

## A preliminary review of aphid fauna (Homoptera, Aphidoidea) of the Altai Republic

### Предварительный обзор фауны тлей (Homoptera, Aphidoidea) Республики Алтай

A.V. Stekolshchikov\*, T.A. Novgorodova\*\*  
А.В. Стекольников\*, Т.А. Новгородова\*\*

\* Zoological Institute, Russian Academy of Sciences, Universitetskaya Nab. 1, St. Petersburg 199034 Russia. E-mail: aphids@zin.ru.

\* Зоологический институт Российской Академии Наук, Университетская наб. 1, Санкт-Петербург 199034 Россия.

\*\* Institute of Systematics and Ecology of Animals, Siberian Branch of the Russian Academy of Sciences, Frunze Str. 11, Novosibirsk 630091 Russia. E-mail: tanovg@yandex.ru.

\*\* Институт систематики и экологии животных Сибирского отделения Российской Академии Наук, ул. Фрунзе 11, Новосибирск 630091 Россия.

**Key words:** aphids, species composition, distribution, host plants, mountain Altai, Russia.

**Ключевые слова:** тли, видовой состав, распространение, растения хозяева, горный Алтай, Россия.

**Abstract.** A review of the aphid fauna of the Altai Republic, including 278 species and 4 subspecies of 85 genera, is presented. 126 species and 3 subspecies are newly recorded from the Altai Republic. 31 species and 2 subspecies are noted in Western Siberia for the first time, and 15 species are newly recorded from the territory of Russia. The majority of the recorded species (74 %) have a Palaearctic geographical distribution. In accordance with the global pattern of evolution of aphids and their host plants, the majority of aphids of the Altai Republic either permanently inhabit herbaceous plants (monoecious species) or migrate to them from woody primary hosts (dioecious species). The majority of the recorded aphid species (58 %) are narrow oligophages, 19 % of species are monophages, 18 % are wide oligophages, and only 5 % of species are polyphages (i.e. inhabit host plants of several families).

**Резюме.** Представлен обзор фауны тлей Республики Алтай, который включает 278 видов и 4 подвида из 85 родов. 126 видов и 3 подвида впервые отмечены на территории Республики Алтай, 31 вид и 2 подвида — в Западной Сибири, а 15 видов оказались новыми для России. Большинство зарегистрированных видов тлей (74 %) имеет Палеарктическое распространение. В соответствии с основной тенденцией эволюции взаимоотношений тлей и их кормовых растений, большинство тлей Республики Алтай либо постоянно живут на травянистых растениях (однодомные виды), либо мигрируют на них с первичных хозяев — древесных растений (двудомные виды). Большинство зарегистрированных видов тлей (58 %) являются узкими олигофагами, 19 % — монофагами, 18 % — широкими олигофагами, и только 5 % являются полифагами. (т.е. обитают на растениях-хозяевах из нескольких семейств).

### Introduction

The Altai (Altay, Altaj) Republic is a small (92 600 sq. km) province of the Russian Federation (Fig. 1). It is situated in the center of Eurasia at the junction of sever-

al natural zones within the Russian part of the Altai mountain system, which covers a large part of the Republic and continues into neighboring Kazakhstan, Mongolia and China. The relief of the province is characterized by high mountain ridges separated by narrow and deep river valleys or, rarely, wide intermountain hollows. The highest peak, Belukha (4506 m), is the highest point in Siberia. The Altai Republic has temperate continental climate with relatively short and hot summers (June – August) and long, cold, and in some places very snowy winters (November – March). The average annual precipitation varies from 100 to 1000 mm.

Studies on the aphid fauna of the Altai Republic began in the early 20<sup>th</sup> century when V.I. Vereshchagin collected about 30 aphid species, between 1911 and 1914, mainly in the Chemsalsky district near the village Anos. Only three of these species were mentioned by Mordvilko in his publications of 1914 and 1919, with a fourth in 1924 [Mordvilko, 1914, 1919, 1924]. Much of Vereshchagin's material remained unpublished and was stored in the collection of the Zoological Institute of the Russian Academy of Sciences. In later publications, Mordvilko used the name «Altai» in the descriptions of species, but he did not further specify the collection localities and it is impossible to understand whether he was referring to the Altai Republic or Altai Krai, a neighboring province. Further studies of the aphid fauna of the region resumed only in the 1960s, undertaken by O.I. Ivanovskaya. She, together with her students, collected about 600 samples in various parts of the Altai Republic between 1961 and 1978. Data about collected specimens are found in a number of Ivanovskaya's papers, but they are most fully represented in her monograph devoted to aphids of Western Siberia, which lists 129 species in the Altai Republic [Ivanovskaya, 1977]. Ivanovskaya's last publication treating the aphids of the Altai Republic appeared in 1988. After a long (15-years) break the research of aphid

fauna in the region has resumed. Since 2003, several complex expeditions to the Altai were organized by the Institute of Systematics and Ecology of Animals SB RAS (Novosibirsk, Russia). As a result a number of papers concerning fauna of aphids [Stekolshchikov et al., 2008; Stekolshchikov, Novgorodova, 2010, 2013] and ant-aphid trophobiotic interactions in North-Eastern Altai, including the data collected in the Altai Republic and Altai Krai [Novgorodova, 2012] have been published. However, a regional checklist of the aphid fauna of the Altai Republic has never been established. In this article we provide a critical review and synthesis on the aphids of the Altai Republic basing on the material collected during expeditions, collection materials and scattered notes in numerous publications.

## Materials and methods

The paper is based on the material collected in the Altai Republic by T.A. Novgorodova in 2003–2013 and by A.V. Stekolshchikov in 2010. We also list the material collected by A.V. Gavrilyuk, Grigor'ev, L.G. Gurenko, Guseva, Gusevnikov, A.A. Emel'yanov, A.Z. Ermolenko, O.I. Ivanovskaya, Kazarinova, S.M. Kharinova, Kononenko, Yu.P. Korshunov, Levina, F.I. Opanasenko, E. Roddendorf, Yu. M. Rukavishnikov, Ryzhkova, Semenov, V.S. Sorokina, Stebaeva, V.K. Stroganova, A. Tserepanov, V. I. Vereshchagin, Zheltikova.

Microscope slides were prepared using Faure-Berlese mounting fluid or Canada balsam [Blackman, Eastop, 2000]. The material is deposited at the Institute of Systematics and Ecology of Animals and at the Zoological Institute, Russian Academy of Sciences. Aphid synonymy follows Remaudière and Remaudière [1997] with subsequent additions [Blackman, Eastop, 2011; Eastop, Blackman, 2005; Favret, 2015; Holman, 2009]. Data obtained by identifying mounted specimens and extracted from publications are summarized in the list of species.

For listing the material the following notation is used. **Mayminsky district (May):** 1 — near Gorno-Altaysk, 2 — near Mayma Vill., 3 — near Rybalka Vill., 4 — near Dubrovka Vill., 5 — near Manzherok Vill.; **Turochaksky district (Tur):** 6 — near Kebezen' Vill., 7 — Artybash Vill., 8 — Iogach Vill., 9 — cordon (guardhouse) Obogo, 10 — 10 km E cordon (guardhouse) Obogo, 11 — Archa Mountain, 12 — cordon (guardhouse) Samysh, 13 — Yayl'u Vill., 14 — cordon (guardhouse) Chelyush, 15 — the confluence of Tibezya and Biya Rivers, 16 — Baskon River valley, 17 — the confluence of Yurtok Biya Rivers; **Ulagansky district (Ula):** 18 — Kolyushtu Mt., 19 — Kyga River valley, 20 — Bayas River valley, 21 — Kok-Pash Vill. (earlier Ust'-Bashkaus Vill.), 22 — Chulyshman River valley (gorge Ak-Kurum), 23 — near cordon (guardhouse) Chiri (Chulga River valley), 24 — Ulaganskaya steppe (earlier Ust'-Ulaganskaya steppe), 25 — near Ulagan Vill. (earlier Ust'-Ulagan Vill.), 26 — Bashkaus River valley, 27 — valley of Chiri River, 28 — Aktash Vill., 29 — Tuzhu mountain; **Kosh-Agachsky district (KAg):** 30 — Chuya River valley (50°09' N 88°17' E), 31 — Kuray Vill., 32 — 1 km NW Kuray Vill., 33 — Kurai steppe,

34 — Tyurgun' River valley, 35 — Chuya steppe, 36 — the northern slope of the North Chuya mountain range (Aktru River valley), 37 — the southern slope of the Kurai mountain range, 38 — near Kosh-Agach Vill., 39 — lower reaches of the Tara River, 40 — Dzhazator River valley (27 km to Belyashi), 41 — the confluence of Dzhazator and Ku-Karagay Rivers, 42 — the confluence of Dzhazator and Ak-Bul Rivers, 43 — the confluence of Dzhazator and Chikty Rivers, 44 — the confluence of Dzhazator and Tangyt Rivers, 45 — the confluence of Dzhazator and Arzhan Rivers, 46 — 17 km SE Belyashi Vill., 47 — the confluence of Akkol River and Akalakha River (Ukok Plateau), 48 — the confluence of Karabulak and Akalakha Rivers (Ukok Plateau), 49 — Zhumaly River valley (49°27' N, 88°03' E; Ukok Plateau), 50 — near Kal'dginkul and Kal'dginkul-Bas Lakes (Ukok Plateau), 51 — 8 km NE Maytobe mountain (Ukok Plateau), 52 — near Tashanta Vill., 53 — Naryn-Gol River valley, 54 — gorge Oy-Tuterek; **Chemalsky district (Che):** 55 — Uznezya Vill., 56 — Anos Vill., 57 — place of confluence of Biyka and Katun Rivers, 58 — Chermal Vill., 59 — place of confluence of Edigan and Katun Rivers; **Shebalinsky district (She):** 60 — Il'inka Vill., 61 — near Cherga Vill., 62 — near Verkh-Kukuya Vill., 63 — near Mukhorcherga Vill., 64 — Cherginskiy mountain range, near Belok Mukhor-Cherga Mountain, 65 — Sema River valley; **Ust-Kansky district (UKa):** 66 — Ust'-Kan Vill., 67 — Yabogansky mountain pass, 68 — Kanskaya steppe, **Ongudaysky district (Ong):** 69 — Ursul River valley, near Tuekta Vill., 70 — Onguday Vill., 71 — Zaysanskaya Elan' Vill., 72 — Terektinsky ridge (the upper reaches of the Bol'shoy Yaloman River), 73 — Seminsky mountain pass, 74 — Bol'shoy Yaloman River valley (the middle reaches of the river), 75 — Chike-Taman mountain pass; **Ust-Koksinsky district (Uko):** 76 — Mul'ta Vill., 77 — Ust'-Koksa Vill., 78 — vicinity of Kucherlinskoe Lake, 79 — Uimon steppe, 80 — Kurunda Vill., 81 — Terekta Vill., 82 — Katunskiy mountain range; **Choysky district (Cho).** These points of aphid sampling are shown on the map of the Altai Republic (Fig. 1).

Ivanovskaya [1977] referred to her microscope slides based on the description of each morph of each species; it was always a single code for each morph, but the codes for different morphs of a single species were different. Also, if Ivanovskaya's «Distribution» data indicated more than one area of the Altai Republic or Western Siberia, it was impossible to understand which geographic area corresponded to which microscope slide code. In some cases, the published codes corresponded to the Altai Republic samples were found at the Institute of Systematics and Ecology of Animals. This allowed us to double-check the accuracy of some published information. These data are marked by an asterisk (\*) in the list of species. However, because Ivanovskaya sometimes pinpointed several collection sites for a species, our validation of the identification of specimens from one site does not transfer to specimens from other sites. Some of these and other cases are discussed and clarified below.



Fig. 1. Map of the Altai Republic with points of aphid sampling (numbers as in the text).  
 Рис. 1. Карта Республики Алтай с точками сбора материала (номера приведены в тексте).

### The list of the aphid species of the Altai Republic

(\*\*) Species recorded in Western Siberia for the first time. (\*\*\*) Species newly recorded in Russia.

Aphidinea  
 Adelgoidea  
 Adelgidae

*Adelges laricis* Vallot, 1836

Ivanovskaya [1977]: Ula.  
**Material.** 31: 21.VII.1963; 62: 18.VII.2011; 72: 3.VIII.2007.  
**Host plant(s).** *Larix sibirica* Ledeb.

*Aphrastasia pectinatae* (Cholodkovsky, 1888)

Ivanovskaya [1977]: Tur, on *Abies sibirica*.  
**Material.** 9: 10.VII.2010.

**Host plant(s).** *Picea obovata* Ledeb.

*Dreyfusia piceae* (Ratzeburg, 1844)

Ivanovskaya [1977]: Tur.

*Pineus cembrae* (Cholodkovsky, 1888)

Ivanovskaya [1977]: Tur.

**Material.** 13: 18.VI.1963; 17: 09.VIII.1969.

**Host plant(s).** *Pinus sibirica* Du Tour.

*P. pini* (Goeze, 1778)

Ivanovskaya [1977]: Tur, Ula (as *P. pini* L. (Macq.), 1819

*P. strobi* (Hartig, 1839)

Stekolshchikov, Novgorodova [2013]: She, on *Pinus sibirica* Du Tour.

**Material.** 60: 19.VII.2011.

**Host plant(s).** *Pinus sibirica* Du Tour.

Aphidoidea  
Eriosomatidae

*Eriosoma ulmi* (Linnaeus, 1758)

Ivanovskaya [1977]: May.

*Eriosoma ulmipumilae* Ivanovskaja, 1976

Ivanovskaya [1977]: Tur, on *Ulmus parvifolia* Jacq.

*Forda formicaria* von Heyden, 1837

**Material.** 2: 10.VI.1971.

**Host plant(s).** *Poa* sp.

*Forda marginata* Koch, 1857

**Material.** 55: VI–VIII.1914, 13.VII.1915

**Host plant(s).** *Setaria* sp., ?*Festuca* sp.

*Pachypappa tremulae* (Linnaeus, 1761)

**Material.** 9: 20.VI.2003, 10.VII.2010.

**Host plant(s).** *Populus tremula* L.

*Paraclitus cimiciformis* von Heyden, 1837

**Material.** 7: 21.VIII.2008.

**Host plant(s).** *Alchemilla vulgaris* L.

*Pemphigus birimatus* Ivanovskaja, 1973

Ivanovskaya [1973b, 1977]: KAg, Ong, on *Populus laurifolia* Ledeb.

*Pemphigus bursarius* (Linnaeus, 1758)

**Material.** 30: 29.VI.2006.

**Host plant(s).** *Populus* sp.

*Pemphigus latisensorius* (Hori, 1938)

Ivanovskaya [1977]: KAg, Ong, on *Populus laurifolia* Ledeb. (as *Thecabius altaicus* Dolgova, 1971).

*Pemphigus laurifolia* Dolgova, 1973

Ivanovskaya [1977]: KAg, on *Populus laurifolia* Ledeb.

\*\**Pemphigus microsetosus* Aoki, 1975

**Material.** 3: 29.VII.2010.

**Host plant(s).** *Populus* sp.

*Pemphigus mongolicus* Holman et Szelegiewicz, 1974

Stekolshchikov et al. [2008]: KAg, on *Populus* sp.

**Material.** 30: 30.VII.2007.

**Host plant(s).** *Populus* sp.

*Pemphigus protospirae* Lichtenstein, 1884–85

Ivanovskaya [1977]: Ong.

*Prociphilus (Paraprociophilus) baicalensis*  
(Cholodkovsky, 1920)

Ivanovskaya [1977]: \*Tur, on *Alnus* sp. (as *Paraprociophilus baicalensis* Chol., 1921).

**Material.** 12: 17.VI.1965; 13: 30.VII.1961; 14: 16.VIII.1961; 19: 15.VIII.1973.

**Host plant(s).** *Alnus* sp.

*Tetraneura ulmi* (Linnaeus, 1758)

Mordvilko [1924]: Che.

**Material.** 2: 1972; 7: 20.VII.2010; 21: 8.VII.1909; 55: 13.VII.1914.

**Host plant(s).** *Elymus sibiricus* L., *Dactylis* sp., unidentified Poaceae.

*Thecabius affinis* (Kaltenbach, 1843)

**Material.** 7: 4.VII.2010; 60: 19.VII.2011.

**Host plant(s).** *Ranunculus repens* L., *Anemonoides* aff. *baicalensis*.

Lachnidae

*Cinara abietisibiricae* Binazzi et Battisti, 1998

**Material.** 7: 25–31.V.1967, 13.VI.1971; 8: 4.VI.1967.

**Host plant(s).** *Abies sibirica* Ledeb.

**Notes.** Binazzi and Battisti [1998] described this species for several specimens collected at an altitude of 1150 m a.s.l. on July 3 in Western Sayan. We have identified several samples from the Altai Republic are stored in the collection of the Institute of Systematics and Ecology of Animals as *C. abietisibiricae*. The specimens on these slides, as well as paratypes of the species in the collection of the Muséum national d'Histoire naturelle (Paris, France), greatly resemble *Cinara longipennis* (Matsumura, 1917), also recorded from the Altai Republic. However, the small amount of available material does not allow us to draw any definitive conclusions regarding these two nominal species and further research is needed. It should also be noted that all the samples in the collection of the Institute of Systematics and Ecology of Animals were made in late May to early June whereas the type material was collected in early July, but at high altitude. The collections early in the year leave open the possibility that the collected specimens may be fundatrices of another species, for example *C. confinis* (Koch, 1856).

*Cinara confinis* (Koch, 1856)

Novgorodova [2012]: Tur, on *Abies sibirica* Ledeb.

**Material.** 7: 7.VII.1968, 9.VIII.2007, 6–7.VII.2010; 17: 23.VII.1978.

**Host plant(s).** *Abies sibirica* Ledeb., *Pinus sibirica* Du Tour (accidentally?).

*Cinara costata* (Zetterstedt, 1828)

**Material.** 9: 20.VI.2003.

**Host plant(s).** *Picea obovata* Ledeb.

*Cinara cuneomaculata* (Del Guercio, 1909)

Ivanovskaya [1977]: Kag, Ong, Tur, on *Larix* sp.

**Material.** 13: 23.VII.1964; 14: 18.VIII.1961, 24.VII.1971; 31: 2, 27–28.VI.1960, 21.VI.1963; 39: 1–2, 4.VII.2006; 47: 12.VII.2006; 62: 17, 18.VII.2011; 63: 22.VII.2011; 76: 11.VII.2013.

**Host plant(s).** *Larix sibirica* Ledeb.

*Cinara kochiana* (Börner, 1939)

**Material.** 63: 18.VII.2011.

**Host plant(s).** *Larix sibirica* Ledeb.

*Cinara laricis* (Hartig, 1839)

Ivanovskaya [1977]: \*KAg, Ong, Tur, Ula, on *Larix sibirica*.

**Material.** 14: 16.VIII.1961; 31: 2, 20.VI.1960; 34: 31.VIII.1962; 39: 3.VII.2006, 11.VII.2009; 60: 19.VII.2011; 63: 22.VII.2011; 73: 24.VIII.1962; 77: 31.VII.1972, 18.VII.1975.

**Host plant(s).** *Larix sibirica* Ledeb.

\*\**Cinara longipennis* (Matsumura, 1917)

**Material.** 7: 11.VII.1971; 15–16, 20.VI.2009.

**Host plant(s).** *Abies sibirica* Ledeb.

*Cinara mongolica* Szelegiewicz et Holman, 1980

Novgorodova [2012]: Tur, on *Pinus sibirica* Du Tour.

**Material.** 7: 31.V.1967; 8.VIII.2007, 17.VIII.2010; 8: 11.VII.1967; 9: 22, 27.VI.2003; 12: 11.VI, 4.VII.1965; 13:

18–20.VI.1963; 17: 26.VI.1963, 15.VIII.1969; 63: 22.VII.2011; 73: 2.VII.1959; 76: 13, 15.VII.2013.

**Host plant(s).** *Pinus sibirica* Du Tour.

*Cinara nuda* Mordvilko, 1895

Ivanovskaya [1977]: Tur.

**Material.** 7: 16.VII.2010.

**Host plant(s).** *Abies* sp. (accidentally).

*Cinara pectinatae* (Nördlinger, 1880)

**Material.** 6: 20.VI.2004; 7: 7.VIII.2007.

**Host plant(s).** *Abies sibirica* Ledeb., *Pinus sibirica* Du Tour.

**Notes.** Ivanovskaya [1977] mentions this species, sample 2724. Two slides with this code are stored in the collection, both containing only larvae, insufficient to identify species. We do not know if Ivanovskaya had additional slides, so the record of this species in the province cannot be considered completely reliable.

*Cinara piceae* (Panzer, 1801)

Ivanovskaya [1977]: Tur, on *Picea obovata* (as *Cinara grossa* Kalt., 1843), on *Abies sibirica* (as *Cinara piceae* Panz., 1801).

\*\*\**Cinara piceicola* (Cholodkovsky, 1896)

**Material.** 27: 31.VII.2007

**Host plant(s).** *Picea obovata* Ledeb.

*Cinara pilicornis* (Hartig, 1841)

**Material.** 7: 8.VII.2010; 30: 29.VI.2006.

**Host plant(s).** *Picea obovata* Ledeb.

*Cinara pinea* (Mordvilko, 1895)

Ivanovskaya [1977]: Ong, Tur, on *Pinus* sp.

**Material.** 6: 20–21.VI.2004; 7: 6–7, 16.VII.2010; 13: 18.VI.1963, 24.VII.1972; 23: 5.VIII.1978.

**Host plant(s).** *Abies* sp. (accidentally), *Pinus sibirica* Du Tour; *P. sylvestris* L.

*Cinara pini* (Linnaeus, 1758)

Ivanovskaya [1977]: Tur: *Pinus* sp.

**Material.** 7: 8–9.VIII.2008, 17.VII.2010.

**Host plant(s).** *Pinus sylvestris* L.

*Cinara pinihabitans* (Mordvilko, 1895)

Ivanovskaya [1977]: Tur: *Pinus* sp.

*Cinara (Cupressobium) juniperi*  
(DeGeer, 1773)

Ivanovskaya [1977]: KAg: *Juniperus* sp.

**Material.** 77: 28.VII.1975.

**Host plant(s).** *Juniperus communis* L.

*Eulachnus agilis* (Kaltenbach, 1843)

Ivanovskaya [1977]: Ong, Tur, Ula, on *Pinus sibirica* (as *Protolachnus agilis* Kalt., 1843).

**Material.** 10: 8.VIII.2004; 12: 10.VIII.1965; 13: 14.VII.1971; 73: 26.VII.1963; 77: 28.VII.1975.

**Host plant(s).** *Pinus sibirica* Du Tour.

*Maculolachnus submacula* (Walker, 1848)

Ivanovskaya [1977]: Tur: *Rosa* sp.

**Material.** 3: 20.VII.2009; 55: 9.VII.1914.

**Host plant(s).** *Rosa* sp.

*Schizolachnus pineti* (Fabricius, 1781)

**Material.** 7: 10.VIII.2007, 7.VII.2010; 16: 24.VII.1971.

**Host plant(s).** *Pinus sylvestris* L.

*Trama troglodytes* von Heyden, 1837

**Material.** 22: 5–6.VIII.1978.

**Host plant(s).** *Artemisia absinthium* L., *A. vulgaris* L.

Mindaridae

*Mindarus abietinus* Koch, 1857

Ivanovskaya [1977]: Tur, on *Abies* sp.

\*\**Mindarus japonicus* Takahashi, 1931

**Material.** 76: 11, 13.VII.2013.

**Host plant(s).** *Pinus sibirica* Du Tour, *Spiraea* sp., *Schulzia crinita* (Pall.) Spreng. (all plants accidentally).

Anoeciidae

*Anoecia corni* (Fabricius, 1775)

Ivanovskaya [1977]: Tur.

**Material.** 6: 21.VI.2004; 55: 13.VII.1914.

**Host plant(s).** *Cornus alba* L., *Elymus caninus* (L.) L.

Thelaxidae

*Glyphina betulae* (Linnaeus, 1758)

Ivanovskaya [1977]: She, Tur, on *Betula* sp.

**Material.** 7: 19.VI.2003; 9: 20.VI.2003; 13: 18.VI.1963; 61: 27.VII.1963, 16–20.VII.2011; 74: 1.VIII.2007; 76: 14.VI.2013.

**Host plant(s).** *Betula pendula* Roth., *Betula* sp.

*Glyphina pseudoschrankiana* Blackman, 1989

**Material.** 7: 3, 7.VII.2010; 61: 24.VII.1963.

**Host plant(s).** *Betula* sp.

Drepanosiphidae

*Betulaphis quadrituberculata* (Kaltenbach, 1843)

**Material.** 13: 30.VII.1961, 14.VI.1963.

**Host plant(s).** *Betula* sp.

*Calaphis flava* (Mordvilko, 1928)

**Material.** 7: 6.VII.2010; 8: 1.VI.1967; 76: 11.VII.2013.

**Host plant(s).** *Betula* sp.

\*\**Callipterinella calliptera* (Hartig, 1841)

**Material.** 7: 21.VII.2010.

**Host plant(s).** *Betula* sp.

*Callipterinella tuberculata* (von Heyden, 1837)

Ivanovskaya [1977]: Tur, on *Betula* sp. (as *Callipterinella betularia* Kalt., 1843).

**Material.** 7: 4–17.VII.2010; 23: 27.VIII.1961, 30.VII.1969; 76: 14.VI.2013.

**Host plant(s).** *Betula* sp.

*Euceraphis betulae* (Koch, 1855)

**Material.** 64: 22.VII.2011.

**Host plant(s).** *Bergenia crassifolia* (L.) Fritsch (accidentally).

\*\**Euceraphis betulijaponicae* (Matsumura, 1919)

**Material.** 7: 13.VII.1968; 77: 18.VII.1975.

**Host plant(s).** *Larix sibirica* Ledeb. (accidentally).

*Euceraphis punctipennis* (Zetterstedt, 1828)

**Material.** 9: 9.VII.2010; 17: 19.VIII.1963; 25: 17.VII.1963; 74: 10.VII.1963; 76: 11.VII.2013.

**Host plant(s).** *Betula pendula* Roth., *Betula nana* L., *Betula* sp.

*Iziphya bufo* (Walker, 1848)

Ivanovskaya [1977]: KAg, Ong, Ula (as *Iziphya maculata* Nevsky, 1929).

**Material.** 24: 18.VII.1963; 33: 31.VIII.1962, 16.VII.1963.

**Host plant(s).** *Artemisia* sp., *Festuca valesiaca* Schleich. ex Gaudin, *Potentilla* sp.

*Macropodaphis alexandri* Ivanovskaja, 1965

Ivanovskaya [1977]: KAg. Ivanovskaya [1988]: KAg (as *Macropodaphis tsherepanovi* Ivanovskaya, 1988).

*Macropodaphis paradoxa*  
Zachvatkin et Aizenberg, 1960

Ivanovskaya [1973a, 1977]: KAg: *Potentilla acaulis* L. (as *Macropodaphis kurajensis*, Iv.-Shub. 1965).

*Macropodaphis primigenius* Ivanovskaja, 1965

Ivanovskaya-Shubina [1965], Ivanovskaya [1973a, 1977]: KAg, on *Pentaphylloides fruticosa*.

**Material.** 41: 12.VII.2009; 47: 12, 14, 23.VII.2006.

**Host plant(s).** *Pentaphylloides fruticosa* (L.) O.Schwarz.

*Monaphis antennata* (Kaltenbach, 1843)

**Material.** 3: 28.VII.2010.

**Host plant(s).** *Betula* sp.

*Symydobius oblongus* Heyden, 1837

Ivanovskaya [1977]: \*Altai without mentioning an exact place.

**Material.** 7: 4, 7.VII.2010; 13: 28.VII, 7.VIII.1961; 23: 27.VIII.1961; 61: 16.VII.2011; 62: 18.VII.2011; 63: 22.VII.2011; 74: 1.VIII.2007; 77: 18.VII.1975.

**Host plant(s).** *Betula* sp.

*Saltusaphis scirpus* Theobald, 1915

Ivanovskaya [1977]: Altai (alpine steppes) without mentioning an exact place (as *Saltusaphis iberica* Börner, 1949).

**Material.** 33: 16.VII.1963.

**Host plant(s).** *Artemisia* sp. (accidentally).

*Therioaphis tenera tenera* (Aizenberg, 1956)

**Material.** 74: 10.VII.1963.

**Host plant(s).** *Caragana* sp.

*Therioaphis (Pterocallidium) trifolii* (Monell, 1882)

Ivanovskaya [1977]: Ong: *Medicago sativa* L.

**Material.** 40: 5.VII.2006.

**Host plant(s).** *Medicago sativa* L.

\*\*\**Tuberculatus (Tuberculoides) borealis*  
(Krzywiec, 1971)

**Material.** 7: 19.VII.2010.

**Host plant(s).** *Quercus* sp.

**Chaitophoridae***Atheroides karakumi* Mordvilko 1948

Ivanovskaya [1977]: KAg.

*Chaetosiphella berleseii* (Del Guercio, 1905)

Ivanovskaya [1977]: Ong: *Festuca ovina* L.

*Chaetosiphella stipae stipae* Hille Ris Lambers, 1947

Ivanovskaya [1977]: \*KAg, Ong.

**Material.** 52: 28.VIII.1962; 37: 28.VIII.1962.

**Host plant(s).** *Achnatherum* sp.

*Chaitophorus capreae* (Mosley, 1841)

Ivanovskaya [1977]: KAg, Ong, Tur, on *Salix* sp.

**Material.** 69: 26.VIII.1962.

**Host plant(s).** *Salix* sp.

\*\**Chaitophorus furcatus* Quednau ex Pintera, 1987

**Material.** 7: 23.VII.2010.

**Host plant(s).** *Salix caprea* L.

*Chaitophorus leucomelas* Koch, 1854

**Material.** 3: 29.VII.2010.

**Host plant(s).** *Populus nigra* L.

*Chaitophorus populeti* (Panzer, 1801)

Ivanovskaya [1973c, 1977]: \*May, on *Populus laurifolia* Ledeb. (as *Chaitophorus acanthipilosus* Iv., 1973); on *Populus tremulae* (as *Ch. albitorosus* Iv., 1973).

**Material.** 1: 22.VIII.1962; 2: 3.VII.1962; 7: 4, 5, 7.VII.2010; 61: 20.VII.2011.

**Host plant(s).** *Populus tremulae* L., *Populus* sp.

*Chaitophorus populialbae*  
(Boyer de Fonscolombe, 1841)

**Material.** 3: 29.VII.2010; 7: 20.VII.2010.

**Host plant(s).** *Populus* sp.

\*\*\**Chaitophorus ramicola* (Börner, 1949)

**Material.** 7: 20.VII.68.

**Host plant(s).** *Salix* sp.

*Chaitophorus saliapteris saliapteris* Shinji, 1924

Stekolshchikov, Novgorodova [2013]: She: *Salix* sp.

**Material.** 63: 22.VII.2011.

**Host plant(s).** *Salix* sp.

*Chaitophorus salicti* (Schrank, 1801)

Ivanovskaya [1977]: \*May, Ong, Tur, on *Salix* spp.

**Material.** 1: 21.VIII.1962; 3: 16.VII.2010; 7: 19.VIII.2008; 61: 20.VII.2011.

**Host plant(s).** *Salix caprea* L., *Salix* sp.

*Chaitophorus salijaponicus niger* Mordvilko, 1929

Ivanovskaya [1977]: Tur, on *Salix* spp. (as *Chaitophorus niger* Mordv., 1929).

*Chaitophorus salijaponicus szelegiewiczzi*  
Pintera, 1987

Stekolshchikov, Novgorodova [2013]: She, on *Salix* sp.

**Material.** 61: 19.VII.2011

**Host plant(s).** *Salix* sp.

*Sipha (Rungisia) elegans* del Guercio, 1905

Ivanovskaya [1977]: Ong (as *Rungisia kurdjumovi* Mordv., 1921).

**Material.** 61: 20.VII.2011.

**Host plant(s).** *Elytrigia repens* (L.) Desv. ex Nevski.

*Sipha (Rungisia) maydis* Passerini, 1860

Ivanovskaya [1977]: Ong, on Poaceae (as *Rungisia maydis* Passerini, 1860).

**Material.** 61: 20.VII.2011.

**Host plant(s).** *Elytrigia repens* (L.) Desv. ex Nevski.

*Sipha (Rungisia) uvarovi* Mordvilko, 1921

Ivanovskaya [1977]: KAg, Ong (as *Rungisia uvarovi* Mordv., 1921).

## Aphididae

## Pterocommatinae

*Plocamaphis amerinae* Hartig, 1841**Material.** 47: 14.VII.2006.**Host plant(s).** Sweeping and in trap.*Pterocomma konoï* Hori ex Takahashi, 1939**Material.** 7: 25.VI.1968, 24.VII.2010; 26: 12.IX.1969; 57: 24.VI.1923; 61: 16.VII.2011.**Host plant(s).** *Salix caprea* L., *Salix* sp.*Pterocomma pilosum* Buckton, 1879Ivanovskaya [1977]: Tur, on *Salix* spp.**Material.** 26: 14.IX.1969.**Host plant(s).** *Salix* sp.*Pterocomma rufipes* (Hartig, 1841)Ivanovskaya [1977]: KAg (as *Pterocomma ringdahli* Wahlg., 1940, *P. steinheili* Mordv., 1901).**Material.** 9: 10, 11.VII.2010.**Host plant(s).** *Salix* sp.*Pterocomma salicis* (Linnaeus, 1758)**Material.** 9: 27.VI.2003; 7: 3.VII.2010.**Host plant(s).** *Salix* sp.

## Aphidinae

## Aphidini

## Rhopalosiphina

*Hyalopterus pruni* (Geoffroy, 1762)

Ivanovskaya [1977]: Tur.

**Material.** 7: 17.VII.1963.**Host plant(s).** *Malus* sp.*Rhopalosiphum nymphaeae* (Linnaeus, 1761)

Ivanovskaya [1977]: Ong, Ula.

**Notes.** Ivanovskaya [1977] reports this species from two localities in the Altai Republic. She also describes the male, sample 3205, the data for which correspond to one of the localities. We examined a slide with code, containing two gynoparae and one male of *Dysaphis* (*Pomaphis*) *plantaginea* (Passerini, 1860) and one gynopara of *Rhopalosiphum oxyacanthae* (Schrank, 1801). Thus, at least part of data about the presence of *R. nymphaeae* in the Altai Republic actually relates to different species of *Rhopalosiphum*.*Rhopalosiphum oxyacanthae* (Schrank, 1801)Ivanovskaya [1977]: May (as *Rhopalosiphum insertum* Walk., 1849).**Material.** 9: 28.VI.2003; 23: 3.X.1963.**Host plant(s).** *Dactylis glomerata* L., *Malus* sp.*Rhopalosiphum padi* (Linnaeus, 1758)

Ivanovskaya [1977]: the Altai Mountains; Novgorodova [2012]: Tur.

**Material.** 7: 3.VI.1967, 2–3, 7.VII.2010; 9: 20.VI.2003; 19: 10.VII.1969; 20: 12.VII.1969; 71: 7.VII.1963; 74: 10.VII.1963.**Host plant(s).** *Dactylis glomerata* L., *Festuca pratensis* Huds., *Glyceria maxima* (Hartm.) Holmb., *Prunus padus* L., *Geranium* sp., *Phleum* sp., unidentified Poaceae, *Larix sibirica* Ledeb. (accidentally), *Salix* sp. (accidentally).\*\*\**Schizaphis cuprea* Miyazaki, 1988**Material.** 7: 23.VII.1968.**Host plant(s).** Unidentified Poaceae.*Schizaphis graminum* (Rondani (1847) 1852)

Ivanovskaya [1977]: KAg, Ula, on Poaceae.

## Aphidina

*Aphis acetosae* Linnaeus, 1761**Material.** 47: 13.VII.2006.**Host plant(s).** *Rumex* sp.*Aphis affinis* Del Guercio, 1911**Material.** 76: 15.VII.2013.**Host plant(s).** *Mentha* sp.**Notes.** Ivanovskaya [1977] gives two sample codes for this species. Our study of the material revealed them both to refer to *Aphis origani* Passerini, 1860.*Aphis alchemillae* (Börner, 1940)**Material.** 7: 8–9.VIII.2007, 18–22.VIII.2008.**Host plant(s).** *Alchemilla vulgaris* L.*Aphis agrimoniae* (Shinji, 1941)**Material.** 7: 8.VII.2010.**Host plant(s).** *Agrimonia pilosa* Ledeb.*Aphis brohmeri* Börner, 1952**Material.** 3: 27.VII.2010; 7: 2.VII.2010; 7: 25.VI.2003; 10: 25.VI.2003.**Host plant(s).** *Anthriscus sylvestris* (L.) Hoffm., *Veratrum lobelianum* Bernh.*Aphis brunellae* Schouteden, 1903Stekolshchikov et al. [2008]: Tur, on *Prunella vulgaris* L.**Material.** 7: 9.VIII.2007, 16.VII.2010.**Host plant(s).** *Prunella vulgaris* L.*Aphis cacaliasteris* Hille Ris Lambers, 1947Stekolshchikov, Novgorodova [2013]: She, on *Senecio* sp.**Material.** 22: 18.VIII.1978; 63: 22.VII.2011.**Host plant(s).** *Senecio* sp., *Erigeron* sp.*Aphis coronillae* Ferrari, 1872**Material.** 9: 12.VII.2010.**Host plant(s).** *Trifolium* sp.*Aphis cracca* Linnaeus, 1758

Ivanovskaya [1977]: May, Ula.

**Material.** 7: 19.VI.2003; 9: 9.VII.2010; 15: 12.VII.1923; 27: 27.VIII.1961; 61: 22.VII.2011.**Host plant(s).** *Rumex confertus* Willd., *Vicia cracca* L., *Vicia cracca* L., *Lathyrus* sp.*Aphis craccivora craccivora* Koch, 1854

Ivanovskaya [1977]: KAg, Ong, Ula.

**Material.** 2: 4.VII.1963; 22: 3, 8.VIII.1978; 27: 19.VII.1969; 27: 28.VI.2006, 31.VII.2007; 31: 21.VII.2013; 33: 23.VII.1963; 35: 16.VII.1959; 36: 21.VII.2013; 37: 18.VII.2013; 76: 11, 15.VII.2013.**Host plant(s).** *Melilotus officinalis* (L.) Pall., *Medicago sativa* L., *Caragana* sp., *Orostachys* sp., *Pedicularis* sp., *Vicia* sp., *Onobrychis* sp.\*\**Aphis craccivora pseudacaciae* Takahashi, 1966**Material.** 56: 17.VI–11.VII.1911.**Host plant(s).** *Caragana arborescens* Lam., *C. pygmaea* (L.) DC., *Glycyrrhiza* sp., *Oxytropis* sp., *Vicia amoena* Fisch.

*Aphis dasiphorae* Holman at Szelegiewicz, 1971

Stekolshchikov et al. [2008]: Tur, on *Pentaphylloides fruticosa* (L.) O.Schwarz.

**Material.** 9: 8.VII.2010; 22: 9.VIII.1978; 47: 14, 23.VII.2006; 53: 15.VII.2009; 66: 2.VIII.1975.

**Host plant(s).** *Pentaphylloides fruticosa* (L.) O.Schwarz.

*Aphis fabae* Scopoli, 1763, s.lat.

Ivanovskaya [1977]: the Altai Mountains (as *Aphis cognatella* Jones, 1943, *A. evonymi* F., 1775, *A. fabae* Scop., 1763); Novgorodova [2012]: Tur.

**Material.** 1: 28.VI.1962; 2: 1972; 3: 27, 30.VII.2010; 7: 25, 27, 29, 30.VI, 11, 13–14, 28.VII, 12.VIII.1968, 12.VII.1971, 18.VI.2003, 2–7, 19.VII.2010; 8: 10, 15.VII.1967, 21.VII.1971; 9: 28.VI.2003; 11: 21.VI.2003; 13: 21, 28, 31.VII, 14.VIII.1961; 14: 18.VIII.1961; 17: 19.VIII.1963, 8, 9.VII, 7, 9.VIII.1969, 30.VII.1971; 19: 19.VII, 5.VIII.1967, 10.VII.1969; 20: 2.VIII.1969; 29: 29.VII.1969; 27: 19, 23, 28.VII.1969, 30.VII.1971; 56: 6, 11, 23, 24.VI, 4, 17.VII.1911; 60: 19.VII.2011; 61: 16, 20.VII.2011; 62: 17, 18.VII.2011; 63: 18, 22.VII.2011; 64: 22.VII.2011; 69: 30.IX.1962, 6–7.VII.1963; 71: 26.VII.1963; 72: 7.VIII.1963; 73: 26.VII.1963; 74: 1.VIII.2007; 76: 12, 14.VII.2013; 79: 16.VIII.1963; 80: 11.VIII.1963; 81: 23.VI.1973.

**Host plant(s).** *Aegopodium podagraria* L., *Angelica archangelica decurrens* (Ledeb.) Kuvaev, *Angelica* sp., *Anthriscus sylvestris* (L.) Hoffm., *Arctium* sp., *Bergenia crassifolia* (L.) Fritsch, ?*Campanula* sp., *Carduus crispus* L., *Carduus* sp., *Carum* sp., *Cirsium arvense* (L.) Scop., *Cirsium heterophyllum* (L.) Hill, *Cirsium* sp., *Crepis sibirica* L., *Crepis* sp., *Dactylis* sp., *Epilobium* sp., *Euphorbia* sp., *Filipendula ulmaria* (L.) Maxim., *Galium* sp., *Heracleum* sp., *Leucanthemum vulgare* Lam., *Libanotis* sp., *Ligularia sibirica* (L.) Cass., *Linaria* sp., ?*Lupinum* sp., *Pedicularia comosa* L., *Rhinanthus* sp., *Pleurospermum uralense* Hoffm., *Polygonum* sp., *Rhinanthus* sp., *Rumex confertus* Willd., *Rumex* sp., *Salix* sp., *Sanguisorba officinalis* L., *Saussurea discolor* (Willd.) DC., *Scorzonera* sp., *Senecio* sp., *Serratula* sp., *Seseli* sp., *Sonchus* sp., *Spiraea* sp., *Stellaria* sp., *Tanacetum vulgare* L., *Urtica* sp., *Veratrum lobelianum* Bernh., *Viburnum opulus* L., *Viburnum* sp., unidentified Apiaceae, Asteraceae and ?*Fabaceae*.

*Aphis farinosa* J.F. Gmelin, 1790

Novgorodova [2012]: Tur.

**Material.** 7: 11.VII.1968, 3, 4, 6.VII.2010; 9: 20, 26.VI.2003; 13: 18.VI.1963; 20: 2.VIII.1969; 23: 20.VI.1963; 39: 3.VII.2006; 40: 4.VII.2006; 47: 12.VII.2006.

**Host plant(s).** *Salix caprea* L., *Salix pentandra* L., *Salix* sp., unidentified Apiaceae (accidentally).

*Aphis frangulae* Kaltenbach, 1845, s.l.

Ivanovskaya [1977]: She, UKa, on *Veronica longifolia* L. (as *Aphis beccabungae* Koch, 1855).

**Material.** 3: 28.VII.2010; 7: 22.VIII.2008, 5, 17, 22.VII.2010; 9: 9.VII.2010; 56: 25, 28.VI.1911; 62: 17.VII.2011; 63: 18.VII.2011.

**Host plant(s).** *Epilobium angustifolium* L., *Galeopsis bifida* Boehn., *Hypericum perforatum* L., *Veronica chamaedrys* L., *Veronica* sp., unidentified Lamiaceae.

*Aphis franzi* Holman, 1975

**Material.** 40: 12.VII.2009.

**Host plant(s).** *Seseli* sp.

*Aphis galiiscabri* Schrank, 1801

**Material.** 31: 21.VII.2013.

**Host plant(s).** *Gallium ruthenicum* Willd.

\*\*\**Aphis gerardiana* Mordvilko, 1929

**Material.** 53: 16.VII.2009.

**Host plant(s).** *Euphorbia* sp.

\*\*\**Aphis grandis* Juchnevitch, 1970

**Material.** 7: 30.V.1967.

**Host plant(s).** *Spiraea* sp.

\*\**Aphis grata* Pashtshenko, 1994

**Material.** 14: 18.VIII.1961; 65: 5.VII.1963.

**Host plant(s).** *Spiraea* sp.

*Aphis idaei* van der Goot, 1912

Ivanovskaya [1977]: May, on *Rubus idaeus* L.

**Material.** 7: 20.VI.2009, 4.VII.2010; 9: 10.VII.2010; 56: without date.

**Host plant(s).** *Rubus idaeus* L.

*Aphis jacobaeae* Schrank, 1801

Ivanovskaya [1977]: May, Tur.

\*\**Aphis kamtchatica* Pashtshenko, 1994

**Material.** 41: 12.VII.2009.

**Host plant(s).** *Spiraea* sp.

*Aphis korshunovi* Ivanovskaja, 1971

**Material.** 3: 22.VII.2011; 7: 6, 8, 19.VII.2010; 76: 14.VII.2013.

**Host plant(s).** *Veronica chamaedrys* L., *Veronica* sp.

\*\**Aphis kurosawai* Takahashi, 1921

**Material.** 7: 20–23.VII.2010.

**Host plant(s).** *Artemisia* sp.

*Aphis mammulata*

## Gimingham et Hille Ris Lambers, 1949

Ivanovskaya [1977]: UKa (as *A. rhamnocola* Mamont., 1953).

\*\**Aphis mirifica* (Börner, 1950)

**Material.** 7: 10.VII. 1968.

**Host plant(s).** *Epilobium angustifolium* L.

*Aphis mohelnensis* Holman, 1998

**Material.** 56: 13.VI.1911.

**Host plant(s).** *Hieracium* sp.

*Aphis mutini* Pashtshenko, 1994

Stekolshchikov, Novgorodova [2013]: She, on *Spiraea* sp.

**Material.** 62: 17.VII.2011.

**Host plant(s).** *Spiraea* sp.

*Aphis nasturtii* Kaltenbach, 1843

Ivanovskaya [1977]: the Altai Mountains.

**Material.** 3: 27, 29.VII.2010; 7: 20.VII.2010; 47: 17.VII.2006; 56: 12.VI.1911;

**Host plant(s).** *Berteroa incana* (L.) DC., *Galatella punctata* (Waldst. & Kit.) Nees, *Pelargonium* sp., *Rorippa sylvestris* (L.) Besser., *Rumex* sp.

*Aphis neothalictri* Pashtshenko, 1994

Stekolshchikov, Novgorodova [2013]: She, Tur, on *Thalictrum* sp.

**Material.** 39: 3.VII.2006; 56: 14.VI.1911; 60: 19.VII.2011; 61: 16.VII.2011.

**Host plant(s).** *Thalictrum aquilegifolium* L., *Th. flavum* L., *Thalictrum* sp.



- Aphis origani* Passerini, 1860  
Ivanovskaya [1977]: Tur.  
**Material.** 23: 27.VIII.1961, 16.VII.1963.  
**Host plant(s).** *Mentha* sp.
- Aphis plantaginis* Goeze, 1778  
**Material.** 7: 5.VII.2010; 69: 6.VII.1963.  
**Host plant(s).** *Plantago* sp.
- Aphis podagrariae* Schrank 1801  
**Material.** 7: 2.VII.2010; 61: 16.VII.2011.  
**Host plant(s).** *Aegopodium podagraria* L.
- Aphis pomi* De Geer, 1773  
Ivanovskaya [1977]: Ula.  
**Material.** 3: 25.VII.2010; 7: 12.VII.2004; 23: 27.VII–3, 9.X.1963.  
**Host plant(s).** *Malus* sp.
- Aphis potentillae* Nevsky, 1929  
Ivanovskaya [1977]: Ong, Uka, on *Potentilla* spp.
- Aphis praeterita* Walker, 1849  
Ivanovskaya [1977]: Tur, UKo, on *Epilobium angustifolium* L.
- Aphis pseudocomosa* Stroyan, 1972  
**Material.** 7: 6.VII.2010; 56: 29.VI.1911; 61: 16, 20.VII.2011; 62: 17.VII.2011; 69: 7.VII.1963; 81: 23.VI.1973.  
**Host plant(s).** *Lathyrus pratensis* L., *Lathyrus* sp., *Onobrychis arenaria* (Kit.) DC., *Onobrychis vicifolia* Scop., *Onobrychis* sp., *Vicia* sp., unidentified Fabaceae.
- \*\**Aphis pulsatillaephaga* Pashtshenko, 1994  
**Material.** 39: 11.VII.2009.  
**Host plant(s).** *Pulsatilla* sp.
- Aphis rumicis* Linnaeus, 1758  
**Material.** 61: 16.VII.2011; 76: 14.VII.2013.  
**Host plant(s).** *Rumex confertus* Willd., *Rumex* sp.
- Aphis salicariae* Koch, 1855  
**Material.** 9: 11.VII.2010.  
**Host plant(s).** *Epilobium angustifolium* L.
- Aphis salviae* Walker, 1852  
Ivanovskaya [1977]: Ong, UKa.
- Aphis sambuci* Linnaeus, 1758  
**Material.** 7: 6.VII.2010.  
**Host plant(s).** *Stellaria bungeana* Fenzl.
- Aphis sedi* Kaltenbach, 1843  
**Material.** 22: 12.VIII.1978.  
**Host plant(s).** *Orostachys* sp.
- Aphis septentrionalis* Pashtshenko, 1994.  
Stekolshchikov, Novgorodova [2013]: She, on *Crepis* sp.  
**Material.** 62: 17.VII.2011.  
**Host plant(s).** *Crepis* sp., *Pedicularis comosa* L.
- \*\**Aphis silenicola* Holman et Szelegiewicz, 1971  
**Material.** 33: 24.VII.1963; 56: 11.VII.1911; 57: 26.VII.2010.  
**Host plant(s).** *Silene graminifolia* Otth, *S. jennisensis* Willd.
- Aphis solanella* Theobald, 1914  
**Material.** 4: 29.VII.2010.  
**Host plant(s).** *Solanum nigrum* L.
- Aphis spiraeicola* Patch, 1914  
Stekolshchikov, Novgorodova [2013]: She, Tur, on *Spiraea chamaedryfolia* L., *Spiraea* sp.  
**Material.** 7: 6.VII.2010; 61: 16.VII.2011; 76: 11, 14.VII.2013.  
**Host plant(s).** *Spiraea chamaedryfolia* L., *Spiraea* sp.
- Aphis spiraeophaga* F.P. Müller, 1961  
**Material.** 7: 18–19.VI.2003; 33: 23.VII.1963; 61: 16.VII.2011; 76: 14.VII.2013.  
**Host plant(s).** *Carum* sp. (accidentally?), *Filipendula ulmaria* (L.) Maxim., *Spiraea* sp.
- Aphis takagii* Takahashi, 1966  
Stekolshchikov et al. [2008]: Ula, on *Veratrum lobelianum* Bernh.  
**Material.** 7: 25.VI.1968, 3–4.VII.2010; 63: 22.VII.2011; 74: 1.VIII.2007.  
**Host plant(s).** *Veratrum lobelianum* Bernh.
- Aphis talgarica* Kadyrbekov, 2001  
Stekolshchikov, Novgorodova [2013]: She, Tur, on *Bupleurum aureum* Fisch.  
**Material.** 1: 22.VIII.1962; 7: 11.VII.1968, 16.VII.2010; 19: 13.VII.1969; 56: 29.VI.1911; 62: 17–18.VII.2011; 76: 12, 14.VII.2013.  
**Host plant(s).** *Bupleurum aureum* Fisch., *B. multinerve* DC., *Bupleurum* sp.
- Aphis taraxacicola* (Börner, 1940)  
Ivanovskaya [1977]: UKa.  
**Material.** 9: 11.VII.2010; 39: 2.VII.2006, 11.VII.2009.  
**Host plant(s).** *Taraxacum officinale* Weber, *Taraxacum* sp.
- Aphis triglochis* Theobald, 1926  
**Material.** 3: 29.VII.2010; 25: 17.VII.1963; 69: 30.V.1911.  
**Host plant(s).** *Ribes nigrum* L., *Ribes* sp., *Rorippa sylvestris* (L.) Besser.
- Aphis ucrainensis* Zhuravlyov, 1997  
Stekolshchikov et al. [2008]: KAg, on *Spiraea* sp.  
**Material.** 39: 2, 4.VII.2006, 13.VII.2009; 47: 14.VII.2006.  
**Host plant(s).** *Spiraea* sp.
- Aphis ulmariae* Schrank, 1801  
Ivanovskaya [1977]: Tur.  
**Material.** 7: 6, 8.VIII.2007, 2, 5.VII.2010; 8: 10.VII.1967; 13: 28.VII, 5.VIII.1961; 61: 16, 19, 20.VII.2011; 62: 18.VII.2011.  
**Host plant(s).** *Filipendula ulmaria* (L.) Maxim., *Spiraea* sp.
- \*\**Aphis umbelliferarum* (Shaposhnikov, 1950)  
**Material.** 42: 12.VII.2009.  
**Host plant(s).** *Seseli* sp.
- Aphis urticata* J.F. Gmelin, 1790  
Ivanovskaya [1977]: KAg, Ong, Tur, on *Urtica* sp.  
**Material.** 7: 25.VI.1968, 4–7.VII.2010; 13: 5.VIII.1961, 23.VII.1964; 61: 16.VII.2011; 62: 18.VII.2011.  
**Host plant(s).** *Urtica dioica* L., *U. urens* L., *Urtica* sp.

*Aphis veratri* Walker, 1852

Ivanovskaya [1977]: Ong, Tur, on *Veratrum* sp.

**Material.** 13: 18.VI.1963; 20: 2.VIII.1969; 56: 11.VI.1911; 73: 27.VII.1963.

**Host plant(s).** *Veratrum album* L., *Veratrum* sp.

**Notes.** Ivanovskaya [1977] gives a description of this species on the basis of sample 2668. However, these aphids are actually *A. fabae* Scopoli, 1763.

*Aphis viburni* Scopoli, 1763

**Material.** 7: 4.VII.2010.

**Host plant(s).** *Viburnum* sp.

*Aphis (Bursaphis) grossulariae* Kaltenbach, 1843

**Material.** 7: 15.VII.1967, 5.VII.2010; 9: 28.VI.2003; 11: 26.VI.2003; 27: 31.VII.2007; 63: 18.VII.2011.

**Host plant(s).** *Ribes nigrum* L., *R. rubrum* L., *Ribes uva-crispa* L.

*Aphis (Bursaphis) schneideri* (Börner, 1940)

Ivanovskaya [1977]: May, on *Ribes nigrum*; Novgorodova [2012]: Tur.

**Material.** 7: 14.VII.1968; 2–5.VII.2010; 20: 16.VII.1969; 74: 1.VIII.2007; 76: 14.VII.2013.

**Host plant(s).** *Ribes rubrum* L., *R. nigrum* L.

*Aphis (Bursaphis) varians* Patch, 1914

Ivanovskaya [1977]: KAg, Ula, on *Ribes nigrum* L.

**Material.** 56: 24.VI.1911; 63: 22.VII.2011.

**Host plant(s).** *Epilobium palustre* L., *Ribes* sp.

**Notes.** Ivanovskaya [1977] gives a description of the apterous females of this species on the basis of the sample 2918. However, these aphids are actually *A. triglochis* Theobald, 1926.

Aphidinae  
Macrosiphini  
Anuraphidina

*Brachycaudus helichrysi* (Kaltenbach, 1843)

Ivanovskaya [1977]: Ong, She, UKa, Ula.

**Material.** 24: 18.VII.1963; 56: 6.VII.1911; 67: 5.VII.1963; 74: 10.VII.1963; 73: 26.VI.1963; 76: 15.VII.2013.

**Host plant(s).** *Achillea millefolium* L., *Achillea* sp., *Senecio nemorensis* L., *Solidago virgaurea* L.

*Brachycaudus spiraeae* Börner, 1932

**Material.** 41: 12.VII.2009; 50: 17, 20.VII.2006; 49: 23.VII.2006; 69: 6.VII.1963; 73: 27.VII.1963.

**Host plant(s).** *Artemisia* sp. (accidentally), *Antirrhinum* sp. (accidentally), *Spiraea* sp.

*Brachycaudus (Acaudus) lychnidis* (Linnaeus, 1758)

Ivanovskaya [1977]: She, Tur.

**Material.** 3: 27, 31.VII.2010; 56: 23.VI.1911; 61: 27.VII.1963; 76: 11.VII.2013.

**Host plant(s).** *Silene latifolia* Poir., *Silene vulgaris* (Moench) Garcke, *Silene* sp.

\*\*\**Brachycaudus (Acaudus) populi*  
(Del Guercio, 1911)

**Material.** 7: 15.VII.2010; 56: 24.VI.1911.

**Host plant(s).** *Oberna behen* (L.) Ikonn., *Silene vulgaris* (Moench) Garcke.

*Brachycaudus (Acaudus)*  
*prunicola* (Kaltenbach, 1843)

**Material.** 7: 7.VII.2010.

**Host plant(s).** *Prunus* sp.

*Brachycaudus (Appelia) tragopogonis*  
(Kaltenbach, 1843)

Ivanovskaya [1977]: Ong.

**Notes.** Ivanovskaya [1977] does not indicate which subspecies of *B. (A.) tragopogonis* was collected.

*Brachycaudus (Appelia) tragopogonis setosus*  
(HilleRisLambers, 1948)

**Material.** 3: 31.VII.2010; 62: 17.VII.2011.

**Host plant(s).** *Tragopogon* sp.

*Brachycaudus (Brachycaudina) aconiti*  
(Mordvilko, 1928)

Ivanovskaya [1977]: Tur.

**Material.** 7: 21, 27.VI.1968, 8.VIII.2007, 3, 4, 7.VII.2010; 8: 10, 15.VII.1967; 13: 30.VII, 5.VIII.1961, 18.VI.1963; 17: 9.VII.1969; 20: 10.VII.1969; 27: 28.VII.1969; 56: 24–25.VI, 8.VII.1911; 61: 16.VII.2011; 63: 18.VII.2011; 70: 21.VII.1959.

**Host plant(s).** *Aconitum barbatum* Pers., *A. excelsum* Rchb., *A. septentrionale* Koelle, *Aconitum* sp., *Delphinium* sp.

*Brachycaudus (Nevskyaphis) bicolor* Nevsk.

Stekolshchikov et al. [2008]: Kag, on *Cerinthe* sp.

**Material.** 39: 3.VII.2006.

**Host plant(s).** *Inula* sp.

*Brachycaudus (Prunaphis) cardui* (Linnaeus, 1758)

**Material.** 7: 10.VII.2007, 21.VII.2008, 5.VII.2010.

**Host plant(s).** *Brunnera sibirica* Steven, *Carduus nutans* L.

*Brachycaudus (Prunaphis) jacobi* Stroyan, 1957

**Material.** 7: 5.VII.2010.

**Host plant(s).** *Myosotis* sp.

*Brachycaudus (Thuleaphis) rumexicolens*  
(Patch, 1917)

Ivanovskaya [1977]: without mentioning an exact place.

*Dysaphis affinis* (Mordvilko, 1928)

**Material.** 3: 25.VII.2010

**Host plant(s).** *Malus* sp.

\*\*\**Dysaphis apiifolia petroselinii*  
(Börner, 1950)

**Material.** 3: 25.VII, 1.VIII.2010.

**Host plant(s).** *Conium maculatum* L.

\*\**Dysaphis hirsutissima* (Börner, 1940)

**Material.** 7: 5, 20.VII.2010.

**Host plant(s).** *Anthriscus sylvestris* (L.) Hoffm.

*Dysaphis lappae lappae* (Koch, 1854)

**Material.** 3: 27.VII.2010.

**Host plant(s).** *Arctium lappa* L.

\*\**Dysaphis newskyi* (Börner, 1940).

**Material.** 3: 31.VII.2010; 7: 4, 24.VII.2010.

**Host plant(s).** *Heracleum* sp.

\*\**Dysaphis ossiannilssoni* Stroyan, 1961

**Material.** 7: 4, 21.VII.2010.

**Host plant(s).** *Angelica* sp.

*Dysaphis (Pomaphis) pavlovskyana*  
Narzikulov, 1957Ivanovskaya [1977]: Ula, on *Hesperis matronalis* L.**Material.** 37: 19.VII.2013.**Host plant(s).** *Artemisia* sp. (accidentally?)**\*\*Dysaphis (Pomaphis) plantaginea**  
(Passerini, 1860)**Material.** 23: 3–4.X.1963.**Host plant(s).** *Malus* sp.**\*\*Muscaaphis escherichi** (Börner, 1939)**Material.** 9: 10.VII.2010.**Host plant(s).** *Sorbus* sp.

## Liosomaphidina

*Brevicoryne brassicae* (Linnaeus, 1758)

Ivanovskaya [1977]: Tur.

*Cavariella aegopodii* (Scopoli, 1763)

Ivanovskaya [1977]: KAg, Ong.

**Material.** 62: 17.VII.2011; 75: 9.VII.1963.**Host plant(s).** *Epilobium angustifolium* L. (accidentally?)*Cavariella angelicae* (Matsumura, 1918)Stekolshchikov, Novgorodova [2013]: May, She, on *Anthriscus sylvestris* (L.) Hoffm., *Angelica* sp., *Heracleum sibiricum* L., *Heracleum* sp.**Material.** 3: 27.VII.2010; 60: 19.VII.2011; 61: 16.VII.2011; 62: 17, 18.VII.2011; 63: 22.VII.2011.**Host plant(s).** *Anthriscus sylvestris* (L.) Hoffm., *Angelica* sp., *Heracleum sibiricum* L., *Heracleum* sp.**Notes.** Ivanovskaya [1977] gives a description of alate females of this species on the basis of sample 2681. However, these aphids are actually *C. intermedia* Hille Ris Lambers, 1969. Ivanovskaya also notes a that colony of this species was found July 9, 1963 on *Epilobium angustifolium* L. Our examination of this slide confirmed that the correct identification should be *C. aegopodii*. Specimens were again collected July 17, 2011 by Novgorodova on *Epilobium angustifolium* near Verkhnyaya Kukuya Village. The life cycle and host association of this species are required. Perhaps aphids from the Altai belong to other taxa.*Cavariella archangelicae* (Scopoli, 1763)**Material.** 62: 17.VII.2011.**Host plant(s).** *Seseli* sp.*Cavariella intermedia* Hille Ris Lambers, 1969Stekolshchikov et al. [2008]: KAg, on *Salix* sp.**Material.** 47: 13.VII.2006; 61: 16.VII.2011; 69: 7.VII.1963.**Host plant(s).** *Anthriscus sylvestris* (L.) Hoffm., *Peucedanum* sp. (1 alatae – accidentally?), *Salix aurita* L., *Salix* sp.**\*\*Cavariella konoi** Takahashi, 1939**Material.** 7: 2, 6, 21, 24.VII.2010, 22: 9.VIII.1978.**Host plant(s).** *Aegopodium* sp., *Angelica* sp., unidentified Apiaceae.*Cavariella pastinacae* (Linnaeus, 1758)**Material.** 3: 27.VII.2010; 62: 17, 18, 19, 22.VII.2011; 63: 22.VII.2011.**Host plant(s).** *Heracleum sibiricum* L., *Heracleum* sp.*Cavariella theobaldi* (Gillette et Bragg, 1918)**Material.** 23: 30.VIII.1967, 30.VII.1969; 37: 19.VII.2013; 39: 13.VII.2009; 53: 17.VII.2009; 62: 18.VII.2011; 63: 22.VII.2011.**Host plant(s).** *Heracleum sibiricum* L., unidentified Apiaceae.*Cavariella (Cavariella) aquatica*  
(Gillette et Bragg, 1916)Ivanovskaya [1977, 1980]: \*Tur, Ula on *Salix* sp. (as *Cavariella hillerislambersi* Oss., 1959).**Material.** 17: 2.IX.1963; 47: 12.VII.2006; 77: 26.VII.1975.**Host plant(s).** *Salix* sp.*Chaitaphis tenuicauda* Nevsky, 1928

Ivanovskaya [1977]: KAg.

**\*\*\*Coloradoa angelicae** (Del Guercio, 1911)**Material.** 54: 29.VIII.1962.**Host plant(s).** *Artemisia* sp.*Coloradoa artemisiae* (Del Guercio, 1914)Ivanovskaya [1977]: KAg, Ula, on *Artemisia* sp.*Coloradoa heinzei* (Börner, 1952)Ivanovskaya [1977]: Uka, on *Artemisia frigida* Willd.**Material.** 67: 24.VII.1963; 74: 10.VII.1963.**Host plant(s).** *Artemisia* sp.*Elatobium abietinum* (Walker, 1849)Ivanovskaya [1977]: the Altai Mountains (without mentioning an exact place), on *Pinus sibirica*.*Hayhurstia atriplicis* (Linnaeus, 1761)Ivanovskaya [1977]: KAg, Ong, on *Atriplex* sp. (as *Semiaphis atriplicis* L., 1761).**Material.** 74: 10.VII.1963.**Host plant(s).** *Atriplex* sp.*Hyadaphis passerinii* (Del Guercio, 1911)Ivanovskaya [1977]: Tur, on *Lonicera* sp.*Hyadaphis tataricae* (Aizenberg, 1935)**Material.** 3: 28.VII.2010; 7: 10.VIII.2007; 11: 26.VI.2003; 27: 31.VII.2007.**Host plant(s).** *Lonicera tatarica* L., *Rhinanthus* sp. (accidentally), *Thalictrum minus* L., *Thalictrum* sp.*Hydaphias molluginis* Börner, 1939**Material.** 69: 30.IX.1962**Host plant(s).** *Gallium* sp.**\*\*\*Hydaphias mosana** Hille Ris Lambers, 1956**Material.** 67: 25.VII.1963, 82: 31.VII.1975.**Host plant(s).** *Galium verum* L., *Gallium* sp.*Lipaphis erysimi* (Kaltenbach, 1843)

Ivanovskaya [1977]: Uka.

*Longicaudus trirhodus* (Walker, 1849)**Material.** 7: 10.VIII.2007; 61: 16, 20.VII.2011; 62: 17.VII.2011; 63: 22.VII.2011; 82: 31.VII.1975.**Host plant(s).** *Rhinanthus* sp. (accidentally), *Thalictrum minus* L., *Thalictrum* sp.*Myzaphis rosarum* (Kaltenbach, 1843)Ivanovskaya [1977]: UKa, Ula, on *Potentilla* sp.**Material.** 31: 20.VII.2013; 41: 12.VII.2009; 43: 12.VII.2009; 47: 14.VII.2006, 76: 11, 12, 14.VII.2013.

**Host plant(s).** *Pentaphylloides fruticosa* (L.) O.Schwarz, *Rosa* sp.

*Semiaphis aizenbergi* (Narzikulov, 1957)

Ivanovskaya [1977]: Tur, Ula, on *Lonicera edulis* Turcz.

**Notes.** Ivanovskaya [1977] mentions some differences between the material from Siberia and this species as described by Narzikulov. Given this prevarication, as well as the near crypsis of *Semiaphis* species associated with *Lonicera*, it can be assumed that the aphids collected by Ivanovskaya do not belong to *S. aizenbergi* but to a different species.

*Semiaphis anthrisci* (Kaltenbach, 1843)

Ivanovskaya [1977]: KAg, Ong, Ula.

**Material.** 1: 28.VI.1962; 7: 3.VII.2010; 17: 13.VIII.1963; 39: 2.VII.2006; 45: 12.VII.2009; 61: 16.VII.2011; 60: 19.VII.2011; 76: 15.VII.2013.

**Host plant(s).** *Aegopodium podagraria* L., *Anthriscus sylvestris* (L.) Hoffm., *Pastinaca* sp., *Peucedanum* sp., *Seseli* sp., unidentified Apiaceae.

**Notes.** Ivanovskaya [1977] mentions that individuals of this species from Siberia differ from those of Europe by the large number of secondary rhinara on the 3rd antennal segment. This casts doubt on the reliability of that aphids are this species.

*Semiaphis nolitangere*  
Aizenberg, 1954

Stekolshchikov et al. [2008]: Tur, on *Impatiens nolitangere* L.

**Material.** 7: 7, 10, 19.VIII.2007.

**Host plant(s).** *Impatiens nolitangere* L.

\*\**Semiaphis pimpinellae* (Kaltenbach, 1843)

**Material.** 3: 30.VII.2010

**Host plant(s).** *Aegopodium podagraria* L.

*Semiaphis sphondylii* (Koch, 1854)

**Material.** 9: 9.VII.2010; 17: 2.IX.1963, 30.VIII.1967, 7.VIII.1969; 19: 30.VII.1969; 7, 2–16.VII.2010; 25: 17, 19.VII.1963; 39: 3.VII.2006; 47: 13.VII.2006; 49: 23.VII.2006; 50: 17, 20.VII.2006; 51: 8.VII.2006; 69: 7.VII.1963.

**Host plant(s).** *Bupleurum aureum* Fisch., *Heracleum sibiricum* L., *Lonicera pallasii* Ledeb., *Lonicera* sp., *Peucedanum* sp., unidentified Apiaceae.

*Vesiculaphis theobaldi* Takahashi, 1930

Ivanovskaya [1977]: Ong (as *Trilobaphis caricis* Theob., 1922).

Myzina

\*\**Aspidophorodon salicis* Miyazaki, 1971

**Material.** 32: 20.VII.2013; 76: 14.VII.2013.

**Host plant(s).** *Salix caprea* L.

*Aspidophorodon (Eoessigia) vera*  
Stekolshchikov et Novgorodova, 2010

Stekolshchikov, Novgorodova [2010]: Kag, on *Pentaphylloides fruticosa* (L.) O. Schwarz.

**Material.** 39: 2.VII.2006, 11.VII.2009.

**Host plant(s).** *Pentaphylloides fruticosa* (L.) O. Schwarz.

*Aulacorthum cylactis* Börner, 1942

**Material.** 76: 11.VII.2013.

**Host plant(s).** *Rubus saxatilis* L.

*Aulacorthum solani* (Kaltenbach, 1843)

Ivanovskaya [1977]: KAg, UKa.

**Material.** 7: 2, 6.VII.2010; 37: 19.VII.2013.

**Host plant(s).** *Anthriscus sylvestris* (L.) Hoffm., *Urtica dioica* L.

*Myzus padellus* Hille Ris Lambers et Rogerson, 1946

Stekolshchikov, Novgorodova [2013]: She, on *Rhinanthus* sp.

**Material.** 61: 16.VII.2011.

**Host plant(s).** *Rhinanthus* sp.

*Myzus (Nectarosiphon) persicae*  
(Sulzer, 1776)

Ivanovskaya [1977]: Tur (as *Myzodes persicae* Sulz., 1776).

**Material.** 49: 23.VII.2006.

**Host plant(s).** *Rhodiola rosea* L.

*Ovatus crataegarius* (Walker, 1850)

Stekolshchikov, Novgorodova [2013]: She, on *Mentha* sp.

**Material.** 61: 19.VII.2011

**Host plant(s).** *Mentha* sp.

*Ovatus insitus* (Walker, 1849)

Ivanovskaya [1977]: the Altai Mountains (without mentioning an exact place).

\*\**Paramyzus heraclei* Börner, 1933

**Material.** 4: 29.VII.2010.

**Host plant(s).** *Heracleum* sp.

\*\**Phorodon humuli* (Schrank, 1801)

**Material.** 3: 30.VII.2010.

**Host plant(s).** *Humulus lupulus* L.

*Phorodon (Paraphorodon) cannabis* Passerini, 1860

**Material.** 57: 26.VII.2010.

**Host plant(s).** *Cannabis sativa* L.

*Tubaphis ranunculina* (Walker, 1852)

Stekolshchikov, Novgorodova [2013]: She, on *Ranunculus polyanthemus* L.

**Material.** 61: 20.VII.2011; 76: 11, 15.VII.2013.

**Host plant(s).** *Ranunculus polyanthemus* L., *Ranunculus* sp.

Macrosiphina

*Acyrtosiphon bistorti* Ivanovskaya, 1973

Ivanovskaya [1973d, 1977]: Ula, on *Bistorta officinalis* Delabre, 1800.

\*\*\**Acyrtosiphon boreale* Hille Ris Lambers, 1952

**Material.** 7: 19.VII.2010; 47: 12, 14.VII.2006; 49: 23.VII.2006; 51: 8, 10.VII.2006.

**Host plant(s).** *Pentaphylloides fruticosa* (L.) O.Schwarz, *Potentilla* sp.

*Acyrtosiphon caraganae*  
(Cholodkovsky, (1907) 1908)

Mordvilko [1914]: Che, on *Caragana arborescens* Lam., *C. pygmaea* (L.) DC.; Ivanovskaya [1977]: KAg, on *Caragana* sp.

**Material.** 3: 28.VII.2010; 5: 23.VIII.1962; 33: 16.VII.1963; 34: 12.VII.1963; 37: 14.VII.1963; 67: 24.VII.1963; 69: 8.VII.1963; 74: 10.VII.1963; 75: 9.VII.1963.

**Host plant(s).** *Caragana arborescens* Lam., *Caragana* sp.

- Acyrtosiphon ignotum* Mordvilko, 1914  
Ivanovskaya [1977]: KAg, Ong, UKa, on *Spiraea* sp., *Pentaphylloides fruticosa* (L.) O. Schwarz.  
**Material.** 51: 8, 10.VII.2006.  
**Host plant(s).** *Pentaphylloides fruticosa* (L.) O. Schwarz, *Spiraea* sp.
- \*\*\**Acyrtosiphon loti* (Theobald, 1913)  
**Material.** 37: 19.VII.2013.  
**Host plant(s).** *Astragalus* sp.
- Acyrtosiphon malvae* (Mosley, 1841)  
Ivanovskaya [1977]: \*May: *Geranium* sp.  
**Material.** 1: 22.VIII.1962; 3: 28.VII.2010; 37: 19.VII.2013; 61: 16.VII.2011; 63: 18.VII.2011; 76: 11, 14.VII.2013.  
**Host plant(s).** *Artemisia* sp., *Geranium pratense* L., *Geranium* sp.
- Acyrtosiphon pisum* (Harris, 1776)  
**Material.** 3: 31.VII.2010; 27: 31.VII.2007; 46: 5.VII.2006; 61: 16.VII.2011.  
**Host plant(s).** *Caragana* sp., *Lonicera tatarica* L., *Vicia unijuga* A. Br.
- \*\**Acyrtosiphon Liporrhinus chelidonii* (Kaltenbach, 1843)  
**Material.** 7: 15.VII.2010.  
**Host plant(s).** *Chelidonium majus* L.
- Amphorophora idaei* (Börner, 1939)  
Stekolshchikov et al. [2008]: Tur, on *Rubus idaeus* L.  
**Material.** 7: 6.VIII.2007; 76: 11.VII.2013.  
**Host plant(s).** *Rubus idaeus* L., *R. saxatilis* L.
- Amphorophora rubi* (Kaltenbach, 1843)  
**Material.** 76: 14, 15.VII.2013  
**Host plant(s).** *Rubus idaeus* L.
- Amphorosiphon pulmonariae* (Börner 1942)  
Ivanovskaya [1977]: Ong, on *Pulmonaria* sp. (as *Amphorophora*).
- Chaetosiphon alpestre*  
Hille Ris Lambers, 1953  
Ivanovskaya [1977]: Ong, on *Ribes* spp.
- Cryptomyzus alboapicalis* (Theobald, 1916)  
**Material.** 7: 5.VII.2010; 75: 2. IX.1962; 76: 14.VII.2013.  
**Host plant(s).** *Lamium album* L., *Ribes* sp.
- Cryptomyzus galeopsidis* (Kaltenbach, 1843)  
Stekolshchikov, Novgorodova [2013]: She, Tur, on *Lamium album* L., *Ribes rubrum* L.  
**Material.** 7: 11.VIII.2004; 62: 18.VII.2011.  
**Host plant(s).** *Lamium album* L., *Ribes rubrum* L.
- \*\**Cryptomyzus korschelti* Börner, 1938  
**Material.** 7: 5.VII.2010.  
**Host plant(s).** *Ribes rubrum* L.
- Cryptomyzus ribis* (Linnaeus, 1758)  
**Material.** 3: 30.VII.2010; 61: 16.VII.2011.  
**Host plant(s).** *Lamium* sp., *Phlomis tuberosa* L., *Ribes* sp.
- Cryptomyzus (Ampullosiphon) stachydis* (Heikinheimo, 1955)  
Stekolshchikov, Novgorodova [2013]: She, Tur, on *Lamium album* L., *Ribes rubrum* L.  
**Material.** 7: 5.VII.2010; 62: 18.VII.2011.  
**Host plant(s).** *Lamium album* L., *Ribes rubrum* L.
- Delphiniobium yezoense* Miyazaki, 1971  
Stekolshchikov et al. [2008]: Tur, on *Aconitum* spp.  
**Material.** 7: 8.VIII.2007; 60: 19.VII.2011; 62: 18.VII.2011; 63: 22.VII.2011.  
**Host plant(s).** *Aconitum septentrionale* Koelle., *A. volatile* Pall. ex Koelle., *Aconitum* sp.
- Hyperomyzus lactucae* (Linnaeus, 1758)  
Ivanovskaya [1977]: Ong, Tur, Uka.  
**Material.** 62: 17–18.VII.2011.  
**Host plant(s).** *Crepis* sp.
- Impatiens balsamines* (Kaltenbach, 1862)  
Stekolshchikov, Novgorodova [2013]: Tur, on *Impatiens noli-tangere* L.  
**Material.** 7: 7.VII.2010.  
**Host plant(s).** *Impatiens noli-tangere* L.
- \*\*\**Macrosiphoniella abrotani* (Walker, 1852)  
**Material.** 56: 25.VI.1911 and without date.  
**Host plant(s).** *Artemisia vulgaris* L., *Artemisia* sp.
- Macrosiphoniella altaica* Ivanovskaya, 1971  
Ivanovskaya [1977]: KAg, Ong, *Artemisia frigida* Willd.
- Macrosiphoniella artemisiae* (Boyer de Fonscolombe, 1841)  
**Material.** 7: 20.VII.2010; 61: 16.VII.2011.  
**Host plant(s).** *Artemisia vulgaris* L., *Artemisia* sp.
- Macrosiphoniella atra* (Ferrari, 1872), s. lat.  
Stekolshchikov et al. [2008]: Ula, on *Artemisia* sp.  
**Material.** 3: 28.VII.2010; 27: 31.VII.2007; 37: 19.VII.2013; 56: 10.VII.1911; 59: 26.VII.2010; 60: 19.VII.2011; 61: 16.VII.2011; 62: 17.VII.2011; 63: 18.VII.2011; 7: 7.VIII.1963; 74: 10.VII.1963; unknown places: 6.VI.1909 (vicinity of Teletskoye Lake), 21.VI.1963.  
**Host plant(s).** *Artemisia sacrorum* Ledeb., *Artemisia* sp.
- Macrosiphoniella austriacae* Bozhko, 1961  
Ivanovskaya [1977]: the Altai Mountains (without mentioning an exact place), on *Artemisia austriaca* Jacq.
- \*\**Macrosiphoniella dimidiata* Börner, 1942  
**Material.** 69: 7.VII.1963; 74: 10.VII.1963.  
**Host plant(s).** *Artemisia* sp.
- Macrosiphoniella millefolii* (De Geer, 1773)  
Ivanovskaya [1977]: the Altai Mountains, on *Achillea* spp.
- Macrosiphoniella nigropilosa* Nevsky, 1929  
**Material.** 39: 2.VII.2006; 47: 12, 13.VII.2006; 50: 18.VII.2006; 51: 6.VII.2006.  
**Host plant(s).** *Artemisia* sp.  
**Notes.** Ivanovskaya [1977] gives a description of this species on the basis of sample 2827. However, these aphids are actually *M. atra* (Ferrari, 1872).

- Macrosiphoniella nitida soongarica*  
Szelegiewicz, 1963  
Ivanovskaya [1977]: Ong, on *Artemisia* sp.
- Macrosiphoniella sibirica* Ivanovskaya, 1971  
Ivanovskaya [1977]: May, on *Artemisia vulgaris* L., *Artemisia dracunculus* L., *Artemisia* sp.
- Macrosiphoniella tanacetaria* (Kaltenbach, 1843)  
Ivanovskaya [1977]: She, on *Tanacetum vulgare* L.  
**Material.** 9: 27.VI.2003, 8.VII.2010; 61: 27.VII.1963.  
**Host plant(s).** *Tanacetum vulgare* L.
- \*\**Macrosiphoniella yomogifoliae* (Shinji, 1922)  
**Material.** 32: 20.VII.2013.  
**Host plant(s).** *Artemisia* sp.
- \*\**Macrosiphoniella (Asterobium) galatellae*  
Bozhko, 1953  
**Material.** 56: 12.VII.1911.  
**Host plant(s).** *Aster sedifolius* L.
- \*\**Macrosiphoniella (Phalangomyzus) antennata*  
Holman et Szelegiewicz, 1978  
**Material.** 3: 28.VII.2010.  
**Host plant(s).** *Artemisia sacrorum* Ledeb.
- Macrosiphoniella (Phalangomyzus) oblonga* (Mordvilko, 1901)  
**Material.** 31: 21.VII.2013; 37: 19.VII.2013; 76: 11.VII.2013.  
**Host plant(s).** *Artemisia* sp.
- \*\*\**Macrosiphum bupleuri* Kadyrbekov, 2000  
**Material.** 6: 19.VI.2004; 7: 2, 3, 16.VII.2010.  
**Host plant(s).** *Bupleurum aureum* Fisch., *Bupleurum* sp.
- Macrosiphum cholodkovskiyi* (Mordvilko, 1909)  
**Material.** 7: 2.VII.2010; 62: 18.VII.2011; 76: 12.VII.2013.  
**Host plant(s).** *Filipendula ulmaria* (L.) Maxim.
- Macrosiphum gei* (Koch, 1855)  
**Material.** 60: 19.VII.2011.  
**Host plant(s).** *Anthriscus sylvestris* (L.) Hoffm.
- Macrosiphum rosae* (Linnaeus, 1758)  
**Material.** 3: 25.VII.2010; 7: 18.VI.2003; 44: 12.VII.2009; 76: 11, 12, 14.VII.2013.  
**Host plant(s).** *Filipendula ulmaria* (L.) Maxim., *Pentaptylloides fruticosa* (L.) O.Schwarz, *Rosa* sp., *Sanguisorba officinalis* L.
- Macrosiphum vereshshagini* Mordvilko, 1919  
Mordvilko [1919]: \*Che: *Cimicifuga foetida* L.  
**Material.** 7: 6.VII.2010; 55: 4.VII.1911 (lectotype); 61: 16, 20.VII.2011; 76: 14.VII.2013.  
**Host plant(s).** *Cimicifuga europaea* Schipcz., *C. foetida* L.
- Megoura viciae* Buckton, 1876  
Mordvilko [1914]: Che, on *Caragana arborescens* Lam., *C. pygmaea* (L.) DC.; Ivanovskaya [1977]: \*She, Tur, Ula.  
**Material.** 7: 19.VI.2003, 10.VIII.2007, 4.VII.2010; 23: 27.VIII.1961.  
**Host plant(s).** *Lathyrus vernus* (L.) Bernh., *Lathyrus* sp., *Vicia unijuga* A. Braun, ?*Medicago sativa* L.
- Metopeurum fuscoviride* Stroyan, 1950  
Ivanovskaya [1977]: May, Ong, She, Tur, UKo, on *Tanacetum vulgare* L.  
**Material.** 1: 22.VIII.1962; 7: 17.VII.2010; 9: 20, 27.VII.2003; 23: 27.VIII.1961; 56: 9.VII.1911; 61: 27.VII.1963; 79: 16.VIII.1963.  
**Host plant(s).** *Achillea millefolium* L., *Tanacetum vulgare* L., *Tanacetum* sp.
- Microlophium carnosum* (Buckton, 1876)  
Ivanovskaya [1977]: Ong, Tur, on *Urtica* spp. (also as *M. evansi* (Theobald, 1923)).  
**Material.** 7: 6.VII.2010.  
**Host plant(s).** *Urtica dioica* L.
- Microlophium sibiricum* (Mordvilko, 1914)  
**Material.** 4: 29.VII.2010.  
**Host plant(s).** *Urtica cannabina* L.
- Nasonovia (Aconitaphis) salebrosa*  
Ivanovskaya ex Ivanovskaya et Ostanin, 1971  
Ivanovskaya [1977] and Ivanovskaya, Ostanin [1971]: Uka, on *Aconitum* sp.
- \*\*\**Nasonovia (Ranakimia) altaensis* Stenseth, 1969  
**Material.** 7: 3.VII.2010.  
**Host plant(s).** *Thalictrum* sp.
- Paczoskia paczoskii* Mordvilko, 1919, s.l.  
Ivanovskaya [1977]: \*Ong, on unidentified Asteraceae (as *Dactynotus paczoskii* Mordv., 1919).  
**Material.** 69: 7.VII.1963.  
**Host plant(s).** unidentified Asteraceae.
- Rhopalomyzus (Judenkoa) lonicerae* (Siebold, 1839)  
**Material.** 7: 24.VII.2010; 61: 16.VII.2011.  
**Host plant(s).** *Dactylis glomerata* L., *Phalaris arundinacea* L.
- Rhopalosiphoninus ribesinus* (van der Goot, 1912)  
Ivanovskaya [1977]: Kag, on *Ribes* sp.
- \*\**Rhopalosiphoninus (Pseudorhopalosiphoninus) calthae* (Koch, 1854)  
**Material.** 7: 15.VII.2010.  
**Host plant(s).** *Caltha palustris* L.
- Sitobion avenae* (Fabricius, 1775)  
Ivanovskaya [1977]: the Altai Mountains (without mentioning an exact place), on Poaceae.
- Titanosiphon dracunculi* Nevsky, 1928  
**Material.** 47: 12, 13 VII.2006; 49: 23.VII.2006.  
**Host plant(s).** *Artemisia* sp.
- Uroleucon cichorii cichorii* (Koch, 1855)  
**Material.** 3: 25, 29.VII.2010; 9: 11, 12.VII.2010; 73: 26.VII.1963.  
**Host plant(s).** *Cichorium intybus* L., *Leucanthemum vulgare* Lam., *Senecio* sp., *Taraxacum officinale* Weber, unidentified Asteraceae.
- \*\**Uroleucon cichorii grossum*  
(Hille Ris Lambers, 1939)  
**Material.** 7: 2, 4.VII.2010; 9: 8.VII.2010; 61: 16.VII.2011; 62: 17, 18.VII.2011.

**Host plant(s).** *Crepis lyrata* Froel., *Crepis* sp., *Hieracium* sp.

*Uroleucon obscurum* (Koch, 1855)

**Material.** 7: 10.VII.1965; 8: 10, 15.VII.1965; 61: 27.VII.1963.

**Host plant(s).** unidentified Asteraceae.

*Uroleucon picridis* (Fabricius, 1775)

**Material.** 7: 18.VI.2003.

**Host plant(s).** *Cirsium setosum* (Willd.) Bess.

*Uroleucon sonchi* (Linnaeus, 1767)

Ivanovskaya [1977]: Ong, Tur (as *Dactinotus*).

**Material.** 3: 29.VII.2010; 6: 21.VI.2004.

**Host plant(s).** *Sonchus oleraceus* L., *Senecio* sp.

\*\**Uroleucon tussilaginis* (Walker, 1850)

**Material.** 9: 10.VII.2010.

**Host plant(s).** *Tussilago farfara* L.

*Uroleucon (Lambersius) dubium* Holman, 1975

Stekolshchikov, Novgorodova [2013]: She, on *Artemisia* sp.

**Material.** 60: 19.VII.2011.

**Host plant(s).** *Artemisia* sp.

*Uroleucon (Uromelan) aeneum*  
(Hille Ris Lambers, 1939)

**Material.** 7: 15.VII.2010; 9: 9, 10.VII.2010; 55: 6.VII.1914; 61: 16.VII.2011; 62: 17.VII.2011.

**Host plant(s).** *Carduus crispus* L., *Carduus* sp., *Cirsium helenoides* (L.), *Cirsium* sp.

*Uroleucon (Uromelan)*  
*campanulae* (Kaltenbach, 1843)

Stekolshchikov, Novgorodova [2013]: She, on *Campanula* sp.

**Material.** 62: 17.VII.2011.

**Host plant(s).** *Campanula* sp.

*Uroleucon (Uromelan) gobonis* (Matsumura, 1917)

Stekolshchikov et al. [2008]: Tur, on *Saussurea amara* (L.) DC.

**Material.** 9: 28.VI.2003.

**Host plant(s).** *Saussurea amara* (L.) DC.

*Uroleucon (Uromelan) jaceae* (Linnaeus, 1758)

**Material.** 55: 17.VI.1911; 56: without date.

**Host plant(s).** *Serratula wolffii* Andrae.

*Uroleucon (Uromelan) nigrocampanulae*  
(Theobald, 1928)

Ivanovskaya [1977]: KAg (as *Dactinotus trachelii* C.B., 1939).

*Uroleucon (Uromelan) simile*  
(Hille Ris Lambers, 1935)

**Material.** 7: 20.VII.2010; 9: 9, 10.VII.2010; 47: 13, 14.VII.2006; 56: 2.VII.1911; 62: 17.VII.2011.

**Host plant(s).** *Carex* sp. (accidentally), *Conyza canadensis* (L.) Cronq., *Erigeron canadensis* L., *Erigeron* sp.

## Comments to the list of species

*Cinara cembrae* (Seitner, 1936). Ivanovskaya [1977] mentions a single sample of this species from *Pinus cembra* L., code 2723. However, our examination of the specimen marked with this code showed that it is

*C. mongolica* Szelegiewicz et Holman, 1980. Thus, the presence of *C. cembrae* is not confirmed.

*Atheroides doncasteri* Ossiannilsson 1955. Ivanovskaya [1977] mentions this species from the Altai Republic (Kurai steppe), sample 3300. The corresponding slide does not contain aphids, therefore this species should be excluded from the list of aphids.

*Aphis intybi* Koch, 1855. Ivanovskaya [1977] mentions that specimens of this species from the Altai Republic have morphological differences from those of other areas. Indeed, our study confirmed that the slides contain aphids morphologically close to *A. intybi*, but with important differences. Because the reliable determination of the available material is not currently possible, we have excluded this species from the list of species.

*A. rostellum* (Zhang, Chen, Zhong et Li, 1999). This species was mentioned in our earlier publication [Stekolshchikov, Novgorodova, 2013]. However the detail investigation of the additional material showed that it might be a synonym of another species of the genus *Aphis*. Since this hypothesis requires additional investigation we excluded this species from the list.

*A. spiraeophila* Patch, 1914. According to Zhuravlyov [1997] the recorded presence of this species in Siberia is erroneous.

*Brachycaudus (Thuleaphis) amygdalinus* (Schouteden, 1905). Ivanovskaya [1977] reported this species only tentatively because its primary host is not present in the area; she suggested the species may be anholocyclic in Siberia. It is more likely that she was dealing with *B. (Thuleaphis) rumexicolens* (Patch, 1917), especially since the aphids were collected from an unknown Polygonaceae.

*Hydaphias helvetica* Hille Ris Lambers, 1947. Ivanovskaya [1977] gives a description of apterous females on the basis of sample 2998 and oviparous females on the basis of sample 2427. However, aphids from sample 2998 are actually *H. mosana* Hille Ris Lambers, 1956, and aphids from sample 2427 are actually *H. molluginis* Börner, 1939. Since there is no other evidence of *H. helvetica* in the province, and since it is likely that *H. helvetica* is a synonym of *Hydaphias molluginis* Börner, 1939 [Blackman, Eastop, 2011] we excluded this species from the list.

*Macrosiphoniella pulvera* (Walker, 1848). Ivanovskaya [1977] gives a description of this species on the basis of sample 2838 and emphasizes that this is a single sample from the Altai. However, these aphids are actually *M. artemisiae* (Boyer de Fonscolombe, 1841) and therefore the presence of this species is not confirmed.

*M. (Ramitrichophorus) janckei* Hille Ris Lambers, 1947. Ivanovskaya [1977] records this species on the basis of nine larvae collected from an unknown Asteraceae. We consider identifications based on larval stages doubtful, therefore we excluded this species from the list.

*Uroleucon (Uromelan) solidaginis* (Fabricius, 1779). Ivanovskaya [1977] identifies this species on the basis

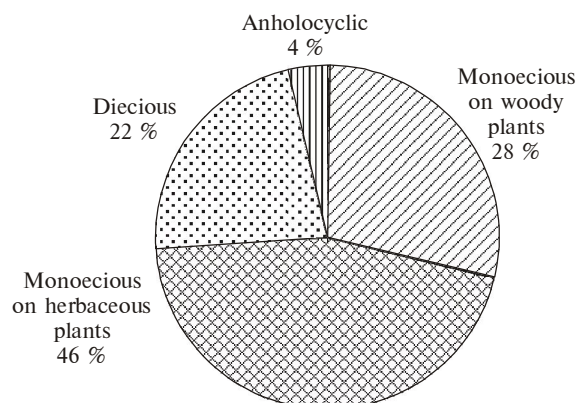


Fig. 2. The proportion of species with different life cycles in the aphid fauna of the Altai Republic.

Рис. 2. Соотношение видов с различными жизненными циклами в афидофауне Республики Алтай.

of only a few larvae. We consider determination based on larval stages doubtful and excluded this species from the list.

## Discussion

At present, 278 species and 4 subspecies of aphids belonging to 85 genera are recorded from the Altai Republic. Of these, 126 species and 3 subspecies are newly recorded from the Altai Republic. 31 species and 2 subspecies are noted in Western Siberia for the first time, and 15 species are newly recorded from the territory of Russia. Comparing the aphid diversity of the Altai Republic with that of other territories suggests the region remains understudied. For example, the Altai Republic (area 92 600 km<sup>2</sup>) is more than twice as large as a similarly mountain region, Switzerland (area 41 285 km<sup>2</sup>), but has only a little over a half of the recorded aphid

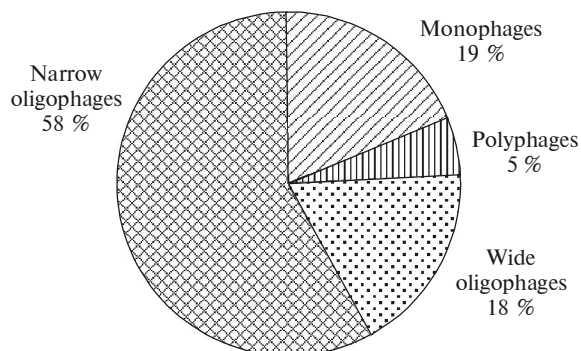


Fig. 3. The proportion of species with different trophic specializations in the aphid fauna of the Altai Republic.

Рис. 3. Соотношение видов с разной трофической специализацией в афидофауне Республики Алтай.

diversity — 477 species [Lampel, Meier, 2003, 2007]. The aphid fauna of the adjacent countries makes it suggests that some 200–250 additional aphid species may yet be found in the Altai Republic.

The majority of aphid species recorded for the Altai Republic (Fig. 2) either inhabit herbaceous plants exclusively (monoecious species) or migrate to them from woody primary hosts (dioecious species). Among the recorded species, 19% feed on a single host plant, 58% on various host species from a single genus, 18% on various hosts from a single family, and only 5% are truly polyphages, inhabiting host plant species from more than a single family (Fig. 3).

About 74% of the recorded species have a Palaearctic geographical distribution, Holarctic and cosmopolitan species made up about 12% each. Only 4 species from the list (*Pemphigus laurifolia* Dolgova, 1973; *Acyrtosiphon bistorti* Ivanovskaya, 1973; *Macrosiphum vereshchagini* Mordvilko, 1919; *Macrosiphoniella altaica* Ivanovskaya, 1971) were found only on the territory of the Altai Republic and adjacent territories. However, the question whether these species are endemic of the region or not is still unclear and requires additional investigation. One more species — *Acyrtosiphon caraganae* (Cholodkovsky, 1908) — has become widespread and now occurs in parks and gardens in different parts of the Holarctic [Mordvilko, 1914].

## Acknowledgements

We are grateful to V.S. Sorokina and A.V. Gavrilyuk for providing aphid materials, N. Vesnina (Novosibirsk State Pedagogical University, Novosibirsk) and V.I. Dorofeyev (Komarov Botanical Institute of the Russian Academy of Sciences, St. Petersburg) for the help with identification of host plants, and to Colin Favret (Université de Montréal, Montréal, Canada) and Sergey V. Buga (Belarusian State University, Minsk, Republic of Belarus) for editing the English and commenting on an earlier version of the manuscript. The study was partly supported by the Federal Fundamental Scientific Research Programme for 2013–2020 (VI.51.1.6.) and the Russian Foundation for Basic Research No. 13-04-00268 (T.A. Novgorodova). The study was performed in the frames of the state research project no. 01201351189 and conducted partly with financial support from the Muséum national d'Histoire naturelle (Paris, France) to A.V. Stekolshchikov as invited scientist.

## References

- Blackman R.L., Eastop V.F. 2011. Additions and amendments to «Aphids on the World's Plants» // Zootaxa. Vol.2774. P.57–68.
- Favret C. 2015. Aphid Species File. Version 5.0/5.0. Revised and updated version available online at <http://Aphid.SpeciesFile.org>.
- Holman J. 2009. Host Plant Catalog of Aphids: Palearctic Region. Netherlands: Springer. 1140 p.
- Ivanovskaya-Shubina O.I. 1965. [New species of genus *Macropodaphis* Rem. et. Dav. (Aphidoidea, Homoptera) in Western Siberia] // Novye i maloizvestnye vidy fauny Sibiri. Novosibirsk: Nauka. P.63–70 [In Russian].
- Ivanovskaya O.I. 1971. [New species of aphids of subtribe



- Macrosiphina (Aphididae, Homoptera)] // Novye i maloizvestnye vidy fauny Sibiri. Issue 5. Novosibirsk: Nauka. P.5–13 [In Russian].
- Ivanovskaya O.I. 1973a. [Types of species (Aphidoidea), described from 1958 to 1970] // Trudy biologicheskogo instituta SO AN SSSR. Issue 16. Fauna Sibiri. Part II. P.72–77 [In Russian].
- Ivanovskaya O.I. 1973b. [A new species of gall aphid of the genus *Pemphigus* Hart. from southern Siberia] // Novye i maloizvestnye vidy fauny Sibiri. Issue 6. Novosibirsk: Nauka. P.9–12 [In Russian].
- Ivanovskaya O.I. 1973c. [A new species of genus *Chaitophorus* Koch from Western Siberia] // Novye i maloizvestnye vidy fauny Sibiri. Issue 6. Novosibirsk: Nauka. P.13–20 [In Russian].
- Ivanovskaya O.I. 1973d. [Aphids of the genus *Acyrtosiphon* Mordv. from Western Siberia] // Novye i maloizvestnye vidy fauny Sibiri. Issue 7. Novosibirsk: Nauka. P.34–37 [In Russian].
- Ivanovskaya O.I. 1975. [New genera and species of aphid of tribe Macrosiphini of western Siberia] // Cherepanov A.I. (Ed.): Taksonomiya zhivotnykh Sibiri. Novosibirsk: Nauka. P.24–29.
- Ivanovskaya O.I. 1977. [Aphids of the Western Siberia.]. Part 1, 2. Novosibirsk: Nauka. 272, 328 p. [In Russian].
- Ivanovskaya O.I. 1980. [Aphids of the genus *Cavariella* del Guercio, 1911 (Homoptera, Aphididae) in northern Asia] // Novye i maloizvestnye vidy fauny Sibiri. Issue 14. Novosibirsk: Nauka. P.79–87 [In Russian].
- Ivanovskaya O.I. 1988. [New species of the aphid genus *Macropodaphis* Rem. et Dav. In Siberian steppes] // Zolotareno G.S. (Ed.): Taksonomiya zhivotnykh Sibiri. Novye i maloizvestnye vidy fauny Sibiri. Novosibirsk: Nauka. P.53–56 [In Russian].
- Ivanovskaya O.I., Ostanin V.L. 1971. [A new genus and species of aphid (Aphididae, Homoptera) from wolfsbane (*Aconitum*) and larkspur (*Delphinium*)] // Novye i maloizvestnye vidy fauny Sibiri. Issue 5. Novosibirsk: Nauka. P.14–18 [In Russian].
- Lampel G., Meier W. 2003. Hemiptera: Sternorrhyncha – Aphidina. Vol. 1: Non-Aphididae. Fauna Helvetica 8. Centre Suisse de cartographie de la faune & Schweizerische Entomologische Gesellschaft, Neuchâtel. 312 p.
- Lampel G., Meier W. 2007. Hemiptera: Sternorrhyncha – Aphidina. Vol. 2: Aphididae. Fauna Helvetica 16. Centre Suisse de cartographie de la faune & Schweizerische Entomologische Gesellschaft, Neuchâtel. 523 p.
- Mordvilko A.K. 1914. [Fauna of Russia and Adjacent Countries. Insecta Hemiptera, 1 (1)]. Petrograd: Imperatorskaya Akademiya Nauk. 236 p. + 9 p [In Russian].
- Mordvilko A.K. 1919. [Fauna of Russia and Adjacent Countries. Insecta Hemiptera, 1 (2)]. Petrograd: Rossiyskaya Akademiya Nauk. P.237–508 [In Russian].
- Mordvilko A.K. 1924. [Woolly aphid (*Eriosoma lanigerum* Hausm.) and other Eriosomea. Biology and distribution]. Leningrad: Novaya Derevnnya. 110 p. [In Russian].
- Novgorodova T.A. 2012. [Trophobiotic relationships of ants (Hymenoptera, Formicidae) with aphids (Homoptera, Aphidoidea) in North-Eastern Altai] // Proceedings of the Russian Entomological Society. St. Petersburg. Vol.83. No.1. P.45–57 [In Russian].
- Remaudière G., Remaudière M. 1997. Catalogue des Aphididae du monde — Catalogue of the world's Aphididae (Homoptera, Aphidoidea). Paris: INRA editions. 473 p.
- Stekolshchikov A.V., Gavriyuk A.V., Novgorodova T.A. 2008. Additions to the aphid fauna of West Siberia (Homoptera: Aphidinea) // Zoosystematica Rossica. Vol.17. No.1. P.57–59.
- Stekolshchikov A.V., Novgorodova T.A. 2010. A new species of *Aspidophorodon* Verma (Hemiptera, Aphididae) from the Altai Republic // Zootaxa. Vol.2566. P.39–44.
- Stekolshchikov A.V., Novgorodova T.A. 2013. New additions to the aphid fauna (Homoptera: Aphidinea) of Western Siberia // Zoosystematica Rossica. Vol.22. No.1. P.63–68.
- Zhuravlyov V.V. 1997. [Meadow-Sweet (*Spireae*) Dwelling Aphids of the Genus *Aphis* (Homoptera, Aphidoidea). Communication 1] // Vestnik Zoologii. Vol.31. No.3. P.12–17 [In Russian].

Поступила в редакцию 12.4.2015