Material. 13 — 2♂♂, 2♀♀, 23.06.1968 (Violovitsh).

Brachyopa zhelochovtsevi Mutin, 1998

Brachyopa zhelochovtsevi Mutin, 1998: Mutin, Barkalov, 1999: 455; Mutin, Tridrikh, 2016: 133.

Chalcosyrphus (Chalcosyrphus) tuberculifemur
(Stackelberg, 1963)

Xylota tuberculifemur Stackelberg, 1963: Violovitsh, 1982: 214 (as);

Chalcosyrphus (Chalcosyrphus) tuberculifemur (Stackelberg, 1963): Mutin, Tridrikh, 2016: 133.

Material. 1 — 1♂, 15.07.1979 (Andreev).

? *Chalcosyrphus (Dimorphoxylota) eumerus*
(Loew, 1869)

Chalcosyrphus (Dimorphoxylota) eumerus (Loew, 1869): Violovitsh, 1982: 213.

Note. This species was not found in our material, considering its general more southerly distribution, its detection in the studied region seems to us doubtful.

Chalcosyrphus (Xylotina) nemorum
(Fabricius, 1805)

Xylota nemorum Fabricius, 1805: Violovitsh, 1982: 213;

Chalcosyrphus (Xylotina) nemorum (Fabricius, 1805): Mutin, Barkalov, 1999: 490; Mutin, Tridrikh, 2016: 133.

Material. 2 — 1♂, 1♀, 19–22.07.2014 (T.); 7 — 1♀, 10.07.2019 (T.); 1♂, 120 km NNE Seimchan, 7.07. 2019 (T.).

Chalcosyrphus (Xylotina) nitidus
(Portschinsky, 1879)

Material. 7 — 2♂♂, 5♀♀, 10–13.07.2019 (T.).

Chalcosyrphus (Xylotina) violovitshi
Bagatshanova, 1984

Chalcosyrphus (Xylotina) violovitshi Bagatshanova, 1984: Mutin, Barkalov, 1999: 490.

Material. 7 — 1♂, 7.07.2019 (T.).

Chalcosyrphus (Xylotomima) femoratus
(Linnaeus, 1758)

Chalcosyrphus (Xylotomima) femoratus (Linnaeus, 1758): Violovitsh, 1982: 213;

Chalcosyrphus curvipes (Fallén, 1823): Mutin, Tridrikh, 2016: 133.

Material. 6 — 1♂, 1♀, 21.07.1966, 3.08.1966 (Polyakova, Romashova); 1♂, upper stream of Kolyma river, environs of Peak Aborigen, 11.08.1986 (Dubatolov).

? *Chalcosyrphus (Xylotodes) piger* (Fabricius, 1794)

Chalcosyrphus (Xylotodes) piger (Fabricius, 1794): Literature. Violovitsh, 1982: 213.

Note. This species was not found in studied material, its detection in the studied region seems to us doubtful.

Chalcosyrphus (Xylotomima) rufipes (Loew, 1873)

Chalcosyrphus (Xylotomima) rufipes (Loew, 1873): Mutin, Barkalov, 1999: 486; Mutin, Tridrikh, 2016: 133.

Material. 7 — 1♂, 13.07.2019 (T.); 1♀, Khasyn settlement, 5 km ESE Palatka settlement, 18.07.1972 (Matis).

Chalcosyrphus (Xylotomima) valgus (Gmelin, 1790)

Chalcosyrphus (Xylotomima) valgus (Gmelin, 1790): Mutin, Barkalov, 1999: 486; Mutin, Tridrikh, 2016: 133.

Material. 2 — 1♀, 11.07.2014 (T.).

Cheilosia (Cheilosia) melanopa (Zetterstedt, 1843)

Cheilosia kamschatica Helén, 1930: Zimina, 1972: 42 (as);

Cheilosia (Cheilosia) melanopa (Zetterstedt, 1843): Mutin, Barkalov, 1999: 422; Mutin, Tridrikh, 2016: 133.

Material. 13 — 1♀, 13.07.1968 (L.); 14 — 2♂♂, 6♀♀, 16.06–18.07.2020 (T.).

Cheilosia (Cheilosia) mutabilis (Fallén, 1817)

Cheilosia (Cheilosia) mutabilis (Fallén, 1817): Mutin, Tridrikh, 2016: 133.

Cheilosia (Cheilosia) pagana (Meigen, 1822)

Cheilosia (Cheilosia) pagana (Meigen, 1822): Violovitsh, 1982: 203.

Material. 1, ♀ Koni Peninsula, 2–3.07.2017 (S.).

Cheilosia (Cheilosia) sapporensis (Shiraki, 1930)

Cheilosia (Cheilosia) sapporensis (Shiraki, 1930): Mutin, Barkalov, 1999: 418; Mutin, Tridrikh, 2016: 133.

Material. 1♂, 11km N Klepka settlement, 20.06.1975 (Marshakov).

Cheilosia (Cheilosia) sootyeni Nielsen, 1970

Material. 1♂, 6 — 8.06.1965 (Kononov).

Cheilosia (Cheilosia) sichotana Stackelberg, 1930

Material. 9 — 1♀, 28.06– 4.07.2020 (T.); 1♀, 11 km N Klepka settlement, 23.06.1975 (Marshakov).

Cheilosia (Cheilosia) velutina Loew, 1840

Cheilosia (Cheilosia) velutina Loew, 1840: Mutin, Barkalov, 1999: 434; Mutin, Tridrikh, 2016: 133.

Material. 5 — 1♀, 29.07.1992 (B.); 13 — 11♂♂, 99♀♀, 25.06–21.07.1968 (L.); 1♂, 1♀, Nyuklya settlement, 1.08.1992 (B.); 1m, 4♀♀, N Klepka settlement, 31.07.1975 (Matis); 1♂, 1♀, Madaun, 15.06.1971 (Glushkova).

Cheilosia (Cheilosia) vernalis (Fallén, 1817)

Cheilosia (Cheilosia) vernalis (Fallén, 1817): Mutin, Barkalov, 1999: 434; Mutin, Tridrikh, 2016: 133.

Material. 9 — 1♀, 27.06.2020 (T.); 12 — 1♀, 6.07.2017 (S.); 2♂♂, 6♀♀, Markovo settlement, 21.06.1967 (Polyakova); 1♀, same place, 7.07.1968 (Bobrova).

Cheilosia (Eucartosyrphus) longula (Zetterstedt, 1838)

Cheilosia (Eucartosyrphus) longula (Zetterstedt, 1838): Zimina, 1972: 42; Mutin, Tridrikh, 2016: 133.

Material. 1 — 1♀, 3.08.1979 (Budarin); 2 — 2♀♀, 19, 23.08.2014 (T.); 3 — 1♀, 30.07.2014 (T.); 5 — 1♂, 12.07.2017 (S.); 8♂♂, 23♀♀, 30.07–28.08.2020 (T.); 1♂, 29.07.1992 (B.); 6 — 3♀♀, 2–10.08.1966 (Chelyaev); 7 — 14♀♀, 10.07–2.09.2019 (T.); 9 — 1♀, 2–26.07.2020 (T.); 11 — 17♀♀, 8–18.08.2020 (T.); 12 — 3♂♂, 2–3.07.2017 (S.); 13 — 7♀♀, 26.07–7.08.1968 (L., Polyakova); 1♂, 20 km from Magadan, valley of Sneshnaya river, 27.07.1997 (Mutin); 1♀, 50 km N Magadan, 2.08.2020 (T.); 1♂, 53 km N Magadan, 10.07.2017 (S.); 1♂, 1♀, 120 km NNE Seimchan, 7.07.2019 (T.); 3♂♂, 2♀♀, upper stream of Kolyma river, 10 km N mouth of Detrin river, 16.07.1992 (B.); 1♂, 3♀♀, upper stream of Kolyma river, opposite of mouth of Elenga river, 10.07.1992 (B.); 6♂♂, 19♀♀, upstream of Kolyma river, environs of Peak Aborigen, 9, 11.08.1986 (Dubatolov); 1♀, Ola river, 12.08.1975 (Barkalov); 1♀, Khinikandzha, 12.07.1971 (Budarin); 1♀, Nogaevskaya bay, Southern coast, 25.07.1997 (Mutin); 1♂, 2♀♀, environs Sokol village, 1.08.2020 (T.).

Cheilosia (Floccocheila) motodomariensis Matsumura, 1916

Cheilosia (Floccocheila) motodomariensis Matsumura, 1916: Mutin, Tridrikh, 2016: 133.

Material. 5 — 1♂, 5♀♀, 12.07.2017 (S.); 1♀, Nyuklya settlement, 1.08.1992 (B.).

Cheilosia (Montanocheila) gorodkovi Stackelberg, 1963

Cheilosia (Montanocheila) gorodkovi Stackelberg, 1963: Barkalov in Violovitsh, 1983: 80; Mutin, Barkalov, 1999: 426.

Cheilosia (Neocheilosia) convexifrons Stackelberg, 1963

Cheilosia (Neocheilosia) convexifrons Stackelberg, 1963: Mutin, Barkalov, 1999: 436.

Cheilosia (Pollinocheila) chukotana Barkalov et Mutin, 2014

Material. 5 — 1♂, 22.06.2019 (T.).

Cheilosia (Taeniochilosia) violovitshi Barkalov, 1979

Cheilosia (Taeniochilosia) violovitshi Barkalov, 1979: Mutin, Barkalov, 1999: 410; Mutin, Tridrikh, 2016: 133.

Material. 1 — 1♀, 1200 m a.s.l., 28.07.1978 (Budarin); 9 — 1♀, 28.06–4.07.2020 (T.).

Chrysosyrphus alaskensis (Shannon, 1922)

Chrysosyrphus alaskensis (Shannon, 1922): Mutin, Barkalov, 1999: 459; Mutin, Tridrikh, 2016: 133.

Material. 9 — 5♂♂, 7♀♀, 28.06–23.07.2020 (T.); 14 — 2♂♂, 2♀♀, 18.06.2020 (T.).

Chrysosyrphus nasuta (Zetterstedt, 1838)

Chrysosyrphus nasuta (Zetterstedt, 1838): Mutin, Tridrikh, 2016: 133.

Material. 9 — 24♂♂, 66♀♀, 17.06–26.07.2020 (T.); 12 — 1♀, 2–3.07.2017 (S.); 1♀, Chemdzha River, environs of Kheta cordon, 13.07.2014 (T.).

Chrysosyrphus niger (Zetterstedt, 1843)

Chrysosyrphus niger (Zetterstedt, 1843): Zimina, 1972: 42; Mutin, Barkalov, 1999: 459; Mutin, Tridrikh, 2016: 133.

Material. 9 — 1♂, 11♀♀, 28.06–4.07.2020 (T.); 11 — 1♀, 10–18.08.2020 (T.).

Eristalis (Eoseristalis) abusiva Collin, 1931

Eristalis (Eoseristalis) abusiva Collin, 1931: Zimina, 1972: 43, 1981: 162; Violovitsh, 1982: 206; Mutin, Barkalov, 1999: 455; Mutin, Tridrikh, 2016: 133.

Material. 5 — 3♂♂, 4♀♀, 10–29.08.2019 (T.); 6 — 4♂♂, 12♀♀, 17.06–27.07.1966 (Guzhina, Polyakova, Romashova, Chelyaev); 1♂, 1♀, environs of Magadan, floodplain of Magadanka river, 17.08.1971 (Matis); 1♂, 1♀, 10 km N Magadana, 31.07.1978 (Matis); 1♂, 17 km N Magadan, 1–2.08.1995 (M.); 2♀♀, SW end of Bolshoj Annychag mountain ridge, 2–27.07.1979 (Andreev).

Eristalis (Eoseristalis) alpina Panzer, 1798

Eristalis (Eoseristalis) alpina Panzer, 1798: Violovitsh, 1982: 206; Mutin, Barkalov, 1999.

Eristalis (Eoseristalis) anthophorina (Fallén, 1817)

Eristalis (Eoseristalis) anthophorina (Fallén, 1817): Zimina, 1972: 43; Violovitsh, 1982: 206; Mutin, Tridrikh, 2016: 133.

Material. 5 — 1♂, 1♀, 29.07.1992 (B.); 6 — 4♀♀, 7.07–20.08.1966 (Polyakova, Romashova).

Eristalis (Eoseristalis) arbustorum (Linnaeus, 1758)

Eristalis (Eoseristalis) arbustorum (Linnaeus, 1758): Violovitsh, 1982: 206; Mutin, Barkalov, 1999: 453; Mutin, Tridrikh, 2016: 133.

Material. 5 — 3♂♂, 5♀♀, 24.08–2.09.2019 (T.); 6 — 24♂♂, 30♀♀, 7–23.07.1966 (Polyakova, Romashova); 2♀♀, environs of Magadan, Nyuklya settlement, 29.07–1.08.1992 (B.); 5♂♂, 17 km N Magadan, 1–2.08.1996 (M.).

Eristalis (Eoseristalis) fratercula (Zetterstedt, 1838)

Eristalis vallei (Kanervo, 1934): Violovitsh, 1982: 207;

Eristalis (Eoseristalis) fratercula (Zetterstedt, 1838): Mutin, Barkalov, 1999: 455; Mutin, Tridrikh, 2016: 133.

Material. 1♂, 2♀♀, upper stream of Kolyma river, Elgen settlement, 3–4.06.1975 (Barkalov); 1♂, Ust'-Chaun, 1.08.1986 (Dubatolov); 1♂, Kulu river, environs of Kulu settlement, 16.06.1976 (Glushkova).

Eristalis (Eoseristalis) gomojunovae Violovitsh, 1977

Eristalis (Eoseristalis) gomojunovae Violovitsh, 1977: Peck, 1988: 187; Mutin, Barkalov, 1999: 455; Mutin, Tridrikh, 2016: 133.

Material. 9 — 1♂, 23.07.2020 (T.).

Eristalis (Eoseristalis) hirta Loew, 1866

Eristalis tundrarum Frey, 1932: Zimina, 1972: 43, 1981; Violovitsh, 1982: 207; Mutin, Barkalov, 1999: 455;

Eristalis (Eoseristalis) hirta Loew, 1866: Mutin, Tridrikh, 2016: 133.

Material. 1 — 5♀♀, 3–14.08.1978 (Budarin); 5 — 7♂♂, 4♀♀, 29.07.1992 (B.); 1♀, 12.07.2017 (S.); 3♂♂, upper stream of Kolyma river, 10 km N mouth of Detrin river, 16.07.1992 (B.); 1♂, 1♀, 15 km from mouth of Elegenya river, 25.06.1992, 10.07.1992 (B.); 1♀, 40 km N Vetrennyj settlement, 26.06.1976 (Matis).

Eristalis (Eoseristalis) interrupta (Poda, 1761)

Eristalis nemorum (Linnaeus, 1758): Zimina, 1972: 43, 1981: 162; Violovitsh, 1982: 206;

Eristalis (Eoseristalis) interrupta (Poda, 1761): Mutin, Barkalov, 1999: 453; Mutin, Tridrikh, 2016: 133.

Material. 1 — 1♂, 3.08.1979 (Budarin); 5 — 1♂, 4♀♀, 29.07.1992 (B.); 6 — 22♂♂, 53♀♀, 21.06–20.08.1966 (Chelyaev, Guzhina, Polyakova, Romashova); 13 — 1♂, 19.08.1968 (L.); 14 — 18.06.2020 (T.); 2♀♀, upper stream of Kolyma river, 11.08.1986 (Dubatolov); 1♂, upper stream of Kolyma river, 15 km S mouth Elegenya river, 25.06.1992 (B.); 1♂, environs of Splavnaya village, 2.08.2020 (T.); 1♂.

? *Eristalis (Eoseristalis) lineata* (Harris, 1776)

Eristalis horticola (De Geer, 1776): Zimina, 1981: 162.

Note. This species was not found in studied material, its detection in the studied region seems to us doubtful.

Eristalis (Eoseristalis) obscura Loew, 1866

Eristalis vitripennis Strobl, 1893: Violovitsh, 1982: 207; Mutin, Barkalov, 1999: 454;

Eristalis (Eoseristalis) obscura Loew, 1866: Mutin, Tridrikh, 2016: 133.

Material. 1 — 12♂♂, 15♀♀, 26.06–20.08.1979 (Budarin); 5 — 1♂, 29.07.1992 (B.); 6 — 14♂♂, 20♀♀, 12.06–20.08.1966 (Chelyaev, Guzhina, Polyakova, Romashova); 7 — 1♀, 10.07.2019 (T.); 1♀, Kulu settlement, 4.07.1971 (Budarin); 1♀, same place, 23.07.1976 (Glushkova); 1♂, upper of Kolyma river, 10 km N Detrin river, 16.07.1992 (B.).

Eristalis (Eoseristalis) rossica Stackelberg, 1958

Eristalis (Eoseristalis) rossica Stackelberg, 1958: Violovitsh, 1982: 207; Mutin, Barkalov, 1999: 453; Mutin, Tridrikh, 2016: 133.

Material. 5 — 2♀♀, 29.07.1992 (B.); 6 — 1♂, 36♀♀, 15.07–20.08.1966 (Romashova); 13 — 1♀, 12.07.1968 (L.); 1♀, Nyuklya settlement, 1.08.1992 (B.); 1♀, upper stream of Kolyma river, environs of Peak Aborigen, 11.08.1986 (Dubatolov).

Eristalis (Eoseristalis) rupium Fabricius, 1805

Eristalis (Eoseristalis) rupium Fabricius, 1805: Zimina, 1981: 162; Violovitsh, 1982: 207; Mutin, Barkalov, 1999: 454; Mutin, Tridrikh, 2016: 133.

Material. 5 — 2♂♂, 29.07.1992 (B.); 6 — 8♀♀, 15–26.07.1966 (Polyakova); 9 — 1♂, 26.07.2020 (T.); 6♀♀, upper stream of Kolyma river, 10 km N mouth of Detrin river, 16.07.1992 (B.).

Eristalis (Eristalis) tenax Linnaeus 1758

Eristalis (Eristalis) tenax Linnaeus 1758: Violovitsh, 1982: 207.

Note. This species was not found in our material, but considering that this species was found in the forest-tundra of the Yamal Peninsula, its habitation is possible in the southern part of the Magadanskaya Oblast.

? *Eristalinus sepulcralis* (Linnaeus, 1758)

Eristalinus sepulcralis (Linnaeus, 1758): Violovitsh, 1982: 206.

Note. This species was not found in our material, considering its general more southern distribution, its detection in the studied region seems to us doubtful.

Eumerus strigatus (Fallén, 1817)

Material. 9 — 1♂, 13–23.07.2020 (T.).

Eumerus sp.

Note. The specimen we have resembles *Eumerus funeralis* Meigen, 1822, but its exact identification requires additional study.

Ferdinandea ruficornis (Fabricius, 1775)

Ferdinandea ruficornis (Fabricius, 1775): Mutin, Barkalov, 1999: 440; Mutin, Tridrikh, 2016: 133.

Helophilus affinis Wahlberg, 1844

Helophilus affinis Wahlberg, 1844: Zimina, 1972: 43; Violovitsh, 1982: 208; Mutin, Tridrikh, 2016: 133.

Material. 5 — 1♀, 29.08–2.09.2019 (T.); 6 — 5♂♂, 3♀♀, 15–27.07.1966 (Polyakova, Romashova); 7 — 1♂, 6♀♀, 10–13.07.2019 (T.); 1♀, 120 km NNE Seimchan, 7.07.2019 (T.); 1♂, Solnechnyj settlement, 21.08.1978 (Vedernikov); 1♀, upper stream of Omolon river, 5.08.1969 (Gomoyunova).

Helophilus bottnicus Wahlberg, 1844

Helophilus bottnicus Wahlberg, 1844: Mutin, Barkalov, 1999: 446.

Material. 1♀, Sibit-Tyellakh river, 7.07.1979 (B.).

Helophilus groenlandicus (Fabricius, 1780)

Helophilus groenlandicus (Fabricius, 1780): Zimina, 1972: 43; Violovitsh, 1982: 208; Mutin, Barkalov, 1999: 446; Mutin, Tridrikh, 2016: 133.

Material. 6 — 7♂♂, 5♀♀, 20–27.07.1966 (Romashova, Polyakova), 9.08.1964 (Bogomyakova); 13 — 39♂♂, 24♀♀, 30.07–26.08.1968 (L.); 14 — 1♂, 18.06.2020 (T.); 1♂, Solnechnyj settlement, 21.08.1978 (Vedernikov); 1♀, upper stream of Omolon river, 10.08.1969 (Gomoyunova).

Helophilus hybridus Loew, 1846

Helophilus hybridus Loew, 1846: Violovitsh, 1982: 208; Mutin, Barkalov, 1999: 447; Mutin, Tridrikh, 2016: 133.

Helophilus lapponicus Wahlberg, 1844

Helophilus lapponicus Wahlberg, 1844: Zimina, 1972: 44; Mutin, Barkalov, 1999: 446; Mutin, Tridrikh, 2016: 133.

Material. 1 — 1♂, 5.08.1979 (Busarin); 9 — 2♂♂, 3–26.07.2020 (T.); 13 — 14♂♂, 3♀♀, 30.07–19.08.1968 (L.).

Helophilus pendulus
(Linnaeus, 1758)

Helophilus pendulus (Linnaeus, 1758): Zimina, 1972: 44; Violovitsh, 1982: 208; Mutin, Barkalov, 1999: 447; Mutin, Tridrikh, 2016: 133.

Material. 5 — 2♂♂, 29.08–2.09.2019, 5.08.2020 (T.), 2♂♂, 1♀, 29.07.1992 (B.); 9 — 1♀, 28.07.2020 (T.), 3♂♂, 1♀, 7, 20.07.2020 (T.); 1♀, 17 km N Magadan, 1–20.08.1996 (M.); 1♂, mouth of Duncha river, 12.08.1978 (Matis);

? *Helophilus trivittatus* (Fabricius, 1805)

Helophilus trivittatus (Fabricius, 1805): Violovitsh, 1982: 208.

Note. This species was not found either by us or by other researchers of the studied region.

Lejota (Lejota) ruficornis
(Zetterstedt, 1843)**Material.** 13 — 1♂, 17.06.1968 (L).*Lejogaster tarsata* Meigen, 1822*Lejogaster tarsata* Meigen, 1822: Mutin, Tridrikh, 2016: 133.*Mallota megilliformis* (Fallén, 1817)*Mallota megilliformis* (Fallén, 1817): Violovitsh, 1982: 210.**Material.** 12 — 1♂, 6.07.2013 (S)*Neoascia (Neoascia) tenur* (Harris, 1780)*Neoascia dispar* (Meigen, 1822): Violovitsh, 1982: 196;*Neoascia (Neoascia) tenur* (Harris, 1780): Mutin, Barkalov, 1999: 462; Mutin, Tridrikh, 2016: 133.**Material.** 7 — 8♂♂, 9♀♀, 16–27.07.2020 (T); 9 — 1♀, 2–26.07.2020 (T); 14 — 1♂, 1♀, 16–18.06.2020 (T).*Neoascia (Neoasciella) geniculata*
(Meigen, 1822)*Neoascia (Neoasciella) geniculata* (Meigen, 1822): Zimina, 1972: 42; Mutin, Barkalov, 1999: 464; Mutin, Tridrikh, 2016: 133.**Material.** 14 — 12♂♂, 6♀♀, 16–28.06.2020 (T).*Neoascia (Neoasciella) sphaerophoria* Curran, 1925*Neoascia (Neoasciella) sphaerophoria* Curran, 1925: Violovitsh, 1982: 196; Mutin, Barkalov, 1999: 463; Mutin, Tridrikh, 2016: 133.? *Neoascia (Neoasciella) subchalibea* Curran, 1926*Neoascia (Neoasciella) subchalibea* Curran, 1926: Violovitsh, 1983: 107.**Note.** This species was not found in the studied material.? *Orthonevra elegans* (Meigen, 1822)*Orthonevra elegans* (Meigen, 1822): Violovitsh, 1982: 200.**Note.** This species was not found in the studied material.*Orthonevra stackelbergi* Thompson et Torp, 1982*Orthonevra stackelbergi* Thompson et Torp, 1982: Mutin, Barkalov, 1999: 462; Mutin, Tridrikh, 2016: 133.*Parhelophilus sibirica* (Stackelberg, 1924)*Parhelophilus sibirica* (Stackelberg, 1924): Zimina, 1972: 44; Mutin, Barkalov, 1999: 451; Mutin, Tridrikh, 2016: 133.*Rhingia campestris* Meigen, 1822*Rhingia campestris* Meigen, 1822: Zimina, 1972: 42; Violovitsh, 1982: 195; Mutin, Barkalov, 1999: 440; Mutin, Tridrikh, 2016: 133.**Material.** 14 — 1♀, 18.06.2020 (T).*Sericomyia arctica* Schirmer, 1913*Sericomyia arctica* Schirmer, 1913: Zimina, 1972: 43; Violovitsh, 1982: 206; Mutin, Barkalov, 1999: 444; Mutin, Tridrikh, 2016: 133.**Material.** 6 — 1♀, 5.08.1966 (Romashova); 1♀, Kegali, 12.08.1968 (L); 1♂, 1♀, 120 km NNE Seimchan, 7.07.2019 (T).*Sericomyia jakutica* (Stackelberg, 1927)**Material.** 6 — 1♂, 12.08.1966 (Romashova); 7 — 1♀, 11–15.07.2019 (T).*Sericomyia lappona* (Linnaeus, 1758)*Sericomyia lappona* (Linnaeus, 1758): Violovitsh, 1982: 206; Mutin, Barkalov, 1999: 444; Mutin, Tridrikh, 2016: 133.*Sericomyia nigra* Portschinsky, 1873*Sericomyia nigra* Portschinsky, 1873: Zimina, 1972: 43; Violovitsh, 1982: 206; Mutin, Barkalov, 1999: 444; Mutin, Tridrikh, 2016: 133.**Material.** 1 — 2♀♀, 3.08.1973 (Budarin); 6 — 4♀♀, 7–5.08.1966 (Mirzaeva, Polyakova); 13 — 3♀♀, 2.09.1968 (L.); 1♀, Magadanskaya Oblast, 11.07.1977 (Moshev).*Sericomyia tolli* (Frey, 1915)*Sericomyia tolli* (Frey, 1915): Violovitsh, 1982: 206.**Note.** This species was not found in our material despite this, given its general distribution, its presence in the northern part of the region is possible.*Sphegina (Asiosphegina) sibirica* Stackelberg, 1953*Sphegina (Asiosphegina) sibirica* Stackelberg, 1953: Violovitsh, 1982: 197; Mutin, Barkalov, 1999: 469.*Sphegina (Sphegina) calthae* Mutin, 1984*Sphegina (Sphegina) calthae* Mutin, 1984: Mutin, Barkalov, 1999: 468; Mutin, Tridrikh, 2016: 133.*Sphegina (Sphegina) carbonaria* Mutin 1998**Material.** 7 — 1♀, 11–15.07.2019 (T).*Sphegina (Sphegina) claviventris* Stackelberg, 1956**Material.** 7 — 4♂♂, 1♀, 10.07.2019 (T).*Sphegina (Sphegina) kurenzovi* Mutin, 1984*Sphegina (Sphegina) kurenzovi* Mutin, 1984: Mutin, Tridrikh, 2016: 133.*Sphegina (Sphegina) spheginea* (Zetterstedt, 1838)*Sphegina (Sphegina) spheginea* (Zetterstedt, 1838): Zimina, 1972: 42; Mutin, Barkalov, 1999: 467; Mutin, Tridrikh, 2016: 133.**Material.** 7 — 1♂, 4♀♀, 13–24.07.2019 (T); 9 — 1♀, 28.06–4.07.2020 (T); 1♀, 120 km NNE Seimchan, 7.07.2019 (T).*Syrirta pipiens* (Linnaeus, 1758)*Syrirta pipiens* (Linnaeus, 1758): Violovitsh, 1982: 214; Mutin, Barkalov, 1999: 484; Mutin, Tridrikh, 2016: 133.**Material.** 5 — 1♂, 10.08.2019 (T).*Temnostoma apiforme* (Fabricius, 1794)*Temnostoma apiforme* (Fabricius, 1794): Violovitsh, 1982: 215; Mutin, Barkalov, 1999: 482; Mutin, Tridrikh, 2016: 133.**Material.** 1♀, 120 km NNE Seimchan, 10.07.2019 (T).? *Temnostoma bombylans* (Fabricius, 1805)*Temnostoma bombylans* (Fabricius, 1805): Violovitsh, 1982: 215.**Note.** This species was not found in our material, it is unknown to the east of the Urals (Barkalov, Mutin, 2018).

Temnostoma vespiforme (Linnaeus, 1758)

Temnostoma vespiforme (Linnaeus, 1758): Violovitsh, 1982: 215; Mutin, Barkalov, 1999: 482; Mutin, Tridrikh, 2016: 133.

Material. 6 — 1♂, 26.07.1966 (Polyakova); 7 — 1♀, 13–24.07.2019 (T.).

Volucella bombylans (Linnaeus, 1758)

Volucella bombylans (Linnaeus, 1758): Zimina, 1972: 43; Violovitsh, 1982: 205.

Material. 1 — 1♂, 7.08.1978 (Budarin); 6 — 1♀, 17–27.06.1966 (Polyakova); 9 — 28.06–11.07.2020, 1♀, 29.06–2.07.2020 (T.); 1♀, Khasyn settlement, 21.07.1972 (Matis); 1♀, same place, 13.07.1975 (Barkalov); 2♂♂, 1♂, 1♀.

? *Volucella inanis* (Linnaeus, 1758)

Volucella inanis (Linnaeus, 1758): Violovitsh, 1982: 205.

Note. This species was not found in our material, considering its general more southern distribution, its detection in the studied region seems to us doubtful.

Volucella plumatoides Hervé-Bazin, 1923

Volucella plumatoides Hervé-Bazin, 1923: Zimina, 1972: 43; Mutin, Barkalov, 1999: 442; Mutin, Tridrikh, 2016: 133.

Material. 1♀, Magadanskaya Oblast, 11.07.1977 (Moshev).

Xylota (Xylota) caeruleiventris Zetterstedt, 1838

Xylota (Xylota) caeruleiventris Zetterstedt, 1838: Violovitsh, 1982: 213; Mutin, Tridrikh, 2016: 133.

Material. 7 — 1♀, 10.07.2019 (T.).

? *Xylota (Xylota) florum* (Fabricius, 1805)

Xylota (Xylota) florum (Fabricius, 1805): Violovitsh, 1982: 213.

Note. This species was not found in studied material, its detection in the studied region seems to us doubtful.

Xylota (Xylota) ignava (Panzer, 1798)

Xylota (Xylota) ignava (Panzer, 1798): Zimina, 1972: 44, 1981: 166; Violovitsh, 1982: 213; Mutin, Tridrikh, 2016: 133.

Material. 5 — 2♂♂, 29.07.1992 (B.); 6 — 1♀, 12.07.1966 (Polyakova); 7 — 2♀♀, 24.07.2019 (T.); 1♂, Nyuklya settlement, 1.08.1992 (B.); 3♂♂, upper stream of Kolyma river, 10 km N mouth Detrin river, 16.07.1992 (B.); 4♂♂, 1♀, upper stream of Kolyma river, Peak Aborigen, 11.08.1986 (Dubatolov); 2♂♂, 17♀♀, Ust'-Omchug settlement, 25.06.1971 (Glushkova), 22.07.1975 (Matis), 25.06.1992 (B.); 2♂♂, 4♀♀, Khasyn, 5 km WSW Palatka settlement, 16–18.07.1972 (Matis); 1♀, same place, 12.07.1975 (Barkalov); 1♀, Yagodnoe settlement, Debin river, 25.07.1971 (Glushkova); 1♂, 1♀, Debin settlement, Kolyma river valley, 15–18.06.19774 (Korotyayev).

? *Xylota (Xylota) meigeniana* Stackelberg, 1964

Xylota (Xylota) meigeniana Stackelberg, 1964: Violovitsh, 1982: 213.

Note. This species was not found in studied material, considering its general more southern distribution, its detection in the studied region seems to us doubtful.

Xylota (Xylota) nartshukae Bagatshanova, 1984

Xylota (Xylota) nartshukae Bagatshanova, 1984: Mutin, Barkalov, 1999: 495; Mutin, Tridrikh, 2016: 133.

Material. 7 — 7♂♂, 10♀♀, 24.07.2019 (T.); 8 — 1♂, 5.07.2019 (T.); 6♂♂, 2♀♀, 120 km NNE Seimchan, 7.07.2019 (T.); 1♀, Markovo settlement, 10.07.1967 (Polyakova).

Xylota (Xylota) sibirica Loew, 1871

Material. 7 — 1♂, 2♀♀, 10.07.2019 (T.).

Xylota (Xylota) suecica (Ringdahl, 1943)

Xylota (Xylota) suecica (Ringdahl, 1943): Mutin, Barkalov, 1999: 495.

Material. 1♀, 40 km N Vetrennyj settlement, 30.07.1976 (Manshina).

Xylota (Xylota) triangularis Zetterstedt, 1838

Xylota (Xylota) triangularis Zetterstedt, 1838: Zimina, 1972: 44; Violovitsh, 1982: 214; Mutin, Barkalov, 1999: 492; Mutin, Tridrikh, 2016: 133.

Material. 1 — 2♂♂, 1♀, 7, 8.08.1978 (B.); 6 — 1♀, 26.07.1966 (Polyakova); 7 — 2♂♂, 4♀♀, 10–24.07.2019 (T.); 13 — 4♂♂, 2♀♀, 28.06.1968, 14.08.1968, 2.09.1968 (L.); 2♂♂, 120 km NNE Simchan, 7.07.2019 (T.); 2♀♀, environs Madaun settlement, 4, 12.07.1962 (Ivliev, Kupyanskaya).

Discussion

As a result of the study, 198 species of hoverflies belonging to 45 genera of three subfamilies were found in the Magadanskaya Oblast. Representatives of the subfamily Microdontinae, as in many other northern faunas, were not found in the study area. The twelve species given in the works of N.A. Violovich are indicated in the list with a question mark, since we did not find them in the materials of the SZMN, which this author used when writing the above publications. We do not consider these species in our further analysis. On the other hand, we left two species that we did not find, *Eristalis tenax* (L.) and *Sericomyia tolli* (Frey), on the list, since they have previously been found in very similar northern faunas.

Despite a significant increase in the list of species compared to the previous one (144 species of Mutin & Tridrikh [2016]), the overall ratio of taxa in subfamilies and in genera remained approximately equal. Most species were recorded in the subfamily Syrphinae (104 species), followed by Eristalinae (88 species) with a difference of 14 taxa, and the subfamily Pipizinae with 6 species closes the list. At the same time, in terms of the number of generic taxa, Eristalinae is noticeably ahead of Syrphinae — 24 and 19 genera, respectively. Such a ratio of genera and species is characteristic of several northern faunas studied by us, and is apparently natural for the entire Asian North. The richest genus in terms of species in the Syrphinae was the genus *Platycheirus*, which has 30 species accounting for 15.7% of the total fauna. In the subfamily Eristalinae, the genus *Cheilosia* was the dominant in terms of the number of species, with 13 species. It is interesting to find in the studied boreal fauna two representatives of the genus *Eumerus*, mainly southern in its distribution. The unity of the fauna of the Magadanskaya Oblast and Chukotka is evidenced by the discovery of *Ch. chukotana* and *Pl. beringiensis* described quite recently in the fauna of Chukotka [Barkalov, Mutin, 2014].

The analysis of the arealogical composition of the studied fauna has shown that it is based on widespread species — with multiregional (common in several biogeographic kingdoms), Holarctic (found in both subkingdoms of the Holarctic), and trans-Eurasian (found from Western Europe to the shores of the Pacific Ocean) components.

Twelve species have a multiregional distribution, with the majority occurring not only in the Palaearctic and Nearctic, but also in the Oriental region. There are 66 species with the Holarctic type of distribution. Such a large number of «holarcts» confirms the close and long relationship between the faunas of Eurasia and North America through the land «bridges» that existed until relatively recently on a geological scale. Most likely, with a more thorough study of the northeastern Palaearctic and northwestern Nearctic, the number of such species will increase even more. These may include four species recently described from Chukotka and the Magadanskaya Oblast, *Parasyrphus magadanensis* Mut., *Platycheirus beringiensis* Bark. et Mut., *Pl. magadanensis* Mut. and *Cheilosia chukotana* Bark. et Mut. At present, these four species are endemic to the northeastern Palaearctic.

An even larger group in the fauna of the studied region is represented by trans-Eurasian species, of which there are 81. The presence of these species plus trans-Asian (21) and Far Eastern (11) species keeps the fauna of the Magadanskaya Oblast with a composition typical of boreal faunas of the Palaearctic.

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