

РОССИЙСКАЯ АКАДЕМИЯ НАУК
Южный научный центр

RUSSIAN ACADEMY OF SCIENCES
Southern Scientific Centre



Кавказский Энтомологический Бюллетень

CAUCASIAN ENTOMOLOGICAL BULLETIN

Том 15. Вып. 2

Vol. 15. No. 2



Ростов-на-Дону
2019

Leafminer flies (Diptera: Agromyzidae: Agromyzinae) of the fauna of Russia and other countries of the Palaearctic

Минирующие мухи (Diptera: Agromyzidae: Agromyzinae) фауны России и других стран Палеарктики

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Key words: Diptera, Agromyzinae, fauna, Russia, Palaearctic Region.

Ключевые слова: двукрылые насекомые, минирующие мухи, фауна, Россия, Палеарктическая область.

Abstract. A list of 38 species of the genera *Agromyza* Fallén, 1823 (9 species), *Euhexomyza* Lonsdale, 2014 (1 species), *Japanagromyza* Sasakawa, 1958 (1 species), *Melanagromyza* Hendel, 1920 (11 species) and *Ophiomyia* Braschnikov, 1897 (16 species) (Agromyzidae: Agromyzinae) occurring on the territory of Russia and some other countries together with localities and collection data is given. All the species are deposited in the collections of the Zoological Institute of the Russian Academy of Sciences in St Petersburg, Russia. All, except *Melanagromyza soja* (Zehntner, 1900), were determined by V.V. Zlobin. Known host plant genera are given for each species. New records for Russia, Armenia, Azerbaijan, Belarus, Iran, Kazakhstan, Kyrgyzstan, Mongolia, Turkmenistan and Uzbekistan are given. *Japanagromyza salicifolii* (Collin, 1911) described from Egypt is recorded for the first time in Asia (on border of Russia and Kazakhstan).

Резюме. Приведен список 38 видов минирующих мух из родов *Agromyza* Fallén, 1823 (9 видов), *Euhexomyza* Lonsdale, 2014 (1 вид), *Japanagromyza* Sasakawa, 1958 (1 вид), *Melanagromyza* Hendel, 1920 (11 видов) и *Ophiomyia* Braschnikov, 1897 (16 видов) (Agromyzidae: Agromyzinae), обитающих на территории России и других стран, с указанием мест нахождения и дат сбора. Материал хранится в коллекции Зоологического института Российской академии наук (Санкт-Петербург, Россия). Все виды, за исключением *Melanagromyza soja* (Zehntner, 1900), определены В.В. Злобиным. Для каждого вида указаны известные кормовые растения. Приведены новые находки для фауны Азербайджана, Армении, Белоруссии, Ирана, Казахстана, Киргизстана, Монголии, России, Туркменистана и Узбекистана. *Japanagromyza salicifolii* (Collin, 1911), описанный из Египта, впервые отмечается для Азии (найден на границе России и Казахстана).

Introduction

Leafminer flies (Diptera: Agromyzidae) is a big family of Acalyptratae with more than 3000 species and global distribution. Larvae are phytophagous, most of them

are mining in leaves, stalks and seeds of different plants, a few produce galls or are mining in the young xylem of trees or roots. Host plants of most species are mono- and dicoledonous plants. A few species develop in ferns, horsetails or liverworts. Most species are more or less host specific. Larvae of many species damage cultivated plants and trees and a few are quarantine objects. The agromyzid fauna of Russia and countries of the former USSR is insufficiently studied. Stackelberg [1958] published the list of species of most Acalyptratae families, occurring in Leningrad Region of the USSR, but Agromyzidae were omitted. Nartshuk and Tschirnhaus [2017] published the list of species of *Agromyza* Fallén, 1810 from the collection of the Zoological Institute of the Russian Academy of Sciences (ZIN, St Petersburg, Russia) and gave a short review of previous publications on Agromyzidae of Russia and adjacent countries.

This paper is the second in the set of papers on the agromyzid fauna of Russia. In this paper 9 species of the genus *Agromyza* with new distribution data and all species of other genera of the subfamily Agromyzinae occurring on the territory of Russia and adjacent countries, which were found in the collections determined by V.V. Zlobin (1953–2008) are considered. *Melanagromyza sojae* is determined by E.P. Nartshuk. All material is deposited in ZIN. Distribution is given according Martinez [2011] with additions from Černý [2005], Guglya [2010, 2011, 2016, 2017], Papp, Černý [2015], Černý et al. [2018]. The data on host plants of Benavent-Corai et al. [2005] is used to give an ecological background for the listed Agromyzinae species with additions from Černý [2005], Černý et al. [2018], in other cases authors are cited.

Some mentioned below species were described and discussed in the taxonomic papers [Zlobin, 1986, 1998, 2005; Nartshuk, 2009; Nartshuk, Bagachanova, 2010; Nartshuk, Khruleva, 2011].

New records are listed for Armenia (3 species), Azerbaijan (2), Belarus (2), Iran (1), Kazakhstan (1), Kyrgyzstan (3), Mongolia (3), European Russia (16), Tajikistan (2), Turkmenistan (3), Uzbekistan (2).

Genus *Agromyza* Fallén, 1823*Agromyza ambigua* Fallén, 1823

Material. Russia. Leningrad Region: 3 specimens, Luga, 9, 21.08.1953, 4.06.1954 (A. Stackelberg). Voronezh Region: 1 specimen, Belogor'ye, 3.07.1987 (Panteleeva). Volgograd Region: 1 specimen, Sarepta (now Volgograd), 1872 (A. Becker). Stavropol Region: 1 specimen, Stavropol, 18.06.1909 (Uvarov).

Ukraine. 1 specimen, Podolia Province, Kamenets District, Bagovitsa, 12.06.1896 (Sainog).

Kazakhstan. 1 specimen, Mountain Kokshetau near the Tertsakkan River, 20.06.1957 (E. Nartshuk).

Turkmenistan. 1 specimen, Kopet Dag, Ipaikala, 10 km E Karaul, 1500 m, 15.06.1972 (Tanasijtshuk); 1 specimen, Koylibay, Malye Barsuki, 13.08.1931 (Luppova).

Host plants. Poaceae: *Agropyron*, *Avena*, *Hordeum*, *Secale*, *Triticum*.

Distribution. All Palaearctic and Nearctic regions.

Agromyza bromi Spencer, 1966

Material. Russia. Voronezh Region: 3 specimens, Rogachevka, on *Hordeum*, 1989 (Ushchekov). Novosibirsk Region: 1 specimen, Novosibirsk, 26.06.1926. Yakutia: 1 specimen, Yakutsk, 20.07.1987 (V. Zlobin); 1 specimen, Mikhailovka, 60 km NE Amga, 1.08.1987 (V. Zlobin).

Belarus. 3 specimens, Mogilev Region, on *Hordeum*, 1988 (Ushchekov).

Host plants. *Ceratochloa unioides* (= *Bromus cantharticus*), probably other Poaceae.

Distribution. Britain Islands, Sweden, Danish mainland, Spain, France, Belgium, Switzerland, Germany, Poland, Lithuania, Czech Republic, Slovakia, Hungary, Croatia, Bulgaria, Ukraine, Russia, Turkey. New record for Belarus.

Agromyza lapponica Hendel, 1931

Material. Russia. North Ural: 2 specimens, Voykar River, 17.08.1925 (Fridolin). Irkutsk Region: Padun on Verkhnyaya Tunguska River, 1867 and 29.05.1868 (Chekanovski). Yakutia: 2 specimens, Bestyakh on Lena River, 12.06.1925 (Bianki); 3 specimens, Khamuran Apbyn near Aldan River mouth, 1.06.1926 (Bianki); 1 specimen, Keedai Lake, road to Amga, 15.07.1925 (Bianki); 2 specimens, Innyala River mouth, 20, 23.06.1976 (Kovalev); 2 specimens, Nyurba, Leninskiy District (now Nyurba District), 24, 30.06.1987 (V. Zlobin). Kamchatka: 1 specimen, Petropavlovsk, 22.07.1907 (Smirnov).

Belarus. 1 specimen, Belovezha, 1956.

Kazakhstan. 1 specimen, Karaganda Region, Kent Mt., 1200 m, 24.07.1957 (E. Nartshuk); 7 specimens, Talgar, Alma-Ata Nature Reserve, 26.06.1990 (V. Zlobin).

Host plant. Unknown.

Distribution. Sweden, Finland, Russia, Armenia, Kazakhstan, Mongolia. New record for Belarus.

Agromyza mobilis Meigen, 1830

Material. Russia. Yakutia: 1 specimen, Tolon, Lenskiy District, 15.07.1987 (V. Zlobin).

Host plants. Poaceae: *Agropyron*, *Brachypodium*, *Bromus*, *Echinochloa*, *Holcus*, *Hordeum*, *Secale*.

Distribution. Palaearctic: Britain Islands, Norway, Sweden, Finland, Portugal, Spain, France, Belgium, the Netherlands, Denmark, Germany, Poland, Estonia, Latvia, Lithuania, Czech Republic, Slovakia, Austria, Hungary, Switzerland, Andorra, Italy, Greece, former Yugoslavia, Ukraine, Russia, Turkey, China, Japan.

Agromyza nana (Fallén, 1823)

Material. Russia. St Petersburg: 1 specimen, 20.07.2000, on *Trifolium* (V. Zlobin); 1 specimen, 14.08.2000, on *Marticaia* (V. Zlobin).

Host plants. Fabaceae: *Anthyllis*, *Medicago*, *Melilotus*, *Onobrychis*, *Trifolium*, *Trigonella*, *Vicia*.

Distribution. All Palaearctic including North Africa, Turkey, Afghanistan, East Siberia, also in India.

Agromyza nigrella (Rondani, 1875)

Material. Russia. Yakutia: 197 specimens, Nyurba, Leninskiy District (now Nyurba District), 25.08.1987 (V. Zlobin).

Host plants. Poaceae: *Avena*, *Dactylis*, *Festuca*, *Glyceria*, *Holcus*, *Hordeum*, *Lolium*, *Phleum*, *Poa*, *Secale*, *Setaria*, *Trisetum*, *Triticum*.

Distribution. Holarctic species. Palaearctic: Canary Islands, North Africa, Britain Islands, Norway (mainland), Sweden, Finland, France (mainland), Netherlands, Denmark (mainland), Germany, Poland, Estonia, Lithuania, Czech Republic, Slovakia, Hungary, Switzerland, Italy (mainland), former Yugoslavia, Russia, Nearctic and Oriental regions.

Agromyza nigripes Meigen, 1830

Material. Mongolia. 1 specimen, Ara-Khangai aimak, 40 km SSW Tevshrulekh, 18–19.06.1975 (E. Nartshuk).

Host plants. Larva forms a long widening mine on the upper surface of leaf of *Glyceria maxima* and *Holcus* (Poaceae).

Distribution: Holarctic species known from Europe and Canada, but also in the Oriental Region (India). New record for Mongolia.

Agromyza pseudoreptans Nowakowski, 1964

Material. Russia. Smolensk Region: 1 specimen, Smolenskoe Poozer'ye National Park, 22.06.1992 (V. Zlobin).

Host plants. Larva forms linear-blotch mine, normally adjoining margin of leave of *Urtica dioica* (Urticaceae). *Humulus*, *Loasa*, *Laportea*, *Parietari* are also listed as host plants.

Distribution. Holarctic species. Palaearctic: Canary Islands, Britain Islands, Ireland, Norway (mainland), Sweden, Finland, Portugal, France (mainland), Belgium, the Netherlands, Denmark (mainland), Germany, Poland, Estonia, Lithuania, Czech Republic, Slovakia, Austria, Hungary, Switzerland, Italy (mainland), Greece, Ukraine, Russia, Georgia, Kazakhstan, Uzbekistan, North Korea. Nearctic: Canada and United States.

Agromyza reptans Fallén, 1823

Material. Russia. Leningrad Region: 1 specimen, Rozhdestveno, 19.06.1956 (A. Stackelberg); 1 specimen, Yashchera, Luga District, 20.08.1968 (A. Stackelberg).

Host plant. *Urtica* (Urticaceae).

Distribution. Palaearctic: Canary Islands, Britain Islands, Ireland, Norway (mainland), Sweden, Portugal (including Madeira), France (mainland), Belgium, the Netherlands, Denmark (mainland), Germany, Poland, Estonia, Latvia, Lithuania, Czech Republic, Slovakia, Hungary, Switzerland, Italy (mainland and Sardinia), Turkey, Moldova, Russia, Abkhasia, Kazakhstan, Turkmenistan, Kyrgyzstan. Nearctic and Oriental regions.

Genus *Euhexomyza* Lonsdale, 2014*Euhexomyza schineri* (Giraud, 1861)

Material. Russia. Smolensk Region: 1 specimen, Smolenskoe Poozer'ye National Park, 22.06.1992 (V. Zlobin). Krasnodar Region: 1 specimen, Kabardinka, S Novopossiisk, 1.07.1990 (E. Nartshuk).

Host plant. Larva forms oval gall on twigs of *Populus* (Salicaceae).

Distribution. Holarctic species. Palaearctic: Britain Islands, Finland, Portugal, Spain (mainland), France (mainland), Belgium, Germany, Poland, Lithuania, Austria, Italy (mainland), Iran, China, Japan. Nearctic: Canada, United States. New record for European Russia.

Note. The species had usually been a member of the genera *Melanadronyza* Hendel, 1920 or *Hexomyza* Enderlein, 1936. Lonsdale [2014] erected the genus *Euhexomyza* Lonsdale, 2014 and included *schineri* in this genus.

Genus *Japanagromyza* Sasakawa, 1958*Japanagromyza salicifolii* (Collin, 1911)

Material. Kazakhstan. 16 specimens, Ural River, Yanvartsevo, 8.07.1949 (Vyrzhikovskaya); Guriev (now Atyrau), Ural River, puparium 17.05.1980 in mina on leaf of *Populus nigra* f. *pyramidalis*, adult 30.05.1980 (without name of collector).

Host plants. *Populus*, *Salix* (Salicaceae).

Distribution. Egypt. New record for Asia: Kazakhstan. Probably occurs in Dagestan and Orenburg Region of Russia.

Genus *Melanagromyza* Hendel, 1920*Melanagromyza aeneoventris* (Fallén, 1823)

Material. Russia. Leningrad Region: 1 specimen, Vyborg District, Bolshoy Berezovy Island, 13.06.1980 (Kandybina). Smolensk Region: 30 specimens, Smolenskoe Poozer'ye National Park, 15, 22.06.1992, 13–15.06.1993 (V. Zlobin). Voronezh Region: 4 specimens, Ramon, 29.08, 6.10.1972, 26.06.1974 (Slobodinyuk). Ulyanovsk Region: 1 specimen, Tetyushi, 18.08.1989 (Basov). Crimea: 1 specimen, Karadag, 8.05.1992 (Richter). Irkutsk Region: 1 specimen, Baikalsk vic., Solsan River valey, 17.06.1980 (Shilenkova).

Mongolia. 1 specimen, Ulan-Bator, 24–29.06.1970 (I. Kerzhner); 2 specimens, Central Aimak, Zaisan, N slope of Bogdo Ula Mt., 15, 29.06.1967 (I. Kerzhner); 1 specimen, Gobi-Altai Aimak, Adzh-Bogdo Ridge, 10 km SSE Ikh-Bogdo-Ula Mt., 18.07.1970 (I. Kerzhner); 1 specimen, Gobi-Altai Aimak, S slope of Ikh-Bogdo-Ula Mt., 40 km E Bayan Gobi, 6–7.08.1969 (Zaitzev).

Japan. 1 specimen, Honshu, Inuyama, Gifu Prefecture, 10.10.1981 (Tanasijtshuk).

Host plants. *Carduus*, *Cirsium*, *Inula*, *Senecio* (Asteraceae). Larva feeds as internal stem-borer.

Distribution. Palaearctic: Britain Islands, Ireland, Norway (mainland), Sweden, Finland, Portugal, Spain, France (mainland), Belgium, the Netherlands, Denmark (mainland), Germany, Poland, Estonia, Latvia, Lithuania, Czech Republic, Slovakia, Austria, Hungary, Switzerland, Italy (mainland), former Yugoslavia, Bulgaria, Greece, Turkey, Ukraine, Kazakhstan, Iran, Pakistan, Taiwan, Japan. New records for European Russia and Mongolia.

Melanagromyza albocilia Hendel, 1931

Material. Russia. Voronezh Region: 1 specimen, Ramon, 22.08.1973, puparium in stem of *Convolvulus*. Penza Region: 1 specimen, Bashmakovo District, Lipovka, puparium in stem of *Convolvulus*.

Host plant. *Convolvulus* (Convolvaceae).

Distribution. Palaearctic: Algeria, Egypt, Sweden, Portugal, Spain (including Canary Islands), France (mainland), Denmark (mainland), Germany, Poland, Lithuania, Czech Republic, Slovakia, Austria, Hungary, Switzerland, Italy, Maltese Islands, Croatia, Bulgaria, Greece, Cyprus, Israel, Ukraine, Russia, Kazakhstan, Uzbekistan, Iran., the Oriental Region.

Melanagromyza angeliciphaga Spencer, 1969

Material. Russia. Leningrad Region: 1 specimen, Vyborg District, Bolshoy Berezovy Island, 31.05.1981 (Kandybina). Krasnodar Region: 1 specimen, Sochi, Abigo, 8.07.2002, inferential from stem of *Heracleum mantegazzianum* (Hansen).

Host plants. *Angelica*, *Heracleum*, *Pastinaca* (Apiaceae).

Distribution. Palaearctic: Britain Islands, Sweden, Finland, Spain (mainland), France (mainland), Belgium, the Netherlands, Denmark (mainland), Germany, Poland, Estonia, Lithuania, Czech Republic, Slovakia, Hungary, Greece, Kazakhstan, Japan. New records for European Russia.

Melanagromyza cunctans (Meigen, 1830)

Material. Russia. Moscow: 1 specimen, Bitsa, 14.08.1936 (Rohdendorf).

Host plant. *Lotus* (Fabaceae). Larva feeds in the upper part of the stem, forms a slender, cylindrical gall immediately below inflorescence.

Distribution. Palaearctic: Egypt, Britain Islands, Sweden, Portugal, Spain (including Canary Islands), Andorra, France (including Corsica), Belgium, the Netherlands, Denmark, Germany, Poland, Lithuania, Czech Republic, Slovakia, Austria, Liechtenstein, Hungary, Switzerland, Italy, Maltese Islands, former Yugoslavia, Albania, Greece, Romania, Bulgaria, Turkey, Cyprus, Ukraine, Kazakhstan, Uzbekistan, Iran, Pakistan, China. Afrotropical (including Madagascar), and Oriental (India) regions. New record for European Russia.

Melanagromyza dettmeri Hering, 1933

Material. Russia. Smolensk Region: 5 specimens, Smolenskoe Poozer'ye National Park, 15–16, 18.06.1992 (V. Zlobin).

Host plants. *Centaurea*, *Senecio*, *Tragopogon* (Asteraceae).

Distribution. Palaearctic: Britain Islands, Ireland, Spain (mainland), France (mainland), the Netherlands, Denmark (mainland), Germany, Poland, Latvia, Lithuania, Czech Republic, Slovakia, Belarus, Japan. New record for European Russia.

Melanagromyza heracleana Zlobin, 2005

Material. Russia. Karachay-Cherkessia: 3 specimens (holotype and two paratypes), near Arkhyz, 1000–1700 m, 06.2002 (J. Hattendorf).

Turkey. 1 specimen, Ankara Province, Kizilcahamam, 2.07.2007 (Koçak).

Host plants. Larva develops as stem-borer of *Heracleum mantegazzianum* (Apiaceae) [Zlobin, 2005] and *H. platytaenium* Boiss. [Koçak et al., 2009].

Distribution. Palaearctic: south of European Russia, Turkey.

Melanagromyza lappae (Loew, 1850)

Material. Russia. Leningrad Region: 2 specimens, Yukki, St Petersburg vic., 27.07.1931 (A. Stackelberg).

Host plants. Arctium, Stemmactanthia (Asteraceae).

Distribution. Palaearctic: Azores Islands, Britain Islands, Sweden, Finland, Spain (mainland), France (mainland), the Netherlands, Denmark (mainland), Germany, Poland, Estonia, Lithuania, Czech Republic, Austria, Hungary, Switzerland, Romania, Russia.

Melanagromyza nigrissima Spencer, 1976

Material. Russia. Leningrad Region: 1 specimen, Vyborg District, Bolshoy Berezovy Island, 31.05.1981 (Kandybina).

Host plants. Anthriscus, Heracleum (Apiaceae).

Distribution. Palaearctic: Sweden, Finland, France (mainland), Denmark (mainland), Estonia, Latvia, Lithuania, Czech Republic, Hungary, Belarus, Ukraine. New record for European Russia.

Melanagromyza pubescens Hendel, 1923

Material. Russia. Leningrad Region: 2 specimens, Yukki, St Petersburg vic., 16–18.07.1933 (Stackelberg). Smolensk Region: 19 specimens, Smolenskoe Poozer'ye National Park, 18.07, 10.08.1991, 15–16.06.1992 (V. Zlobin). Amur Region: 9 specimens, Zeya, 10.08.1978, 19.07.1981 (Shatalkin), 3–5.08.1981 (Ozerov), 3.08.1981 (Gorbunov). Primorsky Region: 1 specimen, 40 km SO Ussuriysk, 25.07.1983 (Ozerov).

Estonia. 1 specimen, Nyursi, 14 km SE Vyr, 11.06.1989 (E. Nartshuk).

Mongolia. 1 specimen, Khubsugul Aimak, 10 km SE Muren, 23–24.07.1975 (E. Nartshuk).

Host plant. Artemisia (Asteraceae). Larva feeds in the lower part of plant.

Distribution. Palaearctic: Britain Islands, Sweden, Finland, Portugal, Spain, Belgium, Denmark (mainland), Germany, Poland, Estonia, Lithuania, Czech Republic, Slovakia, Austria, Hungary, Italy (mainland), Romania, Greece, Turkey, Ukraine, Russia (east to Kuril Islands), China, Nepal, Mongolia, North Korea, Japan. Afrotropical Region.

Melanagromyza sojaj (Zehntner, 1900)

Material. Russia. Amur Region: 4 specimens, Blagoveshchensk, 1985 (Dubovitskaya) (det. E.P. Nartshuk).

Host plants. Aeschynomene, Cajanus, Flemingia, Glycine, Indigofera, Medicago, Melilotus, Phaseolus, Swainsona (Fabaceae).

Distribution. Near East, East Palaearctic, Oriental and Australasian regions. Spencer [1966] recorded the species for Crimea (Russia).

Melanagromyza tripolii Spencer, 1957

Material. Uzbekistan. 1 specimen, Nuratau Mt., 5 km S Farish, 29.05.1984 (Tanasiytshuk).

Host plant. Unknown.

Distribution. Palaearctic: Britain Islands, Spain (mainland), France (mainland), the Netherlands, Denmark (mainland), Germany, Czech Republic, Slovakia, Hungary, Italy (mainland), Turkey, Ukraine. New record for Uzbekistan.

Genus *Ophiomyia* Braschnikov, 1897*Ophiomyia beckeri* (Hendel, 1923)

Material. Russia. Smolensk Region: 1 specimen, Smolenskoe Poozer'ye National Park, 15.06.1992 (V. Zlobin). Krasnodar Region: 3 specimens, Dubinka, 10.05.1983 (Polyakov).

Host plants. Coreopsis, Crepis, Hypochoeris, Launaea, Leontodon, Picris, Sonchus and Taraxacum (Asteraceae).

Distribution. Palaearctic: Morocco, Algeria, Egypt, Britain Islands, Ireland, Sweden, Finland, Portugal (including Madeira), Spain (including Balearic and Canary Islands), Andorra, France (mainland), Belgium, Denmark (mainland), Germany, Poland, Lithuania, Czech Republic, Austria, Liechtenstein, Hungary, Switzerland, Italy (Sicily), Maltese Islands, former Yugoslavia, Albania, Greece, Ukraine, Kazakhstan, Near East, Iran. Afrotropical and Oriental (India) regions. New records for European Russia.

Ophiomyia campanularum Starý, 1930

Material. Russia. Leningrad Region: 1 specimen, Vyborg District, Bolshoy Berezovy Island, 24.08.1979 (Kandybina).

Host plant. Campanula (Campanulaceae). Larva forms stem mine in grain.

Distribution. Palaearctic: Sweden, Germany, Poland, Hungary, Switzerland, Czech Republic, Slovakia. New record for European Russia.

Ophiomyia cunctata (Hendel, 1920)

Material. Turkmenistan. 3 specimens, Ashgabad, on Sonchus oboerces L., 10.08.2000 (Kokanova).

Host plants. Bellis, Crepis, Hypochaeris, Lactuca, Lapsana, Picris, Prenanthes, Sonchus, Taraxacum (Asteraceae). Larva forms whitish blotch mine with offshoots into leaf blade.

Distribution. Palaearctic: Algeria, Britain Islands, Norway, Sweden, Finland, Spain (including Balearic and Canary Islands), Andorra, France, Denmark (mainland), Germany, Poland, Lithuania, Czech Republic, Slovakia, Austria, Hungary, Switzerland, Italy (mainland), former Yugoslavia, Albania, Greece, Turkey, Cyprus, Moldova, Ukraine, Russia. New record for Turkmenistan.

Ophiomyia curvipalpis (Zetterstedt, 1848)

Material. Russia. Leningrad Region: 5 specimens, Yukki, St Petersburg vic., 25.07, 2–3, 20.08.1933 (A. Stackelberg); 1 specimen, Gobzhitsy, Luga vic., 3.07.1934 (A. Stackelberg). Crimea: 2 specimens, Karadag, 5.08.1989 (Lvovsky). Irkutsk Region: 1 specimen, Listvyanka, 21.06.1965 (O. Negrobov). Yakutia: 1 specimen, Mikhailovka, 60 km NE Amga, 17.07.1987 (Bagachanova).

Turkmenistan. 3 specimens, Kopetdag, Ipaikala, 10 km E Karaul, 23.06.1972 (Loginova), 27.06.1972 (Zaitzev); 2 specimens, Kugitang, Chordzha Filata, 11–18.06.1965 (Tanasiytshuk).

Uzbekistan. 2 specimens, Khiva, 10.04.1927 (L. Zimin).

Kyrgyzstan. 1 specimen, Chatkal Nature Reserve, 20.07.1978 (Tanasiytshuk).

Tajikistan. 1 specimen, Khorog, Botanical Garden, 2.09.1965 (Tanasiytshuk).

Host plants. Achillea, Anthemis, Artemisia, Aster, Centaurea, Crepis, Matricaria, Reichardia, Tanacetum (Asteraceae). Larva forms narrow stem-mine.

Distribution. Palaearctic: Morocco, Egypt, Britain Islands, Norway, Sweden, Finland, Portugal, Spain (including Canary Islands), Andorra, France (mainland), Belgium, Denmark (mainland), Germany, Poland, Estonia, Lithuania, Czech Republic, Austria, Hungary, Switzerland, Italy, Maltese Islands, former Yugoslavia, Romania, Bulgaria, Greece, Turkey, Cyprus, Israel, Ukraine, Russia, Iran, Afghanistan, Japan. New records for Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan.

Ophiomyia definita Spencer, 1971

Material. Russia. Leningrad Region: 1 specimen, Yuki, St Petersburg vic., 5.08.1933 (A. Stackelberg).

Host plant. Unknown.

Distribution. Britain Islands, Sweden, Belgium, Estonia, Lithuania, Czech Republic, Hungary. New record for European Russia.

Ophiomyia halimodendronis (Zlobin, 1998)

Material. Armenia: 15 specimens (including holotype and paratypes), Abovyan, 11.05.1985 (Arutyunyan).

Host plant. Larva forms gall on twig of *Halimodendron holodendron* (Pal.) Voss. (Fabaceae).

Distribution. Armenia.

Ophiomyia heringi Starý, 1930

Material. Russia. Leningrad Region: 1 specimen, Yuki, St Petersburg vic., 30.07.1933 (A. Stackelberg).

Host plants. *Campanula*, *Crepis*, *Hieracium*, *Hypochaeris*, *Jasione*, *Lapsana*, *Leontodon*, *Matricaria*, *Mycelis*, *Phyteuma*, *Prenanthes*, *Reichardia*, *Scorzonera*, *Sonchus*, *Tragopogon* (Asteraceae). Larva forms an external stem mine with frass in two rows of disconnected strips on host plants.

Distribution. Palaearctic: Britain Islands, Sweden, Finland, Portugal, France (mainland), Germany, Poland, Latvia, Lithuania, Czech Republic, Slovakia, Austria, Hungary, Switzerland, Italy. New record for European Russia.

Ophiomyia labiatarum Hering, 1937

Material. Russia. Leningrad Region: 1 specimen, Gobzhitsy near Luga, 19.08.1934 (A. Stackelberg).

Host plants. *Clinopodium vulgare*, *Galeopsis*, *Lamium album*, *L. galeobdolon*, *L. maculatum*, *Leonurus*, *Nepeta*, *Prunella*, *Salvia*, *Satureja*, *Scutellaria galericulata*, *Stachys officinalis*, *S. palustris*, *S. recta* and *S. sylvatica* (Lamiaceae). Larva forms external stem mine.

Distribution. Holarctic species. Palaearctic: Egypt, Britain Islands, Norway, Sweden, Finland, Portugal, Spain (mainland), Andorra, France (mainland), Belgium, Germany, Poland, Latvia, Lithuania, Czech Republic, Slovakia, Austria, Hungary, Switzerland, Croatia, Bulgaria, Greece, Turkey, Cyprus, Israel, Ukraine. Nearctic: Canada, United States. New record for European Russia.

Ophiomyia longilingua (Hendel, 1920)

Material. Russia. Leningrad Region: 2 specimens, Yuki, St Petersburg vic., 06.1929, 30.07.1933 (A. Stackelberg).

Estonia. 1 specimen, Saaremaa, Nature Reserve "Vidumyae", 25.07.1987 (E. Nartshuk).

Host plant. *Knautia* (Dipsacaceae).

Distribution. Palaearctic: Britain Islands, Norway, Finland, France (mainland), Germany, Latvia, Lithuania, Czech Republic, Austria, Hungary, Switzerland, Greece, Ukraine. New record for European Russia.

Ophiomyia maura (Meigen, 1838)

Material. Russia. Leningrad Region: 2 specimens, St Petersburg, 13.07.1998 (V. Zlobin); 4 specimens, Yuki, St Petersburg vic.,

2–3, 20.08.1933 (A. Stackelberg); 1 specimen, Nizhnaya Bronnaya, Petergof vic., 8.06.1918 (A. Stackelberg); 1 specimen, Gobzhitsy, Luga vic., 12.08.1931 (A. Stackelberg).

Host plants. *Aster*, *Erigeron*, *Solidago* (Asteraceae).

Distribution. Holarctic species. Palaearctic: Britain Islands, Norway, Sweden, Finland, Spain (including Canary Islands), Andorra, France (mainland), Belgium, the Netherlands, Denmark (mainland), Germany, Poland, Latvia, Lithuania, Czech Republic, Slovakia, Austria, Italy (including Sicily), former Yugoslavia, Bulgaria, Yemen, Oman, Belarus, Ukraine, China, Japan. Nearctic: Canada. New record for European Russia.

Ophiomyia nasuta (Melander, 1913)

Material. Russia. 1 specimen, Komi Republic: Ust-Tzilma [earlier in Arkhangelsk Region], 14.07.1905 (Zhuravski).

Leningrad Region: 1 specimen, Fan-der-Flint, Luga vic., 19.06.1925 (A. Stackelberg); 5 specimens, Yuki, St Petersburg vic., 8.08.1931, 15.06.1932, 18.06.1933 (A. Stackelberg); 1 specimen, Vyborg District, Bolshoy Berezyov Island, 10.06.1980 (Kandybina); 1 specimen, St Petersburg, on flowers *Convolvulus*, 16.06.1995 (V. Zlobin); 1 specimen, Lesnoe, St Petersburg, 29.06.1999 (Ivanov). Pskov Region: 1 specimen, Kharlamova Gora, Gdov District, 1.06.1891 (Pleske); 2 specimens, Oparino, Novorzhevskiy District, 20.06, 11.07.1915 (Kuznetsov); 2 specimens, Isborsk, 6.06.1969 (Tanasijtshuk). Smolensk Region: 1 specimen, Smolenskoe Poozer'ye National Park, 11.06.1993 (V. Zlobin). Lipetsk Region: Nature Reserve "Galich'ya Gora", 2 specimens, 20–25.05.1977 (Panteleeva), 1 specimen, 20.07.1977 (V. Zlobin); 1 specimen, Lebedyan District, Vyazovo, 4.06.1982 (Panteleeva); 1 specimen, Ivovo, 13.06.1985 (Panteleeva); 1 specimen, Donskoe, 1.08.1985 (Panteleeva). Kursk Region: 2 specimens, Central Black Earth Nature Reserve, 2.07.1953 (E. Nartshuk); 1 specimen, Gorshechnoe, 18.07.1985 (Panteleeva). Voronezh Region: 1 specimen, Kantemirovskiy District, Volokon, 17.07.1984 (Panteleeva); 1 specimen, Bogucharskiy District, Nizhniy Liman, 12.07.1986 (Panteleeva). Penza Region: 1 specimen, Nizhniy Lomov District, 23.06.1864 (Chekanovski). Krasnodar Region: 1 specimen, Krasnaya Polyana, cordon Peluk, 7.06.1978 (Richter). Crimea: 1 specimen, Krasnoles'ye, 19.05.1983 (E. Nartshuk). Kurgan Region: 2 specimens, Kurgan, 14.06.1951 (E. Nartshuk). Kemerovo Region: 1 specimen, Tisul, Mariinsk District, 2–4.06.1911 (Gorchakovski). Altai: 1 specimen, Ukhaly, Biysk District, 05.1911 (Yurganova); 1 specimen, Elinovo, Solonshnoe District, 18.06.1988 (A. Kireitshuk). Irkutsk Region: 1 specimen, Baykalsk vic., Solsan River valley, 17.06.1980 (Shilenkova); 1 specimen, Baykalsk vic., Kharlakhta River valley, 18.06.1980 (Shilenkova). Transbaikalia: 1 specimen, Dzhibatai, Vitim River basin (Rohdendorf). Amur Region: 1 specimen, Bolshoy Never, 3.06.1927 (Zakharzhevski). Primorsky Region: 1 specimen, Nature Reserve "Kedrovaya pad'", 16.06.1962 (E. Nartshuk); 3 specimens, Ussuriysk District, Kamenushka, 15.06.1978 (V. Zlobin). Kuril Islands: 1 specimen, Shikotan, 15.08.1971 (Tanasijtshuk).

Finland. 1 specimen, Espo, near Helsinki, 21.07.1985 (E. Nartshuk).

Austria. 1 specimen, Graz, Steiermark, 1901 (Pleske).

Czech Republic. 1 specimen, Konojedyz, Kahn vic., 27.08.1970 (B. Rohdendorf).

Ukraine. 1 specimen, Poltava Region, Yareski, Mirgorod District, 2.09.1925 (Fabri); 1 specimen, Uzhgorod vic., Nevitskoe, 15.05.1983 (Tanasijtshuk); 1 specimen, Lvov Region, Nature Reserve "Rostoche", Yavorov District, 3.08.1987 (Tanasijtshuk).

Armenia. 1 specimen, Kirovokan, 31.07.1959 (Richter); 1 specimen, Megri, 22.08.1959 (Zaitzev); 5 specimens, Yerevan, Bernadzor, 23–25.08, 4.09.1962 (Richter); 1 specimen, Parakar, 24.08.1962 (Richter); 17 specimens, Yerevan, 28–30.07, 4–5.08.1969 (Richter).

Azerbaijan. 1 specimen, 12 km S Lenkoran, Talysh, 26.06.1938 (Veltishchev); 1 specimen, Lerik, Talysh, 5.05.1969 (Tanasijtshuk); 1 specimen, Zakataly, 21 km NW Katek River, 22.08.1969 (Richter).

Kazakhstan. 3 specimens, Alma-Ata vic., 1907 (Shnitnikov); 18 specimens, Bolshaya Almaatinka River, 21.07–1.09.1928 (Shnitnikov); 1 specimen, Tastyakh on Bolshaya Almaatinka River, 10.08.1928 (Shnitnikov); 1 specimen, Georgievka on Chu River, 20.07.1929 (Magatov); 1 specimen, Akmola Region, Borovsk, 24.06.1932 (V. Popov); 3 specimens, Taldy-Kurgan Region, Ucharal, Teptekh River, 9.07.1978 (I. Kerzhner); 1 specimen, Kungei Ala-Tau Ridge, 30.08.1988 (A. Kireitshuk).

Turkmenistan. 1 specimen, Botaldur, 50 km NO Turkestan, 28.05.1966 (I. Kerzhner).

Iran. 1 specimen, Tavriz, 2.06.1914 (Andrievsky).

Kyrgyzstan. 1 specimen, Gon-Kysyl-Su Canyon, 16.06.1953 (Petrova); 1 specimen, Osh Region, Mashalagan, Alai Ridge, 15 km W Shakhimardan,

18.07.1966 (Tanasijtshuk); 1 specimen, canyon of River Sary-dzhad, 10 km below Sary-dzhad, Kungei Ala-Tau, 21.08.1971 (Sugonyaev); 1 specimen, 15 km SE Leilek, Korgan vic., Turkestan Ridge, 18.07.1982 (Dolgovskaya).

Tajikistan. 6 specimens, Khorog, 21–22.07.1915 (Lasdin); 7 specimens, Kulyab vic., 19–25.07, 6–15.09.1933 (V. Popov); 1 specimen, Nasar-Ailak River, 10.08.1962 (Zaitzev); 1 specimen, Margusor Lakes, Zeravshan, 20.05.1967 (Gurjeva); 9 specimens, Vanch vic., 5.07.1977 (V. Zlobin).

Mongolia. 1 specimen, Songino, Ulan-Bator vic., 12.06.1980 (I. Kerzhner).

Host plant. Taraxacum (Asteraceae) [Frick, 1959].

Distribution. Holarctic species. Palaearctic: Britain Islands, Norway, Sweden, Finland, Spain (mainland), France (mainland), Denmark (mainland), Germany, Poland, Estonia, Lithuania, Czech Republic, Slovakia, Austria, Hungary, Switzerland, Italy, Bulgaria, Greece, Turkey, Belarus, Ukraine, Russia, Kazakhstan, Japan. Nearctic: Canada, United States. New records for Armenia, Azerbaijan, Kyrgyzstan, Tajikistan, Turkmenistan, Mongolia, Iran.

Ophiomyia orbiculata (Hendel, 1931)

Material. Russia. Leningrad Region: 1 specimen, Yukki, St Petersburg vic., 23.06.1932 (A. Stackelberg); 2 specimens, Yashchera, Luga District, 8.06.1964, 12.06.1965 (A. Stackelberg). Voronezh Region: 4 specimens, Povorino, near Ilmen', 18.07.1987 (Panteleeva). Karachay-Cherkessia: 1 specimen, Teberda Nature Reserve, 27.07.1982 (E. Nartshuk). Irkutsk Region: 1 specimen, Baykalsk, Kharlakhta River valley, 17–18.06.1980 (Shilinkova).

Estonia. 2 specimens, Nature Reserve "Vidumaya", 20.07.1987 (E. Nartshuk); 2 specimens, Saaremaa: 5 km S Kingisepp, 26.07.1987 (E. Nartshuk).

Armenia. 1 specimen, Yerevan, 4.08.1969 (Richter).

Kyrgyzstan. 1 specimen, Karasu River, 23.07.1982 (Dolgovskaya).

Tajikistan. 1 specimen, canyon Kondora, 30.08.1962 (Zaitzev).

Host plants. Lathyrus, Pisum and probably Vicia (Fabaceae). Larva forms stem-mine.

Distribution. Palaearctic: Britain Islands, Norway, Sweden, Finland, Portugal, Spain (mainland), France (mainland), Denmark (mainland), Germany, Poland, Estonia, Latvia, Lithuania, Czech Republic, Slovakia, Austria, Liechtenstein, Hungary, Switzerland, Italy (including Sicily), former Yugoslavia, Croatia, Romania, Bulgaria, Greece, Turkey, Cyprus, Belarus, Ukraine, Russia, Kazakhstan, Uzbekistan, Iran. New records for Armenia, Kyrgyzstan, Tajikistan.

Ophiomyia pinguis (Fallén, 1820)

Material. Russia. Leningrad Region: 1 specimen, Sablino, 4.07.1923 (A. Stackelberg); 1 specimen, Kartashovka, 9.07.1926 (A. Stackelberg); 8 specimens, Gobzhitsy, Luga vic., 10–14.08.1931, 9.07.1934 (A. Stackelberg); 1 specimen, Tolmachevo, Luga vic., 27.07.1932 (A. Stackelberg); 3 specimens, Luga, 28.06, 17.08.1953 (A. Stackelberg); 2 specimens, Vyborg District, Bolshoy Berezovy Island, 23.07.1978 (Kandybina). Smolensk Region: 2 specimens, Smolenskoe Poozer'ye National Park, 15, 30.06.1982 (V. Zlobin). Tambov Region: 1 specimen, Mordovo, Tokarevka District, 17.07.1987 (Panteleeva). Lipetsk Region: 1 specimen, Donskoe, 3.06.1987 (Panteleeva); 1 specimen, Don River, 3 km above Donskoe, 26.07.1987 (Panteleeva).

Armenia. 1 specimen, Ashtarak, 25.05.1961 (Richter).

Azerbaijan. 1 specimen, Mir-Bashir, 30.05.1985 (Kuliev).

Uzbekistan. 2 specimens, Khiva, 14.04.1927 (L. Zimin).

Host plants. Cichorium, Lactuca, Leontodon (Asteraceae).

Distribution. Palaearctic: Egypt, Britain Islands, Norway, Sweden, Finland, Spain (mainland), France (mainland), Belgium, the Netherlands, Denmark (mainland), Germany, Poland, Lithuania, Czech Republic,

Slovakia, Austria, Hungary, Switzerland, former Yugoslavia, Romania, Bulgaria, Greece, Turkey, Israel, Ukraine, Russia, Uzbekistan, Tajikistan, China, Japan. New records for Armenia, Azerbaijan.

Ophiomyia pulicaria (Meigen, 1830)

Material. Russia. Leningrad Region: 3 specimens, Yukki, St Petersburg vic., 8.07.1931, 6, 16.07.1932 (Stackelberg); 1 specimen, Komarovo, 31.08.1949 (Stackelberg). Smolensk Region: 1 specimen, Smolenskoe Poozer'ye National Park, 16.06.1992 (V. Zlobin). Karachay-Cherkessia: 1 specimen, Malaya Khatipara Mt., 8.07.1982 (E. Nartshuk); 2 specimens, Teberda Nature Reserve, Teberda River, 11.07.1982 (E. Nartshuk); 1 specimen, Dzhmagat valley, 8.07.1982 (E. Nartshuk). Amur Region: 1 specimen, Zeya River, 31.07.1978 (Shatalkin).

Turkmenistan. 2 specimens, Ashgabat, on Sonchus olevelaceus L., 10.08.2000 (Kokanova); 1 specimen, Kopetdag, Nokhur, on Sonchus transcaspica, 3.06.2001 (Kokanova).

Uzbekistan. 1 specimen, Khiva, 14.04.1927 (L. Zimin).

Host plants. Andryala, Chondrilla, Crepis, Hieracium, Hypochaeris, Lapsana, Leontodon, Picris, Reichardia, Sonchus, Taraxacum (Asteraceae). The larva forms leaf mine.

Distribution. Palaearctic: Britain Islands, Norway, Sweden, Finland, Portugal, Spain (including Canary Islands), Andorra, France (including Corsica), Belgium, the Netherlands, Denmark (mainland), Germany, Estonia, Latvia, Lithuania, Czech Republic, Slovakia, Austria, Hungary, Switzerland, Italy (mainland), former Yugoslavia, Bulgaria, Greece, Turkey, Belarus, Ukraine, Russia, Kazakhstan, China, Japan. Nearctic, Afrotropical (Kenya) and Oriental Regions. New records for Uzbekistan, Turkmenistan.

Ophiomyia ranunculicaulis Hering, 1949

Material. Russia. Leningrad Region: 1 specimen, Gobzhitsy, Luga vic., 12.07.1934 (A. Stackelberg).

Host plant. Ranunculus (Ranunculaceae).

Distribution. Palaearctic: Britain Islands, Sweden, Finland, Spain (mainland), France (mainland), the Netherlands, Germany, Poland, Latvia, Lithuania, Czech Republic, Slovakia, Hungary, former Yugoslavia, Turkey, Belarus, Ukraine. New record for European Russia.

Ophiomyia rostrata (Hendel, 1920)

Material. Russia. Leningrad Region: 1 specimen, Yukki, St Petersburg vic., 26.07.1933 (A. Stackelberg).

Host plant. Convolvulus arvensis (Convolvulaceae) [Ostrauskas et al., 2003].

Distribution. Palaearctic: Britain Islands, Ireland, Sweden, Spain (mainland), France (mainland), the Netherlands, Germany, Poland, Lithuania, Czech Republic, Austria, Hungary, Bulgaria, Turkey, Ukraine, Uzbekistan. New record for European Russia.

Acknowledgements

I thank Yu.A. Guglya (Kharkov, Ukraine) for help with literature. The study was performed in the frames of the state research projects (AAAA-A19-119020690082-8), and supported by the Presidium of the Russian Academy of Sciences program No 41 "Biodiversity of natural systems and biological sources of Russia".

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Received / Поступила: 8.05.2019
 Accepted / Принята: 12.11.2019