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RESEARCH ARTICLE

New records of true bugs (Heteroptera) from the Urals (Russia)

Новые находки полужесткокрылых (Heteroptera) на Урале (Россия)

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Abstract. Fifteen species of true bugs from the families Corixidae, Saldidae, Microphysidae, Anthocoridae, Miridae, Lygaeidae, Berytidae and Pentatomidae are recorded for the first time from the Urals. The studies cover the Polar, Subpolar, Northern, Middle and Southern Urals. For each species, collection data in the Urals and information on distribution in Russia and the world are given.

Резюме. Впервые для фауны Урала указано 15 видов клопов из семейств Corixidae, Saldidae, Microphysidae, Anthocoridae, Miridae, Lygaeidae, Berytidae и Pentatomidae. Исследованиями были охвачены Полярный, Приполярный, Северный, Средний и Южный Урал. Для каждого вида приведены данные сбора на Урале и сведения по распространению в России и мире.

Key words: Urals, true bugs, Heteroptera, Corixidae, Saldidae, Microphysidae, Anthocoridae, Miridae, Lygaeidae, Berytidae, Pentatomidae, new records

Ключевые слова: Урал, клопы, гребляки, клопы-прыгуны, хищники-крошки, микрофизиды, слепняки, земляные клопы, палочковиды коленчатоусые, щитники, новые находки

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Introduction

The Ural Mountains extend from the shores of the Barents and Kara Seas in the north to the dry steppes of Kazakhstan in the south for more than 2,500 km (Fig. 1). They are elongated in the meridional direction and cross several landscape zones. In our work, we adhere to the landscape boundaries of the Ural Mountains region according to Makunina (1974).

The study of Heteroptera in the Urals has over 200 years of history. During this time, more than 400 species have been recorded, and this information is constantly supplemented with new data (Eversmann, 1837; Kolosov, 1914; Kiritshenko, 1951; Vinokurov et al., 2017). True bugs of the Southern and Middle Urals are well examined, but the northern territories of the Urals remain poorly studied due to inaccessibility.

Material and methods

The material for this work was collected in 2015–2021 on the territory of the Polar, Subpolar, Northern and Southern Urals by standard methods (collection methods are given for each species in the list below). The collection of heteropterans of the Institute of Plant and Animal Ecology of the Ural Branch of the Russian Academy of Sciences, Ekaterinburg (IPAE) was also

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examined. The material collected by the author is stored at the Institute of Biologi of Komi Scientific Centre of the Ural branch of the Russian Academy of Sciences, Syktyvkar (IB KNC), the specimen of *Henestaris halophilus* (Burmeister, 1835) is kept at the Zoological Institute of the Russian Academy of Sciences, St Petersburg (ZISP).

The map template was taken from https://www.simplemappr.net/ The names of plants are given according to WFO (2022).

List of records

Infraorder **Nepomorpha**

Family **Corixidae**

Sigara (Microsigara) hellensi (C.R. Sahlberg, 1819)

Material. **Southern Urals**, *Orenburg Prov.*, Belyaevsk Distr., Elshanka River, 51°23′30.3″N 56°47′48.3″E, 1 May 2021, coll. A.N. Zinovyeva, 2 males, 6 females (IB KNC).

Found in a shallow puddle with a muddy bottom, adjacent to the Elshanka River. Caught in a water net.

Distribution. European species: from southern Fennoscandia to central Europe (Jansson, 1986). In Russia, it is recorded from the Kaliningrad, Leningrad, Moscow, Yaroslavl', Vladimir, Kirov, and Voronezh Provinces (Kanyukova, 2006).

Infraorder **Leptopodomorpha**

Family **Saldidae**

Saldula pilosella pilosella (Thomson, 1871)

Material. **Middle Urals**, *Sverdlovsk Prov.*, Sysertsk Distr., Dvurechensk Vill., 19–20 Aug. 2009, coll. P.V. Rudoiskatel', 1 female (IPAE); **Southern Urals**, *Orenburg Prov.*, Kuvandyk Distr., Sakmara River, 51°29′46.0″N 57°24′22.0″E, 7 May 2019, coll. A.N. Zinovyeva, 2 females (IB KNC).

Collected on the sandy bank of the river at the water's edge by manual collection method.

Distribution. Transpalaearctic species: from the south of Finland to Southern Europe, in Algeria, Morocco, Azerbaijan, Kazakhstan, Middle Asia, China, Mongolia, Korea, and Japan. In Russia, it has so far been recorded from the European part (Republic of Karelia, Krasnodar and Stavropol Territories, Republic of Dagestan, Astrakhan and Samara Provinces), the south of Siberia, and the Russian Far East (Vinokurov, 2004; Vinokurov et al., 2019).

Infraorder **Cimicomorpha**

Family **Microphysidae**

Loricula pselaphiformis Curtis, 1833

Material. **Subpolar Urals**, *Komi Republic*, Zapadnye Saledy Ridge, Kamennyy Creek, 65°16′01.2″N 59°43′31.3″E, 13 July 2021, coll. A.N. Zinovyeva, 1 male (IB KNC).

Found on the border of the mountain-forest and mountain-tundra vegetation belts at an altitude of 615 m. Collected by shaking the branches of *Abies sibirica* Ledeb. into an entomological net.

Distribution. Europe, Caucasus, Israel. In the European part of Russia it is recorded from the Republic of Karelia, Murmansk, Leningrad, Vologda, Yaroslavl', Kaluga, Bryansk, and Kursk Provinces (Kiritshenko, 1951).

Family **Anthocoridae**

Elatophilus nigrellus (Zetterstedt, 1838)

Material. **Southern Urals**, *Republic of Bashkortostan*, Beloretsk Distr., "Iremel" Natural Park, Bolshoy Iremel' Mt., 54°31′15.0″N 58°50′30.0″E, 17–21 June 2015, coll. Yu.E. Mickhailov, 1 male (IPAE).

Distribution. Euro-Siberian species: Norway, Sweden, Finland, Northern European Russia, Eastern Siberia, and Mongolia. In Russia, it was recorded from Karelia, the Leningrad and Irkutsk Provinces, Buryatia, and central Yakutia (Elov & Kerzhner, 1977; Vinokurov et al., 2010).

Amphiareus obscuriceps (Poppius, 1909)

Material. **Southern Urals**, *Republic of Bashkortostan*, Beloretsk Distr., Safargulovo Vill., 54°15′03.2″N 57°36′54.6″E, 13 July 2015, coll. A.N. Zinovyeva, 1 male (IB KNC).

The species occurs in the herbaceous layer in spruce-fir-birch stands. Collected by sweeping with an entomological net.

Distribution. Eurasian species: Belarus, Hungary, south of the European part of Russia (Krasnodar Territory), Russian Far East (Primorsk Territory, Kuril Islands), Georgia, Iran, Kazakhstan, Kyrgyzstan, northwestern, northeastern,

southwestern, central and southeastern China, Korea, Japan, and Taiwan (Kerzhner, 1988; Péricart, 1996; Vinokurov et al., 2010).

Family **Miridae**

Stenodema trispinosa Reuter, 1904

Material. **Polar Urals**, *Yamalo-Nenets Autonomous Prov*., Priuralskiy Distr., Ray-Iz Ridge, Sob River, floodplain forb meadow, on Calamagrostis purpurea (Trin.) Trin., 66°54′20.3″N 065°43′45.6″E, 10 July 2018, 17 July 2019, 8 Aug. 2020, coll. A.N. Zinovyeva, 3 females (IB KNC); **Subpolar Urals**, *Komi Republic*: Maldy-Nyrd Ridge, cereal associations along mountain stream, 585 m a.s.l., on Calamagrostis purpurea (Trin.) Trin., 65°20′20.2″N 060°39′50.9″E, 4 Aug. 2017, coll. A.N. Zinovyeva, 4 females (IB KNC); Balbanyu River, 352 m a.s.l., on side of forest road, on Deschampsia cespitosa (L.) P. Beauv., 65°22′05.6″N 060°46′14.0″E, 3 Aug. 2017, coll. A.N. Zinovyeva, 2 females (IB KNC); Zapadnye Saledy Ridge, 648 m a.s.l., on reed-grass meadow in mountain-forest belt, on Calamagrostis purpurea (Trin.) Trin., 65°14′51.5″N 59°40′36.2″E, 14 July 2021, coll. A.N. Zinovyeva, 1 female (IB KNC); **Northern Urals**, *Komi Republic*: Yany-Pupu-Ner Ridge, on grassy meadow along stream in subalpine belt, 62°05′07.1″N 59°06′07.5″E, 4 July 2002, coll. A.N. Zinovyeva, 5 females (IB KNC); Unya River, floodplain meadow, 61°43′30.7″N 58°25′05.7″E, 4 Aug. 2006, coll. A.N. Zinovyeva, 1 male, 2 females (IB KNC).

Collected by sweeping with an entomological net over grassy vegetation.

Distribution. Holarctic species: north of central Europe, Northern Europe, Northern European Russia (Arkhangelsk Province, Karelia and Komi), Western and Eastern Siberia, Russian Far East, Mongolia, northeastern China, Korea, and North America (Kiritshenko, 1951; Sedykh, 1974; Kerzhner & Josifov, 1999).

Note. Previous records of *S. trispinosa* from the Southern and Middle Urals in reality are *S. pilosa* (Jakovlev, 1889), according to Muminov (1989).

Globiceps salicicola Reuter, 1880

Material. **Polar Urals**, *Yamalo-Nenets Autonomous Prov*., Priuralskiy Distr., Ray-Iz Ridge, Sob River, moss-shrub swamp with admixture of dwarf birch and larch, on Betula nana L., 66°53′00.9″N 065°45′40.3″E, 21 July 2017, coll. A.N. Zinovyeva, 4 males, 4 females (IN KNC); **Subpolar Urals**, *Komi Republic*, Maldy-Nyrd Ridge, subalpine belt, larch sparse forest with admixture of Salix lapponum L. and Betula nana L., 65°20′20.2″N 060°39′50.9″E, 585 m a.s.l., 4 Aug. 2017, coll. A.N. Zinovyeva, 3 males, 4 females (IB KNC).

Caught by sweeping with an entomological net.

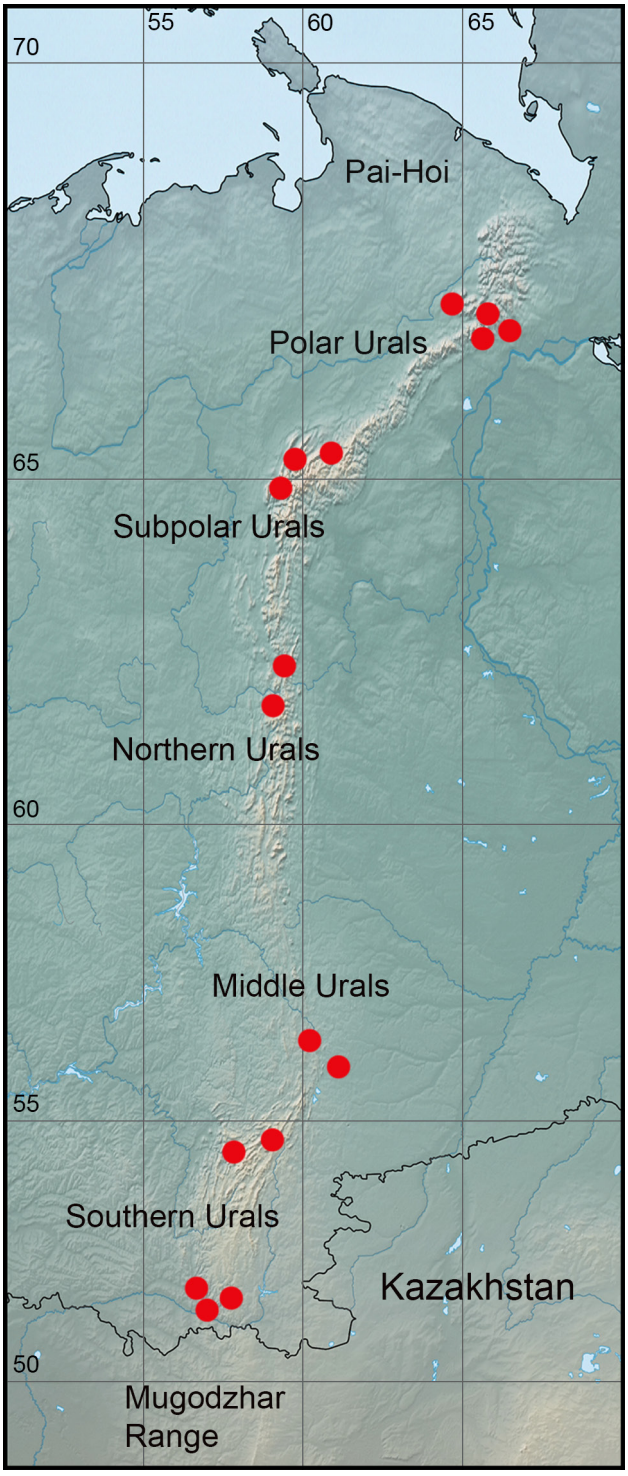


Fig. 1. Map of the Urals showing collection localities of true bugs.

Disrtibution. Trans-Eurasian species: Belarus, Norway, Sweden, Finland, European part of Russia (northern and central territories), Western Siberia (Tumen' Province), Eastern Siberia (Buryatia and Yakutia), and Russian Far East (Magadan Province, Khabarovsk and Kamchatka Territories, Sakhalin Island) (Kerzhner & Josifov, 1999; Vinokurov et al., 2010).

Orthotylus lenensis Lindberg, 1928

Material. **Polar Urals**, *Yamalo-Nenets Autonomous Prov*., Priuralskiy Distr., Ray-Iz Ridge, Sob River: floodplain forb meadow, 66°54′20.3″N 65°43′45.6″E, 21 July 2017, coll. A.N. Zinovyeva, 2 males (IB KNC); forbs, 66°54′24.0″N 65°43′23.8″E, 27 July 2017, coll. A.N. Zinovyeva, 5 males, 2 females (IB KNC).

Collected by sweeping with an entomological net over grassy vegetation.

Distribution. Holarctic species: European part of Russia (Komi), Eastern Siberia (Republic of Altai, Tuva and Yakutia), Russian Far East (Kamchatka Territory and Chukotka Autonomous Province), Kazakhstan, and North America (Sedykh, 1974; Kerzhner & Josifov, 1999; Vinokurov et al, 2010).

Orthotylus boreellus (Zetterstedt, 1828)

Material. **Polar Urals**: *Yamalo-Nenets Autonomous Prov*., Priuralskiy Distr.: Ray-Iz Ridge, Sob River, on Salix phylicifolia L., 66°53′49.7″N 65°43′38.5″E, 21 July 2017, coll. A.N. Zinovyeva, 4 males, 4 females (IN KNC); Slantsevaya Mt., mountain tundra, on Salix lapponum L., 66°54′22.7″N 65°46′45.2″E, 25 July 2017, coll. A.N. Zinovyeva, 3 males, 1 female (IB KNC); *Komi Republic*, Enganepe Ridge, on Salix sp., 67°09′38.8″N 64°28′27.5″E, 21 July 2008, coll. A.N. Zinovyeva, 2 males (IB KNC); **Subpolar Urals**, *Komi Republic*, Maldy-Nyrd Ridge, on Salix lapponum L., 65°20′20.2″N 60°39′50.9″E, 4 Aug. 2017, coll. A.N. Zinovyeva, 2 males, 3 females (IB KNC).

Distribution. Trans-Eurasian species. According to Kiritshenko (1951) and Vinokurov et al. (2010), the species is distributed in Norway, Sweden, Finland, the European part of Russia (Murmansk and Arkhangelsk Provinces, Komi Republic), Western Siberia (Tumen' Province: Taz River), the north of the Krasnoyarsk Territory, Buryatia and Yakutia, and the Russian Far East (Chukotka, Kamchatka, Magadan Province, and south of the Khabarovsk Territory).

Chlamydatus opacus (Zetterstedt, 1838)

Material. **Polar Urals**, *Yamalo-Nenets Autonomous Prov*., Priuralskiy Distr.: Malyi Pour-Keu Mt., 637 m a.s.l., stony-lichen tundra interspersed with grasses, 66°59′36.6″N 65°35′04.5″E, 24–26 July 2019, coll. A.N. Zinovyeva, 13 males, 4 females (IB KNC); Slantsevaya Mt., moss-lichen tundra, 66°54′28.6″N 65°46′18.5″E, 12 July 2018, coll. A.N. Zinovyeva, 6 males (IB KNC).

Collected in a pitfall trap.

Distribution. Holarctic species: Norway, Sweden, Finland, European part of Russia (Murmansk and Arkhangelsk Provinces, Karelia, and Komi), Siberia (Tumen' Province: Salekhard, north of the Krasnoyarsk Territory, northeastern and central Yakutia), and Russian Far East (Chukotka Autonomous Province) (Sahlberg, 1920; Vinokurov et al, 2010; Zinovyeva, 2013).

Infraorder **Pentatomomorpha**

Family **Lygaeidae**

Dimorphopterus doriae (Ferrari, 1874)

Material. **Southern Urals**, *Orenburg Prov*., Kuvandyk Distr.: Ziyanchurino Vill., mountain steppe, on soil among last-year grass, manual collection, 51°35′00.4″N 56°55′15.6″E, 9 May 2021, coll. A.N. Zinovyeva, 1 male (IB KNC); Kuvandyk, depression between mountain peaks, on soil among plants, manual collection, 51°29′10.0″N, 57°24′20.1″E, 8 May 2019, coll. A.N. Zinovyeva, 1 male, 4 females (IB KNC).

Distribution. France, Italy, countries of the Balkan Peninsula, Hungary, Belarus, Ukraine, Moldavia, European Russia, Caucasus, Kazakhstan, Iran, and Syria. In the European part of Russia, it was recorded from the Samara, Rostov, Volgograd, Astrakhan Provinces, and Krasnodar Territory (Puchkov, 1969; Péricart, 1998a, 2001).

Henestaris halophilus (Burmeister, 1835)

Material. **Middle Urals**, *Sverdlovsk Prov*., Kamensk-Uralsky, 56°25′06.0″N 61°55′58.0″E, 14 June 1985, coll. R.S. Aglayamzyanov, 1 female (ZISP).

Distribution. West-Central Palaearctic species: Morocco, Southern and central Europe, southern and central regions of the European part of Russia, Caucasus, Siberia, Syria, Iran, Kazakhstan, Middle Asia, Mongolia, and northeastern and northwestern China (Péricart, 2001).

Diomphalus hispidulus Fieber, 1864

Material. **Southern Urals**, *Orenburg Prov.*, Kuvandyk, northern slope, foot of mountain, on ground between plants, manual collection, 51°29′10.0″N 57°24′20.1″E, 8 May 2021, coll. A.N. Zinovyeva, 1 male, 1 female (IB KNC).

Note. The species was recorded from the Orenburg Province without indication of the collection locality (Puchkov, 1969). In Péricart (1998b), it was recorded for "Oural jusqu'á Orenburg" [Urals up to Orenburg]. The collection of ZISP contains a series of specimens collected by L. Zimin in Verkhnyaya Dneprovka Village (left bank of the Urals upstream of Orenburg, June–July 1932), near Donguz River (30 km S of Orenburg, Aug. 1933), in Ashchebutak and Elshanka Villages (60 km S of Orenburg, Aug. 1933), and two specimens from the vicinity of Orenburg (27.IV.1911, coll. Navozov; 28.VI.1924 coll. A.I. Ivanov). Here, the specific collection locality of this species in the Southern Urals is published for the first time.

Distribution. Trans-Eurasian species: countries of the Balkan Peninsula, Romania, Moldavia, Ukraine, Caucasus, Iran, Middle Asia, and northwestern China. In Russia, it occurs in the steppe zone of the European part and was recorded from the Altai Republic (Péricart, 1998b).

Family **Berytidae**

Berytinus montivagus (Meyer-Dür, 1841)

Marerial. **Southern Urals**, *Orenburg Prov.*, Kuvandyk Distr., Ziyanchurino Vill., steppe slope, grass-forb meadow, 51°34′57.8″N 56°55′15.4″E, 9 May 2021, coll. A.N. Zinovyeva, 1 male (IB KNC).

Caught by sweeping with an entomological net.

Disrtibution. West-Central Palaearctic species: Europe, Russia (southern and central regions), Caucasus, Turkey, Syria, Jordan, Israel, Iraq, Iran, Kazakhstan, Uzbekistan, Tadzhikistan, Kyrgyzstan, and northern Africa (Péricart, 2001).

Family **Pentatomidae**

Antheminia aliena (Reuter, 1891)

Material. **Polar Ural**, *Yamalo-Nenets Autonomous Prov.*, Priuralskiy Distr., Ray-Iz Ridge, Sob River, floodplain rocky-sandy shore overgrown with mosses and herbs with separate Salix phylicifolia L., Betula nana L., and Larix sp., 66°53′49.7″N 65°43′38.5″E, 9 July 2018, coll. A.N. Zinovyeva, 1 female (IB KNC).

Collected by sweeping with an entomological net over grassy and shrubby vegetation.

Disrtibution. Trans-Eurasian species: Belarus, Estonia, European Russia (northern and central territories), Siberia, Russian Far East, Mongolia, northern China, and Korea (Rider, 2006).

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References

Elov E.S. & Kerzhner I.M. 1977. True bugs of Anthocoridae, Cimicidae and Microphysidae (Heteroptera) of the Mongolian People's Republic. *In:* **Kerzhner I.M.** (Ed.). *Nasekomye Mongolii* [Insect of Mongolia], **5**: 203–221. Leningrad: Nauka. (In Russian).

Eversmann E. 1837. Insecta Wolgam Fluvium inter et Montes Uralenses observata. *Bulletin de la Société Impériale des Naturalistes de Moscou*, **10**: 33–39.

Jansson A. 1986. The Corixidae (Heteroptera) of Europe and some adjacent regions. *Acta entomologica Fennica*, **47**: 1–94.

Kanyukova E.V. 2006. *Vodnye poluzhestkokrylye nasekomye (Heteroptera: Nepomorpha, Gerromorpha) fauny Rossii i sopredel'nykh stran* [Aquatic and semiaquatic bugs (Heteroptera: Nepomorpha, Gerromorpha) of the fauna of Russia and neighboring countries]. Vladivostok: Dal'nauka. 297 p. (In Russian).

Kerzhner I.M. 1988. Family Anthocoridae. *In*: **Lehr P.A.** (Ed.). *Opredelitel' nasekomykh Dal'nego Vostoka SSSR* [Key to the insects of the Far East of the USSR], **2**: 768–776. Leningrad: Nauka. (In Russian).

Kerzhner I.M. & Josifov M. 1999. Family Miridae. *In:* **Aukema B. & Rieger Ch.** (Eds). *Catalogue of the Heteroptera of the Palaearctic Region*, **3**: 1–576. Amsterdam: The Netherlands Entomological Society.

Kiritshenko A.N. 1951. Nastoyashchie poluzhestkokrylye evropeyskoy chasti SSSR (Hemiptera).

Opredelitel' i bibliografiya. [True bugs of the European part of the USSR (Hemiptera). Key and bibliography]. *Opredeliteli po faune SSSR, izdavaemye Zoologicheskim institutom AN SSSR* [Keys to the fauna of the USSR, published by the Zoological Institute of the Academy of Sciences of the USSR], **42**. Moscow–Leningrad: Publishing House of the Academy of Sciences of the USSR. 423 p. (In Russian).

Kolosov Y.M. 1914. Materials for the knowledge of the entomofauna of the Urals. I. True bugs (Hemiptera–Heteroptera). *Zapiski Ural'skogo obshchestva lubiteley estestvoznaniya*, **34**(6): 81–102. (In Russian).

Makunina A.A. 1974. *Landshafty Urala* [Ural landscapes]. Moscow: Moscow University Press. 158 p. (In Russian).

Muminov N.N. 1989. Species of the genus Stenodema (Heteroptera, Miridae) from the USSR and Mongolia. *In:* **Kerzhner I.M. & Korotyaev B.A.** (Eds). *Nasekomye Mongolii* [Insect of Mongolia], **10**: 126–135. Leningrad: Nauka. (In Russian).

Péricart J. 1996. Family Anthocoridae. *In:* **Aukema B. & Rieger Ch.** (Eds). *Catalogue of the Heteroptera of the Palaearctic Region*, **2**: 108–140. Amsterdam: The Netherlands Entomological Society.

Péricart J. 1998a. Hémiptères Lygaeidae euro-méditerranéens, 1. *Faune de France*, **84A**. Paris: Fédération Française des Sociétés de Sciences Naturelles. 468 p. + 6 pl.

Péricart J. 1998b. Hémiptères Lygaeidae euro-méditerranéens, 3. *Faune de France*, **84 C**. Paris: Fédération Française des Sociétés de Sciences Naturelles. 487 p. + 2 pl.

Péricart J. 2001. Family Lygaeidae. *In:* **Aukema B. & Rieger Ch.** (Eds). *Catalogue of the Heteroptera of the Palaearctic Region*, **4**: 35–221. Amsterdam: The Netherlands Entomological Society.

Puchkov V.G. 1969. Ligeidi [seed bugs]. *Fauna Ukraini* [Fauna of Ukraine], **21**(3). Kiev: Naukova dumka. 388 p. (In Ukrainian).

Rider D.A. 2006. Family Pentatomidae. *In:* **Aukema B. & Rieger Ch.** (Eds). *Catalogue of the Heteroptera of the Palaearctic Region*, **5**: 233–401. Amsterdam: The Netherlands Entomological Society.

Sahlberg J. 1920. Enumeratio Hemipterorum Heteropterorum faunae Fennicae. Editio secunda aucta et emendate. *Bidrag till Kännedom af Finlands natur och folk*, **79**(2). 227 p. (In Swedish).

Sedykh K.F. 1974. *Zhivotnyy mir Komi ASSR. Bespozvonochnye* [Animals of the Komi ASSR. Invertebrates]. Syktyvkar: Komi Publishing House. 192 p. (In Russian).

Vinokurov N.N. 2004. Bugs of the genus Saldula V.D., 1914 (Heteroptera, Saldidae) in Russia and adjacent countries. *Eurasian entomological Journal*, **3**(2): 101–118. (In Russian).

Vinokurov N.N., Golub V.B., Zinovyeva A.N. 2017. Plant bugs (Heteroptera, Miridae) of the South Urals State Natural Reserve. II. Orthotylinae, Phylinae. *Eurasian entomological Journal*, **16**(3): 247–252. (In Russian).

Vinokurov N.N., Kanyukova E.V., Golub V.B. 2010. *Katalog poluzhestkokrylykh nasekomykh (Heteroptera) aziatskoi chasti Rossii* [Catalogue of the Heteroptera of the Asian part of Russia]. Novosibirsk: Nauka. 317 p. (In Russian).

Vinokurov N.N., Kanyukova E.V., Golub V.B. 2019. New records of true bugs of the families Dipsocoridae, Corixidae, Saldidae, Mycrophysidae, Anthocoridae, Tingidae, Reduviidae and Lygaeidae (Heteroptera) from the European part of Russia and the Urals. *Eurasian entomological Journal*, **18**(5): 348–354. (In Russian). https://doi.org/10.15298/euroasentj.18.5.07

Zinovyeva A.N. 2013. Fauna of the true bugs (Heteroptera) in the vicinity of lakes of Kharbei system (Bolshezemelskaya tundra). *Izvestiya Komi nauchnogo centra UrO RAN*, **1**(13): 43–48. (In Russian).

WFO. 2022. *World Flora Online* [online]. http://www.worldfloraonline.org [viewed 2 October 2022].

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