ABS ACTA BIOLOGICA SIBIRICA
A journal on the biodiversity of Siberia and the adjacent lands

Acta Biologica Sibirica 8: 381–398 (2022)
doi: 10.14258/abs.v8.e22
http://journal.asu.ru

RESEARCH ARTICLE

On the fauna of terrestrial bugs (Heteroptera: Cimicomorpha, Pentatomomorpha) of Altai Krai (Russia). II

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Academic editor: R. Yakovlev | Received 14 July 2022 | Accepted 9 August 2022 | Published 13 September 2022

http://zoobank.org/0A4F1C80-A49F-4239-810A-8F0BC1A3BFA8

Citation: Vinokurov NN, Rudoi VV (2022) On the fauna of terrestrial bugs (Heteroptera: Cimicomorpha, Pentatomomorpha) of Altai Krai (Russia). II. Acta Biologica Sibirica 8: 381–398. https://doi.org/10.14258/abs.v8.e22

Abstract

In the paper based on materials of the Altai State University (Barnaul) and collections of the Institute of Systematics and Ecology of Animals of Siberian Branch of Russian Academy of Sciences (Novosibirsk), additional data on the distribution in the Altai Krai of 65 species of heteropterans from 13 families of the infraorders Cimicomorpha and Pentatomorpha are given. *Bothrostethus annulipes* (Herrich-Schaeffer, 1835) of the family Coreidae, presumably unintentionally introduced to Siberia, was found in Barnaul City area. Seven species are recorded for the first time for Altai Krai: *Agnocoris rubicundus* (Fallén, 1807), *Closterotomus samojedorum* (J. Sahlberg, 1878) (Miridae); *Lasiacantha hermani* Vásárhelyi, 1977, *Tingis cardui* (Linnaeus, 1758) (Tingidae); *Scolopostethus pilosus pilosus* Reuter, 1875, *Raglius alboacuminatus alboacuminatus* (Linnaeus, 1778) (Lygaeidae) and *Ventocoris halophilus* (Jakovlev, 1874) (Pentatomidae). Examples of aberrations of genital structures (male paramere and female parietal vaginal gland) detected in the Altai population of *Nabis brevis brevis* Scholtz, 1847 are discussed.

Keywords

Insects, biodiversity, Heteroptera, Altai Krai, Siberia, Russia, fauna, new records

Introduction

Studies of the biodiversity of heteropterous insects in Altai Krai became purposeful only in the second decade of the 21st century, although information about them was obtained as early as the first half of the 19th century (Gebler 1830). The history of the study of these insects in the territory investigated is briefly described in the first part of the planned series of publications (Vinokurov and Rudoi 2022), in which 18 species from five families are listed as new to Altai Krai. The present paper is based on the results of investigation of the collections of the junior author and students of the Institute of Biology and Biotechnology of Altai State University (Barnaul, hereinafter referred to as ASU) in the territory under consideration in 2021 and unpublished materials in the collection of heteropterans of the Institute of Systematics and Ecology of Animals of Siberian Branch of RAS (Novosibirsk – ISEA).

Material and methods

In 2021, field work was carried out in Charysh, Zmeinogorsk and Lokot' Districts of Altai Krai and in the vicinity of Barnaul (Fig. 1). In Charysh District, the research was conducted at the Goluboi Utyos Station of educational practices of ASU and in the vicinity of the village of Malyi Bashchelak. With the assistance of AL Ebel (Barnaul) in Zmeinogorsk District, the surroundings of Lake Kolyvanskoye and the valley of the Aley River near the village of Ust'yanka, Lokot' District, were investigated. With the help of students under the supervision of YuV Dyachkov (Barnaul), we obtained material of true bugs in the valley of the Barnaulka River in Central District of Barnaul City. The junior author studied in 2020 and 2021 heteropterans in the collections of the Institute of Systematics and Ecology of Animals, Siberian Branch of RAS (Novosibirsk) from the Kulunda, Talmen, Kuria, Klyuchevsk, Kosikhinsk and Pavlovsk districts and Barnaul vicinities.

In total, using generally accepted methods of insect faunistic studies (Golub et al. 2012), 320 specimens of bugs were collected. The images were taken with a DP74 digital camera attached to an Olympus SZX16. The distribution map was produced by using the online mapping software SimpleMappr (Shorthouse 2010). The photos were processed using Paint.net – a free (except for Microsoft Store) raster graphics editor for Windows NT based on NET Framework (https://www.getpaint.net).

The coordinates were omitted for the following localities:

1. Barnaul City: point 1 (53°18'41"N, 83°44'04"E), point 2 (53°20'N, 83°46'E);
2. Charysh District: «Goluboi Utyos» – vicinity of «Goluboi Utyos» station of educational practices, point 1 (51°21'21"N, 83°37'26"E), point 2 (51°21'35"N, 83°38'13"E); Malyi Bashchelak – 3 km N of Malyi Bashchelak Village (51°30'47"N, 83°49'39"E);
3. Kosikha District: «Lake Krasilovo» – vicinity of Lake Krasilovo station of educational practices (53°11'N, 84°21'E);

4. Lokoť District: Aley River – valley of Aley River, 1 km N of Ust'yanka Village (51°09'47"N, 81°35'45"E); Ust'yanka – vicinity of Ust'yanka Village (51°10'03"N, 81°35'39"E);
5. Zmeinogorsk District: Lake Kolyvanskoye – 8 km NE of Savvushka Village, vicinity of Lake Kolyvanskoye (51°23'28"N, 82°12'37"E).

The collectors are RV Yakovlev, VV Rudoi and AM Serebryakov unless otherwise specified in the "Material" sections.

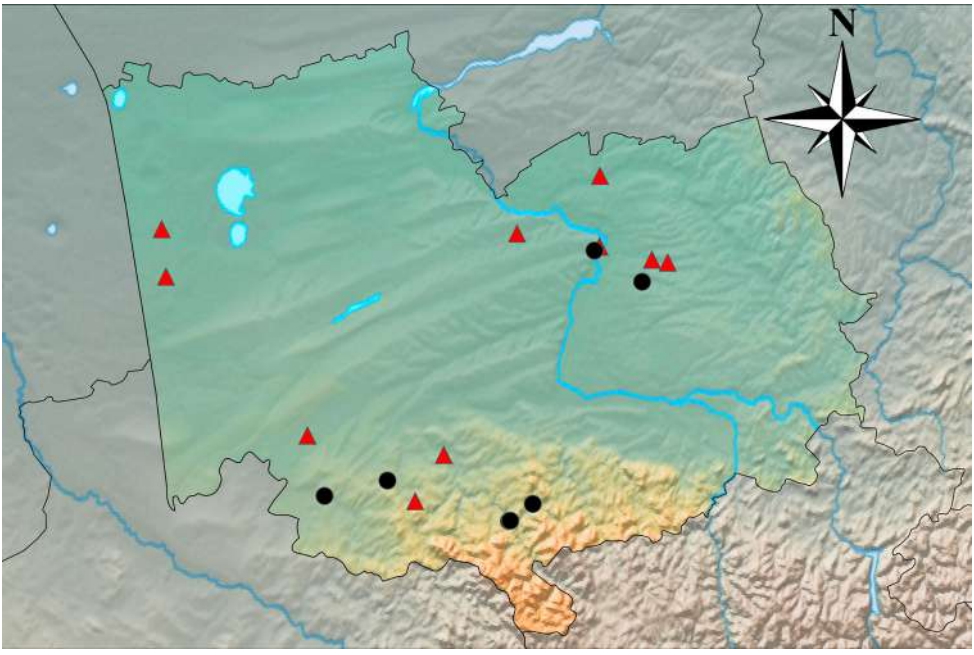


Figure 1. Collection points of heteropterans in Altai Krai: black circles – Altai State University (Barnaul), red triangles – Institute of Systematics and Ecology of Animals, Siberian Branch of RAS (Novosibirsk).

Results

Annotated list of Heteroptera

Family Nabidae A. Costa, 1853

***Nabis* (*Nabis*) *brevis brevis* Scholtz, 1847**

Figures 2–14

Material. Zmeinogorsk District: 1♀, Lake Kolyvanskoye, 333 m, 03.V.2021; Charysh District: 9♀, «Goluboi Utyos», point 1, 489 m, 01.VI.2021; 1♂, 3♀, same place, point 2, 664 m, 02.VI.2021; 16♂, 14♀, Malyi Bashchelak, 680 m, 03.VI.2021; Lokoť District: 2♂, Ust'yanka, 368 m, 1.VI.2020.

Distribution. Euro-Siberian. Recorded from Altai Krai (Vinokurov and Rudoi 2022).

Note. Two specimens (♂ and ♀) with deviations in the genital structure have been found, their description is given in the Conclusion.

***Nabis (Nabis) punctatus mimoferus* Hsiao, 1964**

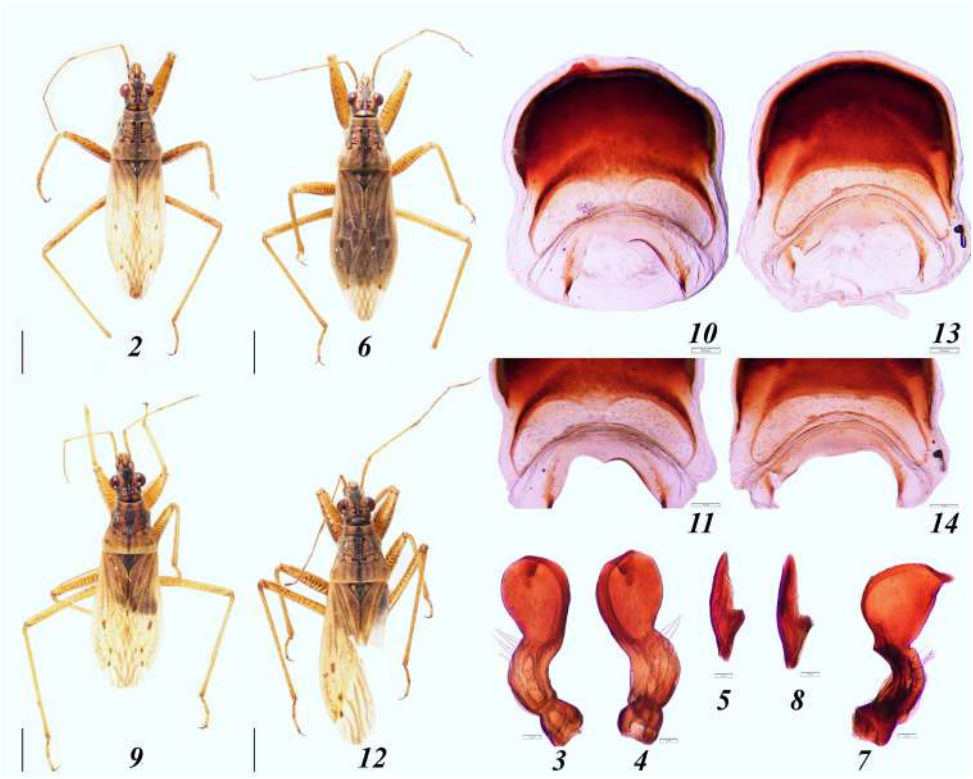
Material. Lokoť District: 1♀, Aley River, 330 m, 01, 02.V.2021.

Distribution. Eastern Palaearctic steppe. Recorded from Altai Krai (Kerzhner 1981).

***Nabis (Nabis) rugosus* (Linnaeus, 1758)**

Material. Charysh District: 1♂, Malyi Bashchelak, 680 m, 03.VI.2021.

Distribution. From Western Europe east to the Yenisei River and the Altai Mts. Recorded from Altai Krai (Kerzhner 1981; Vinokurov and Rudoi 2022).



Figures 2–14. Adult specimens and genitalia of *Nabis brevis*: **2–5** – aberrant male specimen (**2** – dorsal view, **3** – right paramere, **4** – left paramere, **5** – hook of aedeagus), **6–8** – normal male specimen (**6** – dorsal view, **7** – right paramere, **8** – hook of aedeagus); **9–11** – aberrant female specimen (**9** – dorsal view, **10** – vagina, **11** – parietal gland); **12–14** – normal female specimen (**12** – dorsal view, **13** – vagina, **14** – parietal gland).

Family Miridae Hahn, 1833

***Deraeocoris* (*Camptobrochis*) *punctulatus* (Fallén, 1807)**
Material. Lokoť District: 2♂, Aley River, 330 m, 01, 02.V.2021.
Distribution. Holarctic. Recorded from Altai Krai (Vinokurov and Golub 2007; Knyshov and Namyatova 2010).

***Agnocoris rubicundus* (Fallén, 1807)**
Figure 15
Material. Zmeinogorsk District: 1♀, Lake Kolyvanskoye, 333 m, 03.V.2021.
Distribution. Holarctic. First record from Altai Krai.

***Closterotomus samojedorum* (J. Sahlberg, 1878)**
Figure 16
Material. Charysh District: 2♂, 3♀, «Goluboi Utyos», point 2, 664 m, 02.VI.2021.
Distribution. Holarctic. First record from Altai Krai.

***Lygus rugulipennis* Poppius, 1911**
Material. Lokoť District: 1♂, Aley River, 330 m, 01, 02.V.2021.
Distribution. Holarctic. Recorded from Altai Krai (Vinokurov and Rudoi 2022).

***Polymerus* (*Poeciloscytus*) *brevicornis* (Reuter, 1879)**
Material. Charysh District: 1♀, «Goluboi Utyos», point 2, 664 m, 02.VI.2021.
Distribution. Euro-Siberian. Recorded from Altai Krai (Vinokurov and Golub 2007).

***Polymerus* (*Poeciloscytus*) *unifasciatus* (Fabricius, 1794)**
Material. Charysh District: 1♂, «Goluboi Utyos», point 1, 489 m, 01.VI.2021.
Distribution. Holarctic. Recorded from Altai Krai (Kiritshenko 1910; Knyshov and Namyatova 2010; Vinokurov and Rudoi 2022).

***Euryopicoris nitidus* (Meyer-Dür, 1843)**
Material. Charysh District: 2♂, 2♀, «Goluboi Utyos», point 2, 664 m, 02.VI.2021; 3♂, 3♀, Malyi Bashchelak, 680 m, 03.VI.2021.
Distribution. Euro-Siberian. Recorded from Altai Krai (Vinokurov and Golub 2007; Vinokurov and Rudoi 2022).

***Labops sahlbergii* (Fallén, 1829)**
Material. Charysh District: 4♂, 3♀, Malyi Bashchelak, 680 m, 03.VI.2021.
Distribution. Trans-Eurasian. Recorded from Altai Krai (Vinokurov and Golub 2007; Vinokurov and Rudoi 2022).

Family Tingidae Laporte, 1832

***Dictyla echii* (Schrank, 1782)**
Material. Charysh District: 1♀, Malyi Bashchelak, 680 m, 03.VI.2021.

Distribution. Euro-Siberian. Recorded from Altai Krai (Kiritshenko 1910; Petrova 1978; Vinokurov and Kanyukova 1995a; Knyshov and Namyatova 2010).

***Lasiacantha hermani* Vásárhelyi, 1977**
Figures 17, 18
Material. Charysh District: 2♀, «Goluboi Utyos», point 2, 664 m, 02.VI.2021.

Distribution. Western-central Palaearctic. First record from Altai Krai.

***Tingis* (*Tingis*) *ampliata* (Herrich-Schaeffer, 1838)**
Material. Charysh District: 1♂, «Goluboi Utyos», point 1, 489 m, 01.VI.2021; 1♀, Malyi Bashchelak, 680 m, 03.VI.2021.

Distribution. Trans-Palaearctic. Recorded from Altai Krai (Petrova 1978; Knyshov and Namyatova 2010; Vinokurov and Rudoi 2022).

***Tingis* (*Tingis*) *cardui* (Linnaeus, 1758)**
Figure 19
Material. Charysh District: 1♂, «Goluboi Utyos», point 2, 664 m, 02.VI.2021.

Distribution. Trans-Palaearctic. First record from Altai Krai.

Family Reduviidae Latreille, 1807

***Phymata* (*Phymata*) *crassipes* (Fabricius, 1775)**
Material. Charysh District: 3♂, «Goluboi Utyos» point 1, 489 m, 01.VI.2021; 3♂, 3♀, same place, point 2, 664 m, 02.VI.2021; 1♂, Malyi Bashchelak, 680 m, 03.VI.2021.

Distribution. Trans-Palaearctic. Recorded from Altai Krai (Kanyukova and Vinokurov 2009; Knyshov and Namyatova 2010; Vinokurov and Rudoi 2022).

***Rhynocoris* (*Rhynocoris*) *iracundus* (Poda, 1761)**
Material. Charysh District: 2♂, 1♀, «Goluboi Utyos», point 2, 664 m, 02.VI.2021.

Distribution. From Europe and eastern Mediterranean to the south of West Siberia and North-Western China. – Kashmir. Recorded from Altai Krai (Oshanin 1870; Kiritshenko 1910; Vinokurov and Kanyukova 1995a, 1995b; Vinokurov and Rudoi 2022).

Family Berytidae Fieber, 1851

***Berytinus* (*Berytinus*) *clavipes* (Fabricius, 1775)**
Material. Charysh District: 1♂, 2♀, «Goluboi Utyos», point 1, 489 m, 01.VI.2021; 1♂, 2♀, same place, point 2, 664 m, 02.VI.2021; 1♂, 1♀, Malyi Bashchelak, 680 m, 03.VI.2021.

Distribution. Trans-Eurasian. Recorded from Altai Krai (Kanyukova and Vinokurov 2009; Knyshov and Namyatova 2010; Vinokurov and Rudoi 2022).

Family Lygaeidae Schilling, 1829

***Kleidocerys resedae resedae* (Panzer, 1797)**
Material. Zmeinogorsk District: 1♂, Lake Kolyvanskoye, 333 m, 03.V.2021; Charysh District: 1♀, «Goluboi Utyos», point 1, 489 m, 01.VI.2021; 2♀, same place, point 2, 664 m, 02.VI.2021; 1♂, 1♀, Malyi Bashchelak, 680 m, 03.VI.2021.

Distribution. Trans-Palaearctic. Recorded from Altai Krai (Kiritshenko 1910; Vinokurov 2007a; Vinokurov and Rudoi 2022).

***Oxycarenus* (*Euoxycarenus*) *pallens* (Herrich-Schaeffer, 1850)**
Material. Lokoť District: 1♂, 3♀, Aley River, 330 m, 01, 02.V.2021.

Distribution. Western-central Palaearctic. – India, Sudan. Recorded from Altai Krai (Vinokurov 2007b; Knyshov and Namyatova 2010; Vinokurov and Rudoi 2022).

***Drymus* (*Sylvadrymus*) *sylvaticus* (Fabricius, 1775)**
Material. Charysh District: 1♀, Malyi Bashchelak, 680 m, 03.VI.2021.

Distribution. Eurasian. Recorded from Altai Krai (Vinokurov 2007a; Knyshov and Namyatova 2010).

***Eremocoris abietis abietis* (Linnaeus, 1758)**
Material. Zmeinogorsk District: 2♀, Lake Kolyvanskoye, 333 m, 03.V.2021.

Distribution. Trans-Palaearctic. Recorded from Altai Krai (Kiritshenko 1910; Vinokurov and Rudoi 2022).

***Scolopostethus pilosus pilosus* Reuter, 1875**
Figure 20
Material. Zmeinogorsk District: 1♀, Lake Kolyvanskoye, 333 m, 03.V.2021.

Distribution. Western-central Palaearctic. First record from Altai Krai.

***Emblethis brachynotus* Horváth, 1897**
Material. Lokoť District: 1♀, Aley River, 330 m, 01, 02.V.2021.

Distribution. Euro-Siberian. Recorded from Altai Krai (Vinokurov 2007a).

***Trapezonotus* (*Trapezonotus*) *arenarius arenarius* (Linnaeus, 1758)**
Material. Zmeinogorsk District: 1♂, Lake Kolyvanskoye, 333 m, 03.V.2021.

Distribution. Trans-Palaearctic. Recorded from Altai Krai (Kiritshenko 1910; Vinokurov 2007a).

***Panaorus adspersus* (Mulsant & Rey, 1852)**

Material. Zmeinogorsk District: 1♂, Lake Kolyvanskoye, 333 m, 03.V.2021.

Distribution. Euro-Siberian. Recorded from Altai Krai (Kiritshenko 1910; Vinokurov 2007a; Knyshov and Namyatova 2010; Vinokurov and Rudoi 2022).

***Raglius alboacuminatus* (Goeze, 1778)**

Figure 21

Material. Lokoť District: 1♀, Aley River, 330 m, 01, 02.V.2021.

Distribution. Western-central Palaearctic. First record from Altai Krai.

Family Stenocephalidae Dallas, 1852

***Dicranocephalus agilis* (Scopoli, 1763)**

Material. Lokoť District: 1♂, 1♀, Aley River, 330 m, 01, 02.V.2021.

Distribution. Western-central Palaearctic. – Neotropics. Recorded from Altai Krai (Kanyukova and Vinokurov 2009; Knyshov and Namyatova 2010).

Family Coreidae Leach, 1815

***Bathysolen nubilus* (Fallén, 1807)**

Material. Zmeinogorsk District: 1♀, Lake Kolyvanskoye, 333 m, 03.V.2021.

Distribution. From Europe and eastern Mediterranean to the south of East Siberia and Middle Asia. Recorded from Altai Krai (Kanyukova and Vinokurov 2009).

***Bothrostethus annulipes* (Herrich-Schaeffer, 1835)**

Figure 22

Material. Barnaul City: 1♀, point 1, 139 m, 18.VI.2021, IA Sapozhnikova, RD Hivrich and MYu Bondarenko legs.

Distribution. From Europe and Turkey east to Kazakhstan and Middle Asia. First record from Siberia.

***Coriomeris denticulatus* (Scopoli, 1763)**

Material. Barnaul City: 1♀, point 2, 5.VII.2016, E Shmyrina and A Milova leg.; Kosikhinsk District: 1♂, «Lake Krasilovo», 21–28.VI.2016.

Distribution. Western-central Palaearctic. Recorded from Altai Krai (Vinokurov 2007b).

***Coriomeris scabricornis scabricornis* (Panzer, 1805)**

Material. Charysh District: 1♂, «Goluboi Utyos», point 2, 664 m, 02.VI.2021.

Distribution. Trans-Eurasian. Recorded from Altai Krai (Kanyukova and Vinokurov 2009; Knyshov and Namyatova 2010).

***Ulmicola spinipes* (Fallén, 1807)**
Material. Charysh District: 1♂, «Goluboi Utyos», point 1, 489 m, 01.VI.2021.

Distribution. Euro-Siberian. Recorded from Altai Krai (Kanyukova and Vinokurov 2009; Knyshov and Namyatova 2010).

***Coreus marginatus marginatus* (Linnaeus, 1758)**
Material. Charysh District: 1♂, Malyi Bashchelak, 680 m, 03.VI.2021.

Distribution. Trans-Palaearctic. Recorded from Altai Krai (Kiritshenko 1910; Vinokurov and Rudoi 2022).

Family Rhopalidae Amyot et Serville, 1843

***Corizus hyoscyami hyoscyami* (Linnaeus, 1758)**
Material. Charysh District: 1♀, «Goluboi Utyos», point 1, 489 m, 01.VI.2021; 1♀, Malyi Bashchelak, 680 m, 03.VI.2021.

Distribution. Trans-Palaearctic. – Oriental. Recorded from Altai Krai (Kiritshenko 1910; Vinokurov and Rudoi 2022).

***Rhopalus* (*Rhopalus*) *conspersus* (Fieber, 1837)**
Material. Charysh District: 1♀, «Goluboi Utyos», point 2, 664 m, 02.VI.2021.

Distribution. Europe, West Asia, southern Siberia, mountains of Middle Asia. Recorded from Altai Krai (Putshkov 1986; Knyshov and Namyatova 2010; Vinokurov and Rudoi 2022).

***Rhopalus* (*Rhopalus*) *subrufus* (Gmelin, 1790)**
Material. Charysh District: 1♀, «Goluboi Utyos», point 2, 664 m, 02.VI.2021; 1♂, 3♀, Malyi Bashchelak, 680 m, 3.VI.2021.

Distribution. Western-central Palaearctic. Recorded from Altai Krai (Kiritshenko 1910; Knyshov and Namyatova 2010; Vinokurov and Rudoi 2022).

***Stictopleurus abutilon* (Rossi, 1790)**
Material. Lokoť District: 1♀, Aley River, 330 m, 01, 02.V.2021; Charysh District: 1♂, «Goluboi Utyos», point 1, 489 m, 01.VI.2021.

Distribution. Western-central Palaearctic. Recorded from Altai Krai (Kiritshenko 1910; Kanyukova and Vinokurov 2009; Knyshov and Namyatova 2010; Vinokurov and Rudoi 2022).

***Stictopleurus crassicornis* (Linnaeus, 1758)**
Material. Lokoť District: 1♀, Aley River, 330 m, 01, 02.V.2021; Charysh District: 2♂, Malyi Bashchelak, 680 m, 03.VI.2021.

Distribution. Trans-Eurasian. Recorded from Altai Krai (Kiritshenko 1910; Knyshov and Namyatova 2010; Vinokurov and Rudoi 2022).

Family Plataspidae Dallas, 1851

***Coptosoma scutellatum* (Geoffroy, 1785)**
Material. Charysh District: 1♂, «Goluboi Utyos», point 1, 489 m, 01.VI.2021.

Distribution. Trans-Palaearctic. Recorded from Altai Krai (Gebler 1830; Oshanin 1870; Jakovlev 1875; Kiritshenko 1910; Knyshov and Namyatova 2010; Vinokurov and Rudoi 2022).

Family Acanthosomatidae Signoret, 1864

***Elasmucha dorsalis* (Jakovlev, 1876)**
Material. Charysh District: 1♂, «Goluboi Utyos», point 2, 664 m, 02.VI.2021.

Distribution. Siberia, south of the Russian Far East. – Mongolia, China, Korea, Japan. Recorded from Altai Krai (Kerzhner 1972; Petrova 1975).

***Elasmucha fieberi* (Jakovlev, 1865)**
Material. Charysh District: 2♂, «Goluboi Utyos», point 2, 664 m, 02.VI.2021; 1♂, 1♀, Malyi Bashchelak, 680 m, 03.VI.2021.

Distribution. Euro-Siberian. Recorded from Altai Krai (Kiritshenko 1910; Vinokurov and Rudoi 2022).

***Elasmucha grisea grisea* (Linnaeus, 1758)**
Material. Lokoť District: 1♀, Aley River, 330 m, 01, 02.V.2021.

Distribution. Euro-Siberian. Recorded from Altai Krai (Vinokurov and Rudoi 2022).

Family Cydnidae Billberg, 1820

***Microporus nigrita* (Fabricius, 1794)**
Material. Kulunda District: 2♂, Kulunda Village [52°34'N, 78°56'E], SW of Zalezh', 23.VII.1967 (ISEA).

Distribution. Trans-Palaearctic. – India, Afrotropics, South America (introduced). Recorded from Altai Krai (Petrova 1975).

***Canthophorus impressus* (Horváth, 1880)**
Material. Tal'menka District: 1♂, Tal'menka Village [53°49'N, 83°33'E], 03.VIII.1959, (ISEA); Barnaul City: 1♀, [53°20'N, 83°46'E], 1.V.1902, (ISEA); 1 ex., same place, 18.VIII.1927 (ISEA).

D**istribution.** Euro-Baikalian. Recorded from Altai Krai (Asanova 1964; Petrova 1975; Vinokurov and Rudoi 2022).

***Legnotus picipes* (Fallén, 1807)**
Material. Kur'ya District: 1♂, 1♀, Kolyvan' Village [51°18'N, 82°34'E], 11.VIII.1976 (ISEA).

Distribution. Western-central Palaearctic. Recorded from Altai Krai (Kanyukova and Vinokurov 2009).

***Sehirus luctuosus* Mulsant & Rey, 1866**
Material. Klyuchi District: 1♂, Klyuchi Village [52°16'N, 79°10'E], 06.VIII.1950, (ISEA); 1♂, same place, 27.V.1952 (ISEA); 1♂, same place, 25.VI.1958, (ISEA); Kosikha District: 1♀, Bay Kosikhinskyy [Kosikha Village, 53°21'N, 84°35'E], 04.VIII.1967 (ISEA).

Distribution. Western-central Palaearctic. Recorded from Altai Krai (Petrova 1975; Knyshov and Namyatova 2010).

Family Scutelleridae Leach, 1815

***Phimodera fumosa* Fieber, 1863**
Material. Klyuchi District: 1♂, Klyuchi Village [52°16'N, 79°10'E], 19.VII.1953, GS Zolotarenko leg. (ISEA).

Distribution. Eurasian. Recorded from Altai Krai (Kiritshenko and Kerzhner 1972, 1976; Petrova 1975; Kerzhner 1976; Vinokurov and Kanyukova 1995a).

***Odontoscelis* (*Obscuromorpha*) *hispidula* Jakovlev, 1874**
Material. Klyuchi District: 2♀, Klyuchi Village [52°16'N, 79°10'E], 22.VII.1952, (ISEA).

Distribution. Trans-Palaearctic. Recorded from Altai Krai (Petrova 1975).

***Eurygaster dilaticollis* Dohrn, 1860**
Material. Charysh District: 1♂, 1♀, «Goluboi Utyos», point 2, 664 m, 02.VI.2021.

Distribution. Eurasian. Recorded from Altai Krai (Petrova 1975; Vinokurov and Rudoi 2022).

***Eurygaster maura* (Linnaeus, 1758)**
Material. Charysh District: 1♂, 1♀, «Goluboi Utyos», point 2, 664 m, 02.VI.2021.

D**istribution.** Western-central Palaearctic. Recorded from Altai Krai (Gebler 1830; Oshanin 1870; Kiritshenko 1910; Petrova 1975; Vinokurov 2007b; Neimorovets et al. 2008).

Family Pentatomidae Leach, 1815

***Aelia acuminata* (Linnaeus, 1758)**
Material. Charysh District: 1♂, 2♀, «Goluboi Utyos», point 2, 664 m, 02.VI.2021; 2♂, 2♀, Malyi Bashchelak, 680 m, 03.VI.2021.

Distribution. Western-central Palaearctic. Recorded from Altai Krai (Gebler 1830; Oshanin 1870; Kiritshenko 1910; Petrova 1975; Vinokurov and Rudoi 2022).

***Neottiglossa leporina* (Herrich-Schaeffer, 1830)**
Material. Charysh District: 3♂, «Goluboi Utyos», point 2, 664 m, 02.VI.2021.

Distribution. Trans-Eurasian. Recorded from Altai Krai (Kiritshenko 1910; Petrova 1975; Knyshov and Namyatova 2010; Vinokurov and Rudoi 2022).

***Carpocoris* (*Carpocoris*) *purpureipennis* (De Geer, 1773)**
Material. Charysh District: 1♂, «Goluboi Utyos», point 1, 489 m, 01.VI.2021; 1♂, same place, point 2, 664 m, 02.VI.2021; 1♂, Malyi Bashchelak, 680 m, 03.VI.2021.

Distribution. Trans-Palaearctic. Recorded from Altai Krai (Kiritshenko 1910; Petrova 1975; Knyshov and Namyatova 2010; Vinokurov and Rudoi 2022).

***Chlorochroa* (*Rhytidolomia*) *pinicola* (Mulsant & Rey, 1852)**
Material. Barnaul city: 1♀, point 1, 139 m, 18.VI.2021, IA Sapozhnikova, RD Hivrich and MYu Bondarenko legs.

Distribution. Trans-Palaearctic. Recorded from Altai Krai (Kiritshenko 1910; Petrova 1975).

***Dolycoris baccarum* (Linnaeus, 1758)**
Material. Lokot' District: 1♀, Aley River, 330 m, 01, 02.V.2021; Charysh District: 1♂, Malyi Bashchelak, 680 m, 03.VI.2021.

Distribution. Trans-Palaearctic. Recorded from Altai Krai (Kiritshenko 1910; Petrova 1975; Vinokurov and Rudoi 2022).

***Peribalus strictus vernalis* (Wolf, 1804)**
Material. Charysh District: 2♂, 1♀, Malyi Bashchelak, 680 m, 03.VI.2021.

Distribution. Trans-Palaearctic. Recorded from Altai Krai (Petrova 1975; Vinokurov and Rudoi 2022).

***Palomena viridissima* (Poda, 1761)**
Material. Lokot' District: 1♂, Aley River, 330 m, 01, 02.V.2021; Charysh District: 1♂, 1♀, «Goluboi Utyos», point 1, 489 m, 01.VI.2021; 1♂, 1♀, same place, point 2, 664 m, 02.VI.2021; 2♀, Malyi Bashchelak, 680 m, 03.VI.2021.

Distribution. Trans-Palaearctic. Recorded from Altai Krai (Kiritshenko 1910; Vinokurov and Rudoi 2022).

***Piezodorus lituratus* (Fabricius, 1794)**
Material. Charysh District: 1♀, Malyi Bashchelak, 680 m, 03.VI.2021.

Distribution. Trans-Palaearctic. Recorded from Altai Krai (Petrova 1975; Knyshov and Namyatova 2010; Vinokurov and Rudoi 2022).

***Menaccarus* (*Oploscelis*) *arenicola* (Scholtz, 1847)**
Material. Barnaul City: 2♀, [53°20'N, 83°46'E], 11.VII.1929 (ISEA); Rubtsovsk District: 1♀, Rubtsovsk City [51°31'N, 81°13'E], 16.VI.1930 (ISEA).

Distribution. Western-central Palaearctic. Recorded from Altai Krai (Petrova 1975).

***Sciocoris* (*Aposciocoris*) *umbrinus* (Wolff, 1804)**
Material. Charysh District: 2♀, «Goluboi Utyos», point 2, 664 m, 02.VI.2021; Kosikhinsk District: 1♀, Malakhovo Village [53°21'N, 84°24'E], 23.VI.1984 (ISEA).

Distribution. West-Central Palaearctic. Recorded from Altai Krai (Kiritshenko 1910; Petrova 1975).

***Sciocoris* (*Sciocoris*) *distinctus* Fieber, 1851**
Material. Pavlovsk District: 1♂, Krasnaya Dubrava Village [53°16'N, 82°49'E] 22.VI.1954, (ISEA); Krasnoshchyokovo District: 1♀, Krasnoshyokovo Village [51°40'N, 82°43'E], 05.VII.1976 (ISEA).

Distribution. Trans-Palaearctic. Recorded from Altai Krai (Kiritshenko 1910; Petrova 1975).

***Eurydema* (*Eurydema*) *oleracea* (Linnaeus, 1758)**
Material. Charysh District: 1♀, «Goluboi Utyos», point 2, 664 m, 02.VI.2021.

Distribution. Western-central Palaearctic. Recorded from Altai Krai (Kiritshenko 1910; Petrova 1975; Vinokurov and Rudoi 2022).

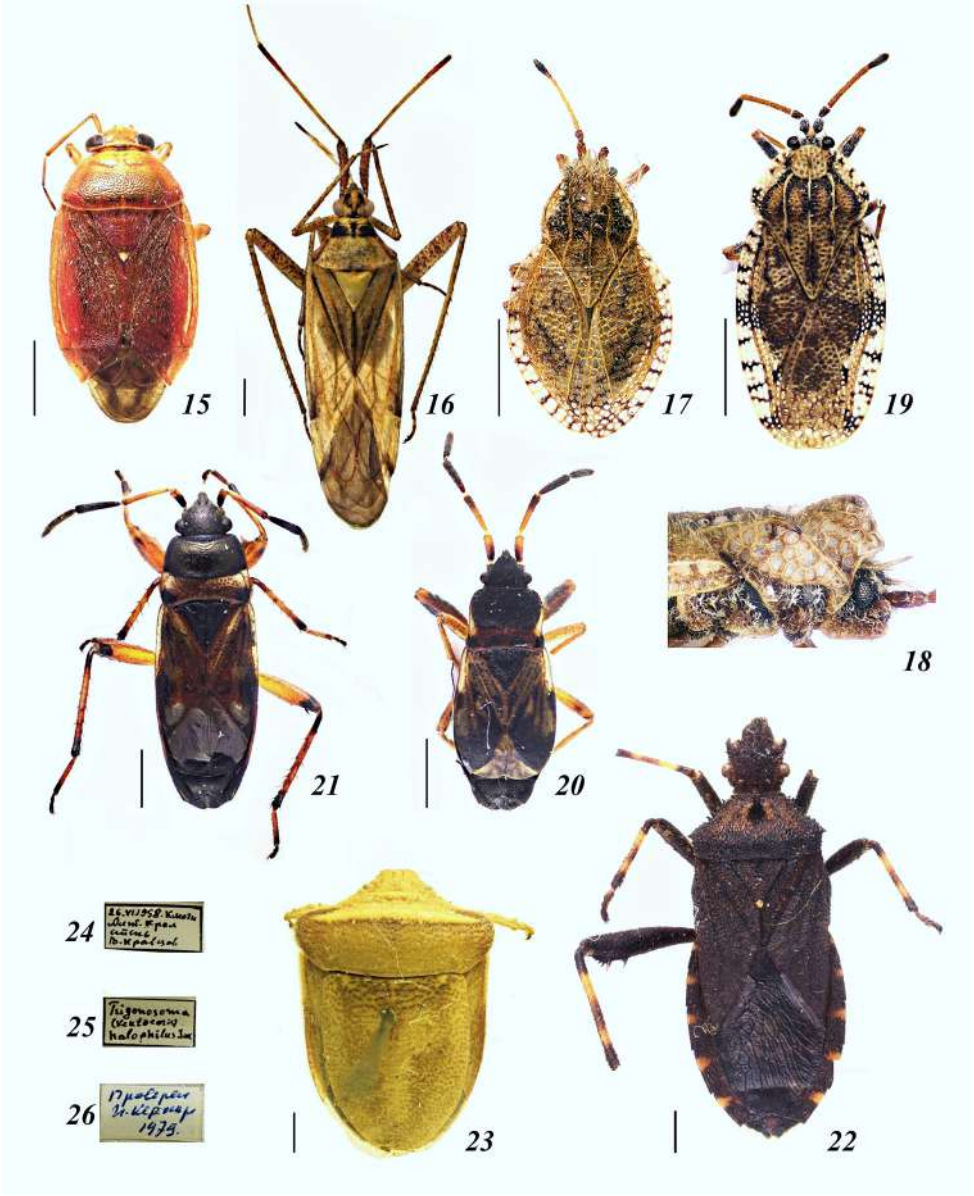
***Leprosoma inconspicuum* Baerensprung, 1859**
Material. Klyuchi District: 1♀, Klyuchi Village [52°16'N, 79°10'E], 26.VI.1958 (ISEA); 1♂, same place, 17.VII.1967, V Kravtsov leg. (ISEA).

Distribution. Western-central Palaearctic. Recorded from Altai Krai (Petrova 1975).

***Ventocoris* (*Selenodera*) *halophilus* (Jakovlev, 1874)**
Figures 23–26
Material. Klyuchi District: 1♀, Klyuchi Village [52°16'N, 79°10'E], 26.VI.1958, V Kravtsov leg. (ISEA).

Distribution. Pontico-Kazakhstan steppe, eastern Mediterranean, mountain of Middle Asia, North-Western China. First record from Altai Krai.

Notes. The correctness of the identification was confirmed by IM Kerzhner in 1979.



Figures 15–26. Heteroptera of Altai Krai: adult specimens. **15** – *Agnocoris rubicundus*, **16** – *Closterotomus samojedorum* (Miridae), **17, 18** – *Lasiacantha hermani* (**17** – dorsal view, **18** – lateral view), **19** – *Tingis cardui*, **20** – *Scolopostethus pilosus*, **21** – *Raglius alboacuminatus*, **22** – *Bothrostethus annulipes*; **23–26** – *Ventocoris halophilus* (**23** – dorsal view; **24–26** – data of labels).

Discussion

Based on the collection specimens from ASU and materials of ISEA from 11 districts of Altai Krai and the urban area of Barnaul, we give additional data on the distribution of 65 terrestrial bug species of 14 families in the studied territory.

For the first time in Siberia, *Bothrostethus annulipes* (Herrich-Schaeffer, 1835) (Coreidae) with a European-Irano-Turanian range is reported. The nearest finds of this species are known from Western, Central and Southeastern Kazakhstan, where it inhabits dry, warm sandy or fine-rubble soils (Yesenbekova 2013). Host plants are legumes (Fabaceae) (Putshkov 1962). Its presence in Barnaul implies a high probability of being introduced.

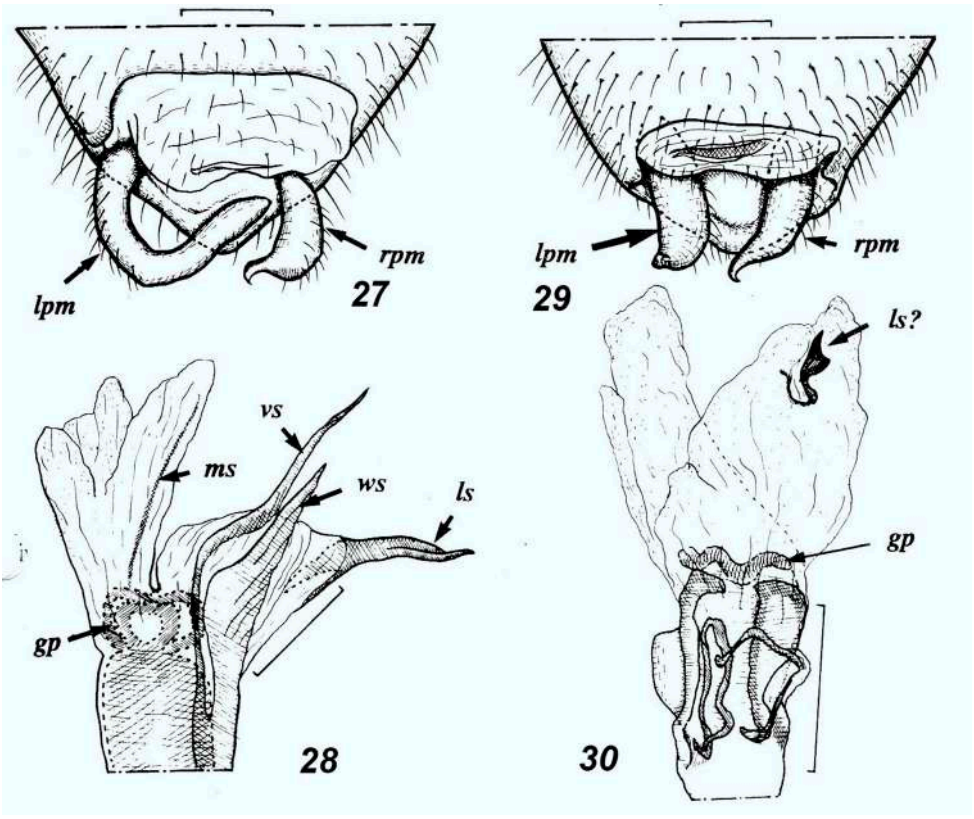
For the first time, 7 species are recorded for the fauna of Altai Krai: *Agnocoris rubicundus* (Fallén, 1807), *Closterotomus samojedorum* (J. Sahlberg, 1878) (Miridae); *Lasiacantha hermani* Vásárhelyi, 1977, *Tingis cardui* (Linnaeus, 1758) (Tingidae); *Scolopostethus pilosus pilosus* Reuter, 1875, *Raglius alboacuminatus alboacuminatus* (Linnaeus, 1778) (Lygaeidae), and *Ventocoris halophilus* (Jakovlev, 1874) (Pentatomidae).

Thus, the faunal list of Altai Krai includes 351 species belonging to 187 genera from 29 families, taking into account 8 species found for the first time.

Examination of the genital structures of 23 males and 29 females of the Altai population of *N. brevis brevis*, one male from Lokot' District and one female from Charysh District has revealed very rare cases of anomalies in the external and internal structures of the genitalia. Morphologically, the aberrant individuals do not differ from the normal ones (Figs 14 and 17, 21 and 24). In the abnormal male, the paramere disc (Figs 18, 19) is unusually rounded, the septal plate is not developed, the pituitary gland is inclined downwards and displaced backwards, and the denticle on the posterior margin of the disc is absent. Thus, the paramere does not resemble at all the disk typical of this species (Fig. 15), but has a distant resemblance to that of *N. ferus* (Linnaeus, 1758). However, in the aberrant male, the shape of the massive hook of the phallus, which is a key character for determination, is typical of that of the normal male (Figs. 16, 20). In the aberrant female, the general appearance of the vagina is the same as in the normal female (Figs. 22, 25), but the parietal gland, which is normally entire (Fig. 23), is distinctly divided in the middle in two parts (Fig. 26). Such a very rare case of separation of the parietal gland in the *N. ferus* vagina was found by the first author in a specimen from Yakutia.

In other families of Cimicomorpha bugs, aberrations in genitalia are sometimes found. For example, Japanese entomologist T. Yasunaga (1996) described a unique example of deformities of the left paramere and phallus structures in the plant bug *Apolygus spinolae* (Meyer-Dűr, 1841). In the norm, the left paramere is strongly curved (Fig. 27); in the aberrant specimen, it is shortened and straight, comparable in length with the right paramere (Fig. 29). If the vesica of the aedeagus normally has four distinct sclerites (Fig. 28), in the aberrant specimen it is all webbed with underdeveloped sclerites (Fig. 30).

Kerzhner (1981) pointed out that the intrapopulation variability of genitalia in the family Nabidae is negligible (with the exception of very rare deformities), but the geographical variability within the species range is widespread, often reaching a large extent and may be clinal in a larger or smaller area. Thus, additional collections are needed to identify the causes of such abnormalities in genital structures and their distribution in the Altai population of this species.



Figures 27–30. Male genitalia of normal (**27**, **28**) and aberrant (**29**, **30**) specimens of *Apolygus spinolae*. **27**, **29** – genital segments in dorsal view; **28**, **30** - vesicae in ventral view. Abbreviations: *gp* - gonopore; *lpm* - left paramere; *ls* - lateral sclerite; *ms* – median sclerite; *rpm* - right paramere; *ls* - ventral sclerite; *ws* - wing-shaped sclerite.

Acknowledgments

The authors are grateful to the professor RV Yakovlev and AL Ebel (Barnaul) for the organization of the expedition in 2021. We also thank students of the Altai State University AE Naydenov, IA Sapozhnikova, RD Hivrich, MYu Bondarenko and volunteer AM Serebryakov (Barnaul) for the collection of the specimens. We express our gratitude to YuV Dyachkov (Barnaul) for conducting the summer field study in

the vicinity of Barnaul and collecting the specimens. Thanks to AA Legalov, SE Tshernyshev and RYu Dudko, we have obtained the access to the collection of the Institute of Systematics and Ecology of Animals of Siberian Branch, RAS (Novosibirsk). Also we thanks to Anna Ustjuzhanina (Tomsk) for the help in the English translation of the paper and BA Korotyaev (Zoological Institute RAS, St.-Petersburg) for editing the manuscript.

The research of NN Vinokurov was carried out within the state assignment of Ministry of Science and Higher Education of the Russian Federation (No. 121020500194-9). The research by VV Rudoi was supported in the framework of «Priority-2030» Program by the Altai State University.

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