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RESEARCH ARTICLE

New records of true bugs (Heteroptera) from the Kemerovo Region (West Siberia, Russia). II.

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Abstract

The paper presents data on 38 species of true bugs from 11 families found in the Kemerovo Region (Western Siberia) on recultivated coal mining sites. Of these, *Spathocera laticornis* (Schilling, 1829) (Coreidae) is a new record for the Asian part of Russia. A total of 36 species have been identified for the fauna of the Kemerovo Region for the first time: *Prostemma kiborti* Jakovlev, 1889, *Nabis americolimbatus* (Carayon, 1961) (Nabidae); *Tetraphleps aterrima* (J. Sahlberg, 1878) (Anthocoridae); *Dicyphus stachydis* J. Sahlberg, 1878, *Deraeocoris punctulatus* (Fallén, 1807), *Mecomma dispar* (Boheman, 1852) (Miridae); *Acalypta marginata* (Wolff, 1804), *Dictyla humuli* (Fabricius, 1794), *Kalama tricornis* (Schrank, 1801), *Oncochila simplex* (Herrich-Schaeffer, 1833) (Tingidae); *Berytinus crassipes* (Herrich-Schaeffer, 1835) (Berytidae); *Drymus brunneus brunneus* (R.F. Sahlberg, 1848), *D. ryeii* Douglas & Scott, 1865, *Ischnocoris punctulatus* Fieber, 1861, *Lamproplax membranea* Distant, 1883, *Scoloposthethus affinis* (Schilling, 1829), *S. pilosus pilosus* Reuter, 1875, *S. thomsoni* Reuter, 1875, *Emblethis brachynotus* Horváth, 1897, *E. denticollis* Horváth, 1878, *E. filicornis* Linnavuori, 1954, *Trapezonotus anorus* (Flor, 1860), *Megalonotus antennatus* (Schilling, 1829), *M. hirsutus* Fieber, 1861, *M. sabulicola* (Thomson, 1870), *Plinthisus pusillus* (Scholtz, 1847), *Graptopeltus lynceus* (Fabricius, 1775), *Peritrechus convivus* (Stål, 1858) (Lygaeidae); *Dicranocephalus agilis* (Scopoli, 1763), *D. medius* (Mulsant & Rey, 1870) (Stenocephalidae); *Bathysolen nubilus* (Fallén, 1807), *Coriomeris denticulatus* (Scopoli, 1763), *Nemocoris fallenii* R.F. Sahlberg, 1848 (Coreidae); *Ochetostethus opacus* (Scholtz, 1847) (Cydnidae); *Odontoscelis fuliginosa* (Linnaeus, 1761) (Scutelleridae); *Sciocoris distinctus* Fieber, 1851 (Pentatomidae). The ranges of some poorly studied species known from isolated records in Siberia have been

specified. A rare female macroptera form of *Himacerus apterus* (Fabricius, 1798) (Nabidae) has been identified. According to the latest data, 244 species of true bugs from 28 families have been recorded in the Kemerovo Region.

Keywords
Biodiversity, true bugs, forma macroptera, new records, Kemerovo Region, Western Siberia

Introduction

Despite two centuries of research into true bugs of Western Siberia, which commenced with the works by F.A. Gebler (1817, 1830), many regions of the Asian part of Russia have not yet been explored sufficiently, except for the Altai Republic, Altai Krai, and the Tyumen Region (Vinokurov et al. 2010). Poorly studied territories include the Kemerovo Region, where a significant part of the densely populated Kuznetsk Basin is subject to strong anthropogenic impact, including plowing and other transformations caused by mining. Comprehensive ecological and faunal studies of true bugs in the region were conducted only in the city of Kemerovo (Eremeeva 2002, 2003; Zolotarev 2001a, 2001b, 2002a, 2002b, 2002c, 2003a, 2003b, 2003c, 2003d, 2003e, 2003f, 2005a, 2005b). Previous studies (Rudoi et al. 2022) have only addressed the region in a limited manner. This paper aimed to examine true bugs collected on the recultivated sites of open-pit coal mines.

Materials and methods

The studies were conducted between 2013 and 2019 on the Krasnobrodsk and Kedrovsk recultivated dumps of open-pit coal mines of different age. The first open-pit coal mine is situated in the forest-steppe zone of the central part of the Kuznetsk basin, and the second one is located in the forest zone on the northern border of the forest-steppe in the Kuznetsk basin and the northwestern part of the subtaiga in the Kuznetsk Alatau (Fig. 1). These areas were subjected to technical and biological reclamation. More detailed characteristics of the study areas are provided in Luzyanin (2023) and Luzyanin et al. (2023a, 2023b).

The material was collected by S.L. Luzyanin between May and August using plastic 250 ml cups as soil traps. A 4% solution of acetic acid (CH_3COOH) was used as a fixative. The traps were installed along a linear transect in groups of 10 and were checked every 7–10 days.

The following survey plots were identified at each of the open-pit coal mines:

Coal mine	Plot	Recultivation time, height asl.	Coordinates
Kedrovsk (Kedr)	1	7 years, H = 203 m	55°30'38.56"N, 86°04'00.44"E
	2	25 years, H = 201 m	55°30'31.46"N, 86°04'12.43"E

Coal mine	Plot	Recultivation time, height asl.	Coordinates
	3	at the foot of the 25-year dump, H = 164 m	55°30'29.70"N, 86°04'52.64"E
	4	control, H = 264 m	55°33'26.17"N, 86°10'02.75"E
Krasnobrodsk (Krb)	1	2 years, H = 260 m	54°08'40.88"N, 86°27'27.04"E
	2	7 years, H = 302m	54°09'06.84"N, 86°31'19.09"E
	3	25 years, H = 289 m	54°09'16.99"N, 86°31'40.73"E
	4	at the foot of the 25-year dump, H = 266 m	54°09'19.2"N, 86°32'18.1"E
	5	control, H = 293 m	54°12'10.76"N, 86°31'41.34"E

The distribution of species in the administrative territories adjacent to the Kemerovo Region is presented in accordance with the Catalogue of Heteroptera of the Asian Part of Russia (Vinokurov et al. 2010) and subsequent data published thereafter (Babichev and Vinokurov 2011; Vinokurov and Golub 2016; Babichev and Kuzhuget 2019; Kuzhuget 2019; Vinokurov 2019; Golub et al. 2021). If species have not been recorded within the territories adjacent to the Kemerovo Region, the closest findings are indicated.

Results

Family Nabidae A. Costa, 1853

Genus *Prostemma* Laporte, 1832

***Prostemma kiborti* Jakovlev, 1889**

Material examined. Kedr: plot 1, 21–31.07.2013, 1♀, 15.08.2013, 1♀, 8.08.2016, 1♀; Krb: plot 2, 27.05.2014, 1♀, 15–25.06.2014, 3♀, 23.07.2015, 1♀ larvae, 7.08.2016, 1♂.

Distribution. East Palaearctic. Western Siberia: Novosibirsk Region (Kiritshenko 1910), Altai Krai (Kerzhner 1981), Altai Republic (Kiritshenko 1910); Eastern Siberia: southern part of the Krasnoyarsk Krai (Jakovlev 1889; Kerzhner 1981), Republic of Khakassia (Babichev and Vinokurov 2011).

Genus *Himacerus* Wolff, 1811

***Himacerus apterus* (Fabricius, 1798)**
Fig. 2

Material examined. Kedr: plot 3, 29.07.2016, 1 macroptera ♀.

Distribution. Trans-Eurasian. – Canada (introduced). Recorded from the Kemerovo Region: Teba River (Kerzhner 1981).

Genus *Nabis* Latreille, 1802

***Nabis americolimbatus* (Carayon, 1961)**

Material examined. Kedr: plot 4, 4–24.07.2014, 1♀; Krb: plot 5, 18.07.16, 1♂.

Distribution. Holarctic. Western Siberia: Altai Republic (Golub et al. 2021); Eastern Siberia: southern part of the Krasnoyarsk Krai (Lindberg 1921).

Family Anthocoridae Fieber, 1836

Genus *Tetraphleps* Fieber, 1860

***Tetraphleps aterrima* (J. Sahlberg, 1878)**

Material examined. Kedr: plot 4, 4–24.07.2014, 1♀.

Distribution. Trans-Eurasian. Western Siberia: Altai Krai (Rudoi et al. 2023); Eastern Siberia: southern part of the Krasnoyarsk Krai (Reuter 1891).

Note. This genus is new to the fauna of the Kemerovo Region.

Family Miridae Hahn, 1833

Genus *Dicyphus* Fieber, 1858

***Dicyphus stachydis* J. Sahlberg, 1878**
Fig. 3

Material examined. Kedr: plot 4, 28.06.16, 1♀.

Distribution. Euro-Yeniseyan. Eastern Siberia: southern part of the Krasnoyarsk Krai (Sahlberg 1878). Other records – Western Siberia: Tyumen Region (Vinokurov and Golub 2009; Buhkalo et al. 2014; Konstantinov and Neimorovets 2021).

Genus *Deraeocoris* Kirschbaum, 1856

***Deraeocoris punctulatus* (Fallén, 1807)**

Material examined. Krb: plot 1, 28.06.2016, 1♂.

Distribution. Holarctic. Western Siberia: Novosibirsk (Vinokurov and Golub 2007) and Tomsk Regions (Kiritshenko 1910), Altai Krai (Vinokurov and Golub 2007; Rudoi et al. 2023), Altai Republic (Kiritshenko 1910; Vinokurov and Golub

2007); Eastern Siberia: southern part of the Krasnoyarsk Krai (Sahlberg 1878; Reuter 1891; Lindberg 1921; Babichev and Kuzhuget 2019), Republic of Khakassia (Reuter 1891).

Figure 1. Collection points of true bugs in the Kemerovo Region. Circle – Kedrovsk coal mine; Star – Krasnobrodsk coal mine. 1* – Western Siberia; 2* – Eastern Siberia.

Genus *Mecomma* Fieber, 1858

***Mecomma dispar* (Boheman, 1852)**

Material examined. Kedr: plot 2, 3–13.08.2014, 1♀; plot 3, 9.07.2016, 1♀.

Distribution. Trans-Eurasian. Eastern Siberia: Republic of Khakassia (Babichev and Vinokurov 2011). Other records – Western Siberia: Tyumen Region (Vinokurov and Golub 2007).

Note. This genus is new to the fauna of the Kemerovo Region.

Family Tingidae Laporte, 1832

Genus *Acalypta* Westwood, 1840

***Acalypta marginata* (Wolff, 1804)**

Material examined. Kedr: plot 1, 21.06.2015, 1♂.

Distribution. Trans-Eurasian. Western Siberia: Novosibirsk Region (Petrova 1974, 1978), Altai Krai (Golub 1982; Vinokurov and Kanyukova 1995a, 1995b; Rudoi et al. 2023).

Genus *Dictyla* Stål, 1874

***Dictyla humuli* (Fabricius, 1794)**

Material examined. Kedr: plot 3, 9.07.2016, 1♀.

Distribution. Trans-Eurasian. Western Siberia: Novosibirsk Region (Petrova 1974, 1978), Altai Krai (Petrova 1978; Rudoi et al. 2023), Altai Republic (Petrova 1978); Eastern Siberia: southern part of the Krasnoyarsk Krai (Sahlberg 1878), Republic of Khakassia (Reuter 1891).

Genus *Kalama* Puton, 1876

***Kalama tricornis* (Schrank, 1801)**

Material examined. Kedr: plot 1, 15.08.2013, 1♂.

Distribution. Holarctic. Western Siberia: Altai Republic (Petrova 1978); Eastern Siberia: southern part of the Krasnoyarsk Krai (Babichev and Kuzhuget 2019), Republic of Khakassia (Kuzhuget 2019).

Note. This genus is new to the fauna of the Kemerovo Region.

Genus *Oncochila* Stål, 1873

***Oncochila simplex* (Herrich-Schaeffer, 1833)**

Material examined. Krb: plot 3, 2–16.06.2013, 1♂; plot 4, 5–25.07.2014, 1♂, 30.05.2015, 1♀.

Distribution. Trans-Eurasian. Western Siberia: Altai Republic (Petrova 1978); Eastern Siberia: southern part of the Krasnoyarsk Krai (Sahlberg 1878; Putshkov 1974).

Note. This genus is new to the fauna of the Kemerovo Region.

Family Berytidae Fieber, 1851

Genus *Berytinus* Kirkaldy, 1900

***Berytinus crassipes* (Herrich-Schaeffer, 1835)**

Material examined. Kedr: plot 2, 9.07.2016, 1♂.

Distribution. Euro-Siberian. Western Siberia: Altai Krai (Rudoi et al. 2023), Altai Republic (Kanyukova and Vinokurov 2009); Eastern Siberia: Republic of Khakassia (Kuzhuget 2019).

Family Lygaeidae Schilling, 1829

Genus *Drymus* Fieber, 1860

Drymus brunneus brunneus (R.F. Sahlberg, 1848)

Material examined. Kedr: plot 3, 14.06–13.08.2014, 2 ♂, 6 ♀, 1.06–30.07.2015, 7 ♂, 2 ♀, 19.07–8.08.2016, 16 ♂, 16 ♀; Krb: plot 4, 5–25.07.2014, 1 ♂, 4–15.08.2014, 4 ♂, 5 ♀, 8–19.08.2014, 1♀, 18.07.2016, 1♂, 1♀, 13.07.2015, 1♀; plot 4, 5–15.07.2014, 1♀.

Distribution. Holarctic. Western Siberia: Altai Krai (Rudoi et al. 2023), Altai Republic (Golub et al. 2021), Tomsk Region (Vinokurov 2007a); Eastern Siberia: southern part of the Krasnoyarsk Krai (Kulik 1967).

Drymus ryeii Douglas & Scott, 1865

Material examined. Kedr: plot 3, 28.06.2015, 1♂; Krb: plot 3, 8.06.2016, 1♂.

Distribution. Euro-Siberian. Western Siberia: Novosibirsk Region (Vinokurov 2007a).

Genus *Ischnocoris* Fieber, 1860

Ischnocoris punctulatus Fieber, 1861

Fig. 4

Material examined. Kedr: plot 1, 19.07.2016, 1♂.

Distribution. Trans-Eurasian. Eastern Siberia: southern part of the Krasnoyarsk Krai (Sahlberg 1878; Putshkov 1969). Other records – Western Siberia: Tyumen Region (Kanyukova and Vinokurov 2010; Buhkalo et al. 2014); southern part without precise indication of the administrative division (Vinokurov and Kanyukova 1995a; Pericart 2001).

Notes. The distribution of *I. punctulatus* Fieb. is specified for the southern part of Western Siberia. This genus is new to the fauna of the Kemerovo Region.

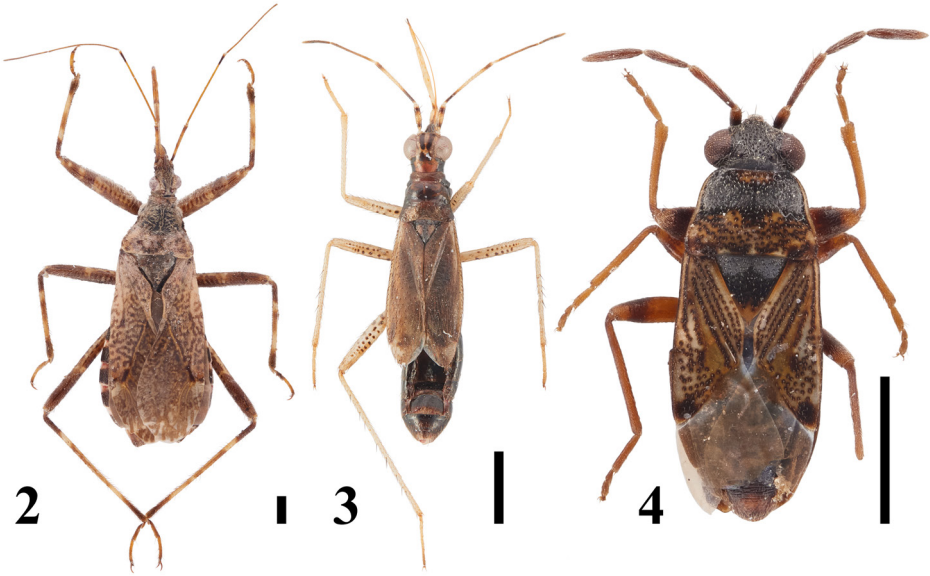
Genus *Lamproplax* Douglas & Scott, 1868

Lamproplax membranea Distant, 1883

Material examined. Kedr: plot 3, 30.07.2015, 1♂, 1♀; plot 4, 4–15.08.2014, 1♂, 28.07.2016, 2♀; Krb: plot 3, 7.08.2016, 1♂, 1♀; plot 5, 28.07–7.08.2016, 2♂, 2♀.

Distribution. Siberian-Far Eastern. Western Siberia: Altai Krai (Rudoi et al. 2023), Altai Republic (Vinokurov and Golub 2016; Golub et al. 2021).

Note. This genus is new to the fauna of the Kemerovo Region.



Figures 2–4. New and rare species of Heteroptera for the Kemerovo Region. 2 – *Himacerus apterus* (Fabricius, 1798) (Nabidae); 3 – *Dicyphus stachydis* J. Sahlberg, 1878 (Miridae); 4 – *Ischnocoris punctulatus* Fieber, 1861 (Lygaeidae). 2–4 – dorsal view. Vertical line: 1 mm.

Genus *Scolopostethus* Fieber, 1860

***Scolopostethus affinis* (Schilling, 1829)**

Material examined. Kedr: plot 1, 21.06.2015, 2♀.

Distribution. Euro-Yeniseyan and Central Asian Mountains. Western Siberia: Tomsk Region (Vinokurov 2007a); Eastern Siberia: southern part of the Krasnoyarsk Krai (Sahlberg 1878), Republic of Khakassia (Vinokurov 2007a).

Note. This genus is new to the fauna of the Kemerovo Region.

***Scolopostethus pilosus pilosus* Reuter, 1875**

Material examined. Kedr: plot 3, 11.06.2015, 1♂; Krb: plot 3, 2–16.06.2013, 1♂, 1♀, 19.06.2015, 1♂, 13.07.2015, 1♂; plot 4, 30.05.2015, 1♂, 26.06.2015, 1♂, 13.07.2015, 1♂.

Distribution. West-Central Palaearctic. Western Siberia: Altai Krai (Vinokurov and Rudoi 2022), Tomsk Region (Kulik 1967); Eastern Siberia: southern part of the Krasnoyarsk Krai (Sahlberg 1878).

***Scolopostethus thomsoni* Reuter, 1875**

Material examined. Kedr: plot 1, 19.07.2016, 1♂; plot 2, 20.06.2016, 1♀; plot 3, 20.06–19.07.2016, 3♂, 3♀; plot 5, 30.05–28.06.2016, 3♀; Krb: plot 3, 19.07.2015, 2♂, 2♀, 7.08.2016, 1♀; plot 4, 8.07.2016, 2♂.

Distribution. Holarctic. Western Siberia: Tomsk Region (Vinokurov 2007a), Altai Republic (Golub et al. 2021).

Genus *Emblethis* Fieber, 1860

***Emblethis brachynotus* Horváth, 1897**

Material examined. Krb: plot 1, 18.06.2016, 3♂, 1♀; plot 2, 15–25.07.2014, 4♂, 1♀, 30.05-23.07.2015, 12♂, 9♀, 18.06–8.07.2016, 4♂, 2♀.

Distribution. Trans-Eurasian. Western Siberia: Novosibirsk Region (Vinokurov 2007a), Altai Krai (Vinokurov 2007a), Altai Republic (Vinokurov 2007a); Eastern Siberia: southern part of the Krasnoyarsk Krai (Horváth 1901; Kulik 1967; Babichev and Kuzhuget 2019), Republic of Khakassia (Kulik 1967).

***Emblethis denticollis* Horváth, 1878**

Material examined. Krb: plot 1, 8.06–28.07.2016, 3♂, 9♀; plot 5, 9.06.2015, 1♂.

Distribution. West-Central Palaearctic. Western Siberia: Novosibirsk Region (Vinokurov 2007a), Altai Krai (Vinokurov 2007a; Rudoi et al. 2023), Altai Republic (Kiritshenko 1910; Vinokurov 2007a); Eastern Siberia: southern part of the Krasnoyarsk Krai (Vinokurov 2007a), Republic of Khakassia (Babichev and Vinokurov 2011).

***Emblethis filicornis* Linnavuori, 1954**
Fig. 5

Material examined. Krb: plot 1, 28.06–8.07.2016, 2♀.

Distribution. Altai and Sayan Mountains. Western Siberia: Altai Republic (Vinokurov and Kanyukova 1995a). Other records – Eastern Siberia: Republic of Tuva (Linnavuori 1954).

Notes. First record of *E. filicornis* Linn. for Salair Ridge, second record for Western Siberia and third record for Siberia.

Genus *Trapezonotus* Fieber, 1860

***Trapezonotus anorus* (Flor, 1860)**

Material examined. Kedr: plot 1, 29.07.2016, 1♂; plot 2, 3–13.08.2014, 1♂; Krb: plot 3, 14.09.2019, 1♀; plot 4, 27.05.2014, 1♀; 9–26.06.2015, 5♀; 29.05.2016, 10♂,

7♀; 8–28.06.2016, 5♂, 16♀; 18.07.2016, 1♂.

Distribution. Trans-Eurasian. Western Siberia: Novosibirsk (Vinokurov 2007a) and Tomsk Regions (Kiritshenko 1910), Altai Krai (Rudoi et al. 2023), Altai Republic (Kiritshenko 1910; Vinokurov 1990); Eastern Siberia: southern part of the Krasnoyarsk Krai (Sahlberg 1878).

Genus *Megalonotus* Fieber, 1860

Megalonotus antennatus (Schilling, 1829)

Fig. 6

Material examined. Kedr: plot 1, 14–24.06.2014, 4♀, 4–24.07.2014, 3♂, 4♀, 3–15.08.2014, 1♀, 11–28.06.2015, 6♂, 21♀, 11–21.07.2015, 1♂, 3♀, 30.05–29.06.2016, 9♂, 26♀; plot 2, 4–24.07.2014, 1♂, 1♀, 3–13.08.2014, 1♂, 2♀, 21.06.2015, 2♀, 30.05–9.07.2016, 3♂, 10♀; plot 3, 30.05.2016, 1♀, 9.07.2016, 1♀; plot 4, 4–24.07.2014, 1♀, 28.06.2015, 1♂, 30.05.2016, 1♂, 3♀; Krb: plot 2, 13.07.2013, 9♂, 7♀; plot 3, 2–16.06.2013, 5♂, 6♀, 3–14.08.2013, 4♀, 6–22.06.2014, 1♀, 8.07.2016, 2♀, 6.07.2019, 1♂; plot 4, 30.05.2015, 1♀, 25.06.2013, 1♂; plot 5, 2–25.06.2013, 1♂.

Distribution. Trans-Eurasian. Eastern Siberia: southern part of the Krasnoyarsk Krai (Vinokurov 2019). Other records – Western Siberia: Tyumen Region (Galich and Ivanov 2012; Buhkalo et al. 2014); southern part without precise indication of the administrative division (Vinokurov and Kanyukova 1995a; Pericart 2001).

Note. The distribution of *M. antennatus* Schill. is specified for the southern part of Western Siberia.

Megalonotus hirsutus Fieber, 1861

Material examined. Krb: plot 2, 8.06.2016, 1♀; plot 3, 13.07.2015, 2♂; plot 5, 2–25.06.2013, 5♂, 2♀.

Distribution. Euro-Siberian. Western Siberia: Novosibirsk Region (Vinokurov 2007a), Altai Republic (Kiritshenko 1910).

Megalonotus sabulicola (Thomson, 1870)

Fig. 7

Material examined. Krb: plot 2, 2–16.06.2013, 1♀, 13.07.2015, 3♀, 1.06.2015, 3♀.

Distribution. Holarctic. The nearest records in Siberia – Western Siberia: Tyumen Region (Galich and Ivanov 2012; Buhkalo et al. 2014); southern part without precise indication of the administrative division (Vinokurov and Kanyukova 1995a; Pericart 2001).

Note. The distribution of *M. sabulicola* Thomson is specified for the southern part of Western Siberia.

Genus *Plinthisus* Stephens, 1829

***Plinthisus pusillus* (Scholtz, 1847)**
Fig. 8

Material examined. Krb: plot 3, 19.06.2015, 1♂.

Distribution. Trans-Eurasian. The nearest records in Siberia – Western Siberia: Tyumen Region (Kanyukova and Vinokurov 2010; Buhkalo et al. 2014); southern part without precise indication of the administrative division (Vinokurov and Kanyukova 1995a; Pericart 2001).

Notes. The distribution of *P. pusillus* Scholtz is specified for the southern part of Western Siberia. This genus is new to the fauna of the Kemerovo Region.

Genus *Graptopeltus* Stål, 1872

***Graptopeltus lynceus* (Fabricius, 1775)**
Fig. 9

Material examined. Kedr: plot 3, 29.06.2016, 1♀; Krb: plot 1, 2–25.06.2013, 3♀; plot 2, 18–28.06.2016, 2♂; plot 3, 6.07.2019, 1♀.

Distribution. West-Central Palaearctic. The nearest records in Siberia – Western Siberia: Tyumen Region (Vinokurov 2007a, 2009; Buhkalo et al. 2014).

Notes. Second record of *G. lynceus* F. for Western Siberia. The eastern boundary range is specified. This genus is new to the fauna of the Kemerovo Region.

Genus *Peritrechus* Fieber, 1860

***Peritrechus convivus* (Stål, 1858)**

Material examined. Krb: plot 1, 18.06–18.07.2016, 2♂, 14♀.

Distribution. Holarctic. Western Siberia: Altai Krai (Vinokurov 2007a; Rudoi et al. 2023), Tomsk Region (Sahlberg 1878), Altai Republic (Vinokurov 2007a); Eastern Siberia: Republic of Khakassia (Kuzhuget 2019).

Family Stenocephalidae Dallas, 1852

Genus *Dicranocephalus* Hahn, 1826

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

Material examined. Krb: plot 2, 28.06.2016, 1♀.

Distribution. West-Central Palaearctic. – Neotropics. Western Siberia: Altai Krai (Kanyukova and Vinokurov 2009; Rudoi et al. 2023).

Notes. This family, genus, and both species are new to the fauna of the Kemerovo Region.

***Dicranocephalus medius* (Mulsant & Rey, 1870)**

Material examined. Krb: plot 2, 15–25.06.2014, 1♀, 13–23.07.2015, 2♀; plot 3, 6–16.06.2013, 2♂, 1♀, 30.05.2015, 1♀, 7.08.2016, 1♀; plot 4, 13.07.2013, 1♀, 6–25.06.2014, 1♀, 5–25.07.2014, 1♀, 28.06.2016, 1♀.

Distribution. Trans-Eurasian. Western Siberia: Altai Republic (Kanyukova and Vinokurov 2009); Eastern Siberia: southern part of the Krasnoyarsk Krai (Sahlberg 1878; Jakovlev 1889), Republic of Khakassia (Kanyukova and Vinokurov 2009).

Family Coreidae Leach, 1815

Genus *Bathysolen* Fieber, 1860

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

Material examined. Kedr: plot 1, 21–31.07.2013, 8♂; Krb: plot 1, 2–25.06.2013, 1♂, 3♀, 3–14.08.2013, 2♀; plot 2, 13.07.2013, 1♂, 3.08.2013, 2♂, 23.07.2015, 3♂, 29.05.2016, 1♂; plot 3, 2–16.06.2013, 6♂, 4♀, 9.06.2015, 1♂; plot 4, 25.06.2013, 1♂, 13.07.2013, 1♂.

Distribution. Euro-Siberian and Middle Asian. Western Siberia: Altai Krai (Kanyukova and Vinokurov 2009); Eastern Siberia: southern part of the Krasnoyarsk Krai (Kulik 1973; Babichev and Kuzhuget 2019), Republic of Khakassia (Babichev and Vinokurov 2011).

Note. This genus is new to the fauna of the Kemerovo Region.

Genus *Coriomeris* Westwood, 1842

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

Material examined. Kedr: plot 1, 9.06.2016, 1♀; Krb: plot 4, 25.06.2013, 1♂.

Distribution. Euro-Central Asian. Western Siberia: Altai Krai (Vinokurov 2007b), Altai Republic (Vinokurov and Golub 2016).

Note. This genus is new to the fauna of the Kemerovo Region.

Genus *Nemocoris* R.F. Sahlberg, 1848

***Nemocoris fallenii* R.F. Sahlberg, 1848**

Material examined. Kedr: plot 2, 14–24.06.2014, 1♀; Krb: plot 4, 9.06.2015, 1♂.

Distribution. Trans-Eurasian. Western Siberia: Altai Krai (Kanyukova and Vinokurov 2009).

Note. This genus is new to the fauna of the Kemerovo Region.

Genus *Spathocera* Stein, 1860

***Spathocera laticornis* (Schilling, 1829)**
Fig. 10

Material examined. Krb: plot 1, 2–25.06.2013, 1♀.

Distribution. Euro-Yeniseyan. The nearest records – Republic of Kazakhstan: East Kazakhstan Region (Vinokurov et al. 2022); European part of Russia: middle and southern parts (Kiritshenko 1951; Kerzhner and Jaczewskii 1964).

Note. This species is new to the fauna of the Asian part of Russia.

Family Cydnidae Billberg, 1820

Genus *Ochetostethus* Fieber, 1860

***Ochetostethus opacus* (Scholtz, 1847)**

Material examined. Krb: plot 1, 8–17.07.2016, 3♀.

Distribution. Euro-Siberian. Western Siberia: Altai Krai (Petrova 1975), Novosibirsk Region (Petrova 1975); Eastern Siberia: southern part of the Krasnoyarsk Krai (Lindberg 1921).

Family Scutelleridae Leach, 1815

Genus *Odontoscelis* Laporte, 1833

***Odontoscelis fuliginosa* (Linnaeus, 1761)**

Material examined. Krb: plot 3, 2–16.06.2013, 1♂; plot 5, 2–25.06.2013, 1♂.

Distribution. Trans-Palaearctic. The nearest records in Siberia – Western Siberia: Tyumen Region (Galich and Ivanov 2012); Eastern Siberia: Republic of Tuva (Kuzhuget 2017; Kuzhuget and Vinokurov 2018).

Note. This genus is new to the fauna of the Kemerovo Region.

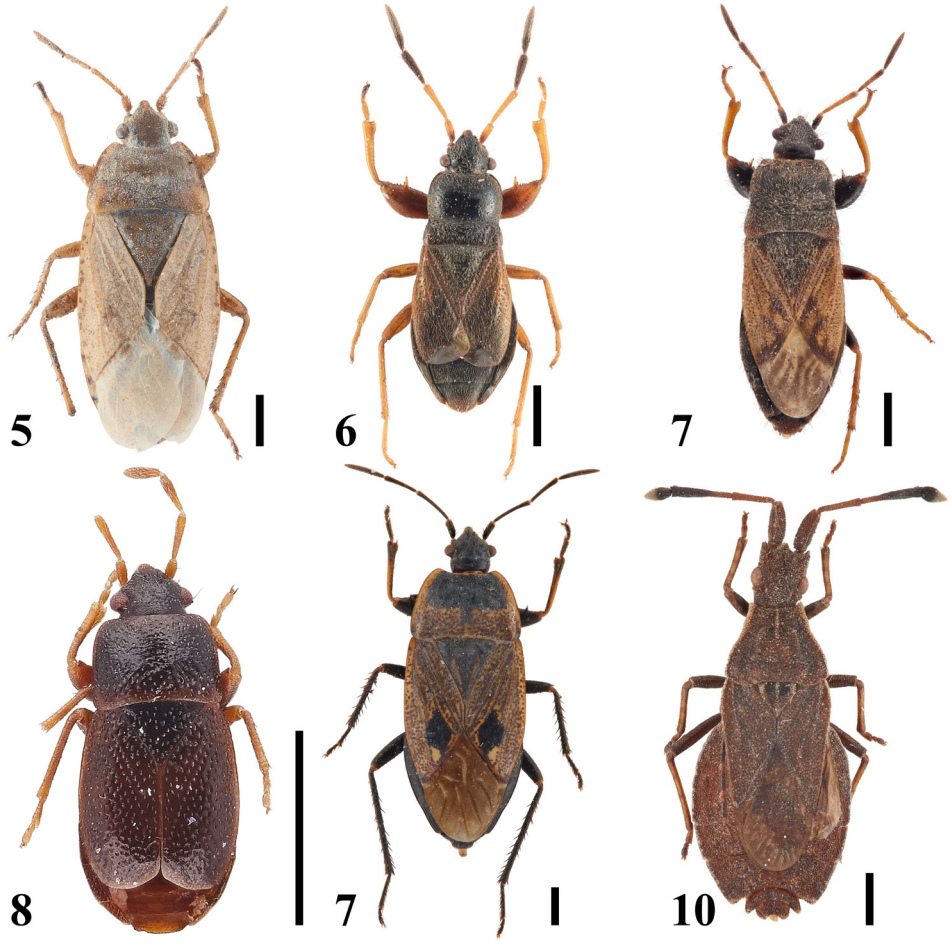
Family Pentatomidae Leach, 1815

Genus *Sciocoris* Fallén, 1829

***Sciocoris distinctus* Fieber, 1851**

Material examined. Kedr: plot 1, 19.07.2016, 1♀; plot 2, 3–13.08.2014, 1♀, 30.05.2016, 1♀.

Distribution. Trans-Palaearctic. Western Siberia: Novosibirsk Region (Petrova 1975), Altai Krai (Kiritshenko 1910; Petrova 1975; Rudoi et al. 2023), Altai Republic (Petrova 1966, 1975); Eastern Siberia: southern part of the Krasnoyarsk Krai (Sahlberg 1878; Reuter 1891; Kulik 1965; Petrova 1975; Babichev and Kuzhuget 2019), Republic of Khakassia (Babichev and Vinokurov 2011).



Figures 5–10. New species of Heteroptera for the Kemerovo Region. 5 – *Emblethis filicornis* Linnavuori, 1954; 6 – *Megalonotus hirsutus* Fieber, 1861, 7 – *Megalonotus sabulicola* (Thomson, 1870); 8 – *Plinthisus pusillus* (Scholtz, 1847), 9 – *Graptopeltus lynceus* (Fabricius, 1775) (Lygaeidae); 10 – *Spathocera laticornis* (Schilling, 1829) (Coreidae). 5–10 – dorsal view. Vertical line: 1 mm.

Discussion

As previously stated, the data available for the Heteroptera fauna of the Kemerovo Region are insufficient in comparison to those known for some adjacent territories. Studies of successional restoration processes of the invertebrate population on reclaimed dumps of different age have provided new data that significantly complement the existing knowledge on the Heteroptera fauna of this region. Consequently, the taxonomic composition of the fauna at the family level in the Kemerovo Region is augmented by the family Stenocephalidae Dallas, 1852 with the genus *Dicranocephalus* Hahn, 1826, and two species – *D. agilis* (Scopoli, 1763) and *D. medius* (Mulsant & Rey, 1870). Furthermore, the fauna of the region is augmented by 16 genera belonging to eight families: *Prostemma* Laporte, 1832 (Nabidae); *Tetraphleps* Fieber, 1860 (Anthocoridae); *Mecomma* Fieber, 1858 (Miridae); *Kalama* Puton, 1876 and *Oncochila* Stål, 1873 (Tingidae); *Ischnocoris* Fieber, 1860, *Lamproplax* Douglas & Scott, 1868, *Scolopostethus* Fieber, 1860, *Plinthisus* Stephens, 1829 and *Graptopeltus* Stål, 1872 (Lygaeidae); *Bathysolen* Fieber, 1860, *Coriomeris* Westwood, 1842, *Nemocoris* R.F. Sahlberg, 1848 and *Spathocera* Stein, 1860 (Coreidae); *Ochetostethus* Fieber, 1860 (Cydnidae); *Odontoscelis* Laporte, 1833 (Scutelleridae).

For the first time, *Spathocera laticornis* (Schilling, 1829) (Coreidae) has been reported for the Asian part of Russia; previously, it was reported from the East Kazakhstan Region of the Republic of Kazakhstan (Vinokurov et al. 2022). This record significantly expands the range of the species to the east.

A total of 36 species new to the region were identified: *Prostemma kiborti* Jakovlev, 1889 and *Nabis americolimbatus* (Carayon, 1961) (Nabidae); *Tetraphleps aterrima* (J. Sahlberg, 1878) (Anthocoridae); *Dicyphus stachydis* J. Sahlberg, 1878, *Deraeocoris punctulatus* (Fallén, 1807) and *Mecomma dispar* (Fallén, 1807) (Miridae); *Acalypta marginata* (Wolff, 1804); *Dictyla humuli* (Fabricius, 1794), *Kalama tricornis* (Schrank, 1801) and *Oncochila simplex* (Herrich-Schaeffer, 1833) (Tingidae); *Berytinus crassipes* (Herrich-Schaeffer, 1835) (Berytidae); *Drymus brunneus brunneus* (R.F. Sahlberg, 1848), *D. ryeii* Douglas & Scott, 1865, *Ischnocoris punctulatus* Fieber, 1861, *Lamproplax membranea* Distant, 1883, *Scolopostethus affinis* (Schilling, 1829), *S. pilosus pilosus* Reuter, 1875, *S. thomsoni* Reuter, 1875, *Emblethis brachynotus* Horváth, 1897, *E. denticollis* Horváth, 1878, *E. filicornis* Linnavuori, 1954, *Trapezonotus anorus* (Flor, 1860), *Megalonotus antennatus* (Schilling, 1829), *M. hirsutus* Fieber, 1861, *M. sabulicola* (Thomson, 1870), *Plinthisus pusillus* (Scholtz, 1847), *Graptopeltus lynceus* (Fabricius, 1775) and *Peritrechus convivus* (Stel, 1858) (Lygaeidae); *Dicranocephalus agilis* (Scopoli, 1763) and *D. medius* (Mulsant & Rey, 1870) (Stenocephalidae); *Bathysolen nubilus* (Fallén, 1807), *Coriomeris denticulatus* (Scopoli, 1763) and *Nemocoris fallenii* R.F. Sahlberg, 1848 (Coreidae); *Ochetostethus opacus* (Scholtz, 1847) (Cydnidae); *Odontoscelis fuliginosa* (Linnaeus, 1761) (Scutelleridae); *Sciocoris distinctus* Fieber, 1851 (Pentatomidae).

The obtained faunal data allowed a number of updates for the Asian ranges of several Heteroptera species little known in Siberia. It was found that in the southern

part of Western Siberia, the Kuznetsk Alatau Mountain range represents the eastern boundary for *Graptopeltus lynceus* F. (Lygaeidae), a species previously known from the valley of the Irtysh River. *Dicyphus stachydis* J. Sahlb. (Miridae) in the Western Siberia was reported only from the Tyumen Region (Vinokurov and Golub 2009; Buhkalo et al. 2014; Konstantinov and Neimorovets 2021), in the Eastern Siberia from southern part of the Krasnoyarsk Krai (Sahlberg 1878); in the European part of Russia, it was reported from the middle part, the North Caucasus (Konstantinov and Neimorovets 2021), and the Middle Urals (Ukhova et al. 2022). For the first time, the locations of *Ischnocoris punctulatus* Fieb., *Megalonotus antennatus* Schill., *M. sabulicola* Thoms., and *Plinthisus pusillus* Scholtz (Lygaeidae) have been specified for the southern part of Western Siberia. It is assumed that Pericart (2001) recorded these species from Western Siberia in the Catalogue of Heteroptera of the Palaearctic Region based on unpublished collection materials.

The Altai and Sayan endemic *Emblethis filicornis* Linn. (Lygaeidae) was previously known from the Republics of Tuva and Altai, as well as Western Mongolia (Vinokurov and Kanyukova 1995a). A new record of this mountain species in the study area adjacent to the Salair Ridge extends the northern boundary of the range to 54° N.

One female macropteran form of *Himacerus apterus* F. was found on the dumps of the Kedrovsk surface coal mine (Fig. 2). This record is notable, since macropterous true bugs are extremely rare in both sexes of this species. For example, the collection of the Zoological Institute of the Russian Academy of Sciences (ZIN), which includes over 500 specimens of this species, reports only 12 females and 1 male of macropterous forms (Kerzhner 1981).

Conclusions

The conducted research has extended the taxonomic list of true bugs from the Kemerovo region that currently includes 244 species from 28 families, which is assumed to be slightly more than half of the fauna diversity of this region. Currently, data on true bugs are collected during environmental studies of anthropogenic disturbed lands, such as urban agglomerations, coal mine dumps, etc. The natural biotopes of standing and flowing reservoirs, meadows, swamps, steppes, deciduous and coniferous forests remain virtually unstudied. This indicates the need for comprehensive faunal studies of various ecosystems as an integral part of the study of the biodiversity of Western Siberia. This is the only way to gain a clear understanding of the animal species composition in the region and assess its conservation and resilience to external effects.

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References

Babichev NS, Kuzhuget SV (2019) The Heteroptera of the River Us basin, West Sayan Mountains. Euroasian Entomological Journal 18 (6): 386–393. https://doi.org/10.15298/euroasentj.18.6.3 [In Russian with English summary]

Babichev NS, Vinokurov NN (2011) Contribution to the Heteroptera fauna of Khakassia and Krasnoyarsk Territory. Proceedings of the Russian entomological society 82: 29–41. [In Russian]

Buhkalo SP, Galich DE, Sergeeva EV, Vazhenina NV (2014) Summary of invertebrate fauna of the southern taiga of Western Siberia (in the basin of the lower Irtysh). KMK, Moscow, 189 pp. [In Russian]

Eremeeva NI (2002) Population structure of true bugs insects in urban lawns. Proceedings of the International Forum on Science, Technology and Education 3: 65–66. [In Russian]

Eremeeva NI (2003) The structure of hortobiont entomocomplexes in the urban ecosystem. Ecological and socio-hygienic aspects of the human environment. Ryazan, 109–112. [In Russian]

Galich DE, Ivanov SA (2012) Addition to the fauna of true bugs insects (Heteroptera) of the Tyumen Region. Altai Zoological Journal 12: 3–14. [In Russian]

Gebler FA (1817) Insecta Siberiae rariora, decas prima. Memoirs of the Imperial Society of Naturalists of Moscow 5: 315–333. [In French]

Gebler FA (1830) Bemerkungen über die Insekten Sibiriens, vorzüglich des Altai. Ledebour's Reise dürch des Altai-Gebirge und die Soongarische Kirgisen-Steppe 2 (2): 228 p. (17–18). [In German]

Golub VB (1982) New data on the fauna of the lacebugs (Heteroptera, Tingidae) of the Mongolian People's Republic. Insects of Mongolia 8: 200–209. [In Russian]

Golub VB, Vinokurov NN, Golub NV, Soboleva VA, Aksenenko EV (2021) True bugs (Hemiptera: Heteroptera) from the taiga zone of the mountainous Altai of Russia: the first

records and new data on rare species. Ecologica Montenegrina 40: 164–175. https://doi.org/10.37828/em.2021.40.14

Horvath G (1901) Hemiptera. Zoologische Ergebnisse der dritten Asiatischen Forschungsreise des Grafen Eugen Zichy 2: 245–274. [In German]

Jakovlev VE (1889) Materials for the fauna of true bugs insects in Siberia. Processing of the Russian Entomological Society 23: 72–82.

Kanyukova EV, Vinokurov NN (2009) New data to the fauna of superfamilies Lygaeoidea, Pyrrhocoroidea and Coreoidea (Heteroptera) of the Asian part of Russia. Problems of studying and protecting wildlife in the North: Proceedings of the All-Russian Scientific Conference with International Participation (Syktyvkar, Komi Republic, Russia, 16–20 November 2009), 57–59. [In Russian]

Kanyukova EV, Vinokurov NN (2010) Materials on the fauna of true bugs insects in the Asian part of Russia (Heteroptera: Reduviidae, Aradidae, Lygaeidae). Amurian Zoological Journal 2 (1): 10–12. [In Russian]

Kerzhner IM (1981) Bugs of the family Nabidae. Fauna of USSR. Hemiptera 13 (2). Nauka, Leningrad, 327 pp. [In Russian]

Kerzhner IM, Jaczewskii TL (1964) Order Hemiptera (Heteroptera) – Hemiptera, or true bugs. Key to the Insect of the European part of the USSR 1. Science, Moscow – Leningrad, 655–845. [In Russian]

Kiritshenko AN (1910) Contribution to the entomofauna of West Siberia: Hemiptera–Heteroptera of Altai and Tomsk Regions. Revue Russe d'Entomologie 10 (3): 173–185. [In Russian]

Kiritshenko AN (1951) True bugs of the European part of the USSR (Hemiptera): Key and bibliography 42. Zoological Institute of Academy of Sciences of the USSR, Moscow – Leningrad, 423 pp. [in Russian]

Konstantinov FV, Neimorovets VV (2021) Bryocorinae Baerensprung, 1860 (Hemiptera: Heteroptera: Miridae) of European Russia and the Caucasus: synopsis and key to species. Zootaxa 4920 (3): 301–338. https://doi.org/10.11646/zootaxa.4920.3.1

Kulik SA (1965) Stink bugs (Heteroptera, Pentatomidae) of Eastern Siberia and the Far East. Acta Faunistica Entomologica Musiei Nationalis Pragae 10 (93): 139–161. [In Russian]

Kulik SA (1967) True bugs (Heteroptera) of Eastern Siberia and the Far East. Fragmenta Faunistica 13 (22): 391–406. [In Russian]

Kulik SA (1973) Coreidae and Pyrrhocoridae (Heteroptera, Coreidae, Pyrrhocoridae) Eastern Siberia and the Far East. Fauna and ecology of insects of Eastern Siberia and the Far East. Irkutsk, 32–43. [In Russian]

Kuzhuget SV (2017) The fauna of terrestrial true bugs (Heteroptera: Leptopodomorpha, Cimicomorpha, Pentatomomorpha) of Tuva: Abstract of the dissertation for the degree of Candidate of Biological Sciences. Kyzyl, 20 pp. [In Russian]

Kuzhuget SV (2019) New records of true bugs (Heteroptera) from Khakassia. Acta Biologica Sibirica 5 (1): 53–55. https://doi.org/10.14258/abs.v5.i1.5191

Kuzhuget SV, Vinokurov NN (2018) Types of areals of Heteroptera from Tuva, Russia. Euroasian entomological journal 17 (2): 103–109. [In Russian]

Lindberg H (1921) Über Heteropteren, gesammelt von J. Wuorentaus im Gouverment Jenisejsk. Notulae Entomologicae 1: 46–51.

Linnavuori R (1954) A new *Emblethis* species from Mongolia, *E. filicornis* n. sp. (Het., Lygaeidae). Annales Entomologici Fennici 20: 40–41.

Luzyanin SL (2023) Species composition and ecological structure of ground beetle communities (Coleoptera, Carabidae) in reclaimed rock dumps in the south of Western Siberia. Ecologica Montenegrina 65: 86–103. https://doi.org/10.37828/em.2023.65.11

Luzyanin SL, Resenchuk AA, Osipova MO, Sidorov DA (2023a) Diversity of ground-dwelling arthropods on overburden dumps after coal mining. Ecologica Montenegrina 61: 68–87. https://doi.org/10.37828/em.2023.61.8

Luzyanin SL, Saveliev AA, Shagidullin RR, Sukhodolskaya RA (2023b) Dynamics of ground beetle (Carabidae) populations at rock dumps in an open-pit coal mine: modeling the influence of environmental factors. Acta Biologica Sibirica 9: 709–727. https://doi.org/10.5281/zenodo.8404574

Pericart J (2001) Family Lygaeidae Schilling, 1829. In: Aukema B, Rieger Chr (Eds) Catalogue of Heteroptera of the Palaearctic Region 4: 35–220.

Petrova VP (1966) Distribution of shield bugs (Hemiptera, Pentatomidae) in plant belts of East Altai. Fauna and ecology of Arthropods of Siberia, Science, Novosibirsk, 199–202. [In Russian]

Petrova VP (1974) On the species composition of lace bugs (Hemiptera, Tingidae) in the forest-steppe of the Ob River basin. Questions of entomology of Siberia. Siberian branch of the USSR Academy of Sciences, Novosibirsk, 57–58. [In Russian]

Petrova VP (1975) Shield bugs of West Siberia (Hemiptera, Pentatomoidea). Novosibirsk Pedagogical Institute, Novosibirsk, 237 pp. [In Russian]

Petrova VP (1978) To the knowledge of lace bugs (Hemiptera, Tingidae) of West Siberia. Proceedings of the biological institute Academy of Sciences of the USSR 34: 62–73. [In Russian]

Putshkov VG (1969) Lygaeidae. Fauna of Ukraine 21 (3): 388 pp. [In Ukrainian]

Putshkov VG (1974) Berytidae, Pyrrhocoridae, Piesmatidae, Aradidae and Tingidae. Fauna of Ukraine 21 (4): 332 pp. [In Ukrainian]

Reuter OM (1891) Hemiptera – Heteroptera fren trakterna kring Sajanska bärgskendjan, insamlade af K. Ehnberg och R. Hammarström. Öfversigt Finska Vetenskaps, Societetens Förhandlingar 33: 166–208. [In Sweden]

Rudoi VV, Vinokurov NN, Krugova TM (2023) New data on true bugs (Heteroptera) from the Tigirek Strict Reserve (Altai Krai, Russia). Acta Biologica Sibirica 9: 755–782. https://doi.org/10.5281/zenodo.10039143

Sahlberg J (1878) Bidrag till Nordvestra Sibiriens insektfauna, Hemiptera – Heteroptera insamlade under expeditionerna till Obi och Jenesej 1876 och 1877. Kungliga Svenska vetenskapsakademiens handlingar 16: 1–39. [In Sweden]

Ukhova NL, Sergeeva EV, Ivanov SA (2022) Materials on the fauna of true bugs (Heteroptera) of the Visim Nature Reserve. Amurian Zoological Journal 14 (2): 261–280. [In Russian] https://www.doi.org/10.33910/2686-9519-2022-14-2-261-280

Vinokurov NN (1990) True bugs of the genus *Trapezonotus* (Heteroptera, Lygaeidae) in the fauna of the USSR and Mongolia. Insects of Mongolia 11: 70–90. [In Russian, with English summary]

Vinokurov NN (2007a) New records of ground bugs from Siberia (Heteroptera: Lygaeidae). Zoosystematica Rossica 16 (2): 243–244.

Vinokurov NN (2007a) Rare and little known Heteroptera from health resort Belokurikha (Altai Krai). Altai Zoological Journal 1: 15–16. [In Russian]

Vinokurov NN (2009) New data on the distribution of true bugs (Heteroptera) in Siberia and the Russian Far East. Amurian Zoological Journal 1 (3): 197–199. [In Russian]

Vinokurov NN (2019) On rear true bugs (Heteroptera) of Siberia and the South of Russian Far East. Acta Biologica Sibirica 5 (1): 19–29. https://doi.org/10.14258/abs.v5.i1.5186

Vinokurov NN, Golub VB (2007) New data on distribution of plant bugs (Heteroptera, Miridae) in the Asian part of Russia. Zoosystematica Rossica 16 (1): 27–30. https://doi.org/10.31610/zsr/2007.16.1.27

Vinokurov NN, Golub VB (2009) Materials on the true bugs (Heteroptera) fauna of Siberia and the Russian Far East. Altai Zoological Journal 3: 25–28. [In Russian]

Vinokurov NN, Golub VB (2016) New data on the semi-hardened bugs (Heteroptera) fauna of Siberia. Euroasian entomological journal 15 (4): 349–353. [In Russian, with English summary]

Vinokurov NN, Kanyukova EV (1995a) Synopsis of the fauna of Heteroptera of Siberia. Yakutsk, 62 pp. [In Russian]

Vinokurov NN, Kanyukova EV (1995b) True bugs (Heteroptera) of Siberia. Nauka, Novosibirsk, 237 pp. [In Russian]

Vinokurov NN, Kanyukova EV, Golub VB (2010) Catalogue of the Heteroptera of Asian part of Russia. Nauka, Novosibirsk, 320 pp. [In Russian]

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/10.5281/zenodo.7703403

Vinokurov NN, Bolbotov GA, Gabdullina AU, Rudoi VV (2022) Addition to the fauna of terrestrial true bugs of the East Kazakhstan Province of Kazakhstan (Heteroptera: Cimicomorpha, Pentatomomorpha). Russian Entomological Journal 31 (3): 249–259. https://doi.org/10.15298/rusentj.31.3.05

Zolotarev DA (2001a) To the fauna and ecology of Pentatomidea insects in the vicinity of the city of Kemerovo. Material XXXIX International Student Conference 2: 21. [In Russian]

Zolotarev DA (2001b) True bugs of the city of Kemerovo. Ecological and socio-hygienic aspects of the human environment 236–239. [In Russian]

Zolotarev DA (2002a) Changes in the population structure of true bugs in urban landscapes. Bulletin of Kemerovo State University 2 (10): 22–26. [In Russian]

Zolotarev DA (2002b) To the fauna of hortobiont true bugs in the urbanized zone. XXXIX Kemerovo State University Students and Young Scientists Conference, 381. [In Russian]

Zolotarev DA (2002c) Characteristics of the true bugs fauna in the vicinity of Kemerovo. Bulletin of works of young scientists of Kemerovo State University dedicated to the 60th anniversary of the Kemerovo region 2: 214–216. [In Russian]

Zolotarev DA (2003a) The impact of air pollution on true bugs in Kemerovo. II regional scientific conference "Young scientists of Kuzbass", 142–144. [In Russian]

Zolotarev DA (2003b) Dynamic changes in the abundance of true bugs in urban conditions. Actual problems of medicine and biology 2: 159–161. [In Russian]

Zolotarev DA (2003c) Urban fauna of true bugs. Bulletin of Kemerovo State University 2(14): 157–163. [In Russian]

Zolotarev DA (2003d) Zoogeographical analysis of the true bugs fauna of the Kemerovo region. Bulletin of works of young scientists of Kemerovo State University dedicated to the 60th anniversary of the Kemerovo region 2 (3): 226–228. [In Russian]

Zolotarev DA (2003e) Features of the ecology of terrestrial true bugs in Kemerovo. Works of the Kemerovo Branch of the Russian Entomological Society 2: 45–50. [In Russian]

Zolotarev DA (2003f) The fauna of true bugs in the Kemerovo District of the Kemerovo Region. Entomological research in the Kuznetsk-Salair Mountain region. Works of the Kemerovo Department of the Russian Entomological Society 1: 47–50. [In Russian]

Zolotarev DA (2005a) The population of true bugs in various anthropogenic cenoses of Kemerovo city. Works of the Kemerovo Branch of the Russian Entomological Society 3: 86–88. [In Russian]

Zolotarev DA (2005b) Hortobiont true bugs (Insecta: Hemiptera-Heteroptera) of anthropogenic transformed territories (on the example of Kemerovo city). Abstract of the dissertation for the degree of Candidate of Biological Sciences. Tomsk, 20 pp. [In Russian]