

ADDENDA TO THE KNOWLEDGE OF BEETLES (INSECTA: COLEOPTERA) OF KALININGRAD REGION (WESTERN RUSSIA): NEW FAUNISTIC RECORDS

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Alekseev V.I., Drotikova A.M., Rozhina V.I., Bukejs A. 2021. Addenda to the knowledge of beetles (Insecta: Coleoptera) of Kaliningrad Region (western Russia): new faunistic records. *Acta Biol. Univ. Daugavp.*, 21 (1): 13 – 31.

In the current paper, 26 beetles species, *Hydrovatus cuspidatus* (Kunze, 1818), *Platylomalus complanatus* (Panzer, 1797), *Hydrochus ignicollis* Motschulsky, 1860, *Potamophilus acuminatus* (Fabricius, 1792), *Agrilus suvorovi* Obenberger, 1935, *Hylis cariniceps* (Reitter, 1902), *H. olexai* (Palm, 1955), *Caenoscelis fleischeri* Reitter, 1889, *Abdera affinis* (Paykull, 1799), *Melandrya barbata* (Fabricius, 1792), *Zilora elongata* Sahlberg, 1881, *Z. obscura* (Fabricius, 1794), *Mordellaria aurofasciata* (Comolli, 1837), *Boros schneideri* (Panzer, 1795), *Pilemostoma fastuosum* (Schaller, 1783), *Oomorplus concolor* (Sturm, 1807), *Agapanthia intermedia* Ganglbauer, 1884, *Acalles echinatus* (Germar, 1824), *Anthonomus pedicularius* (Linnaeus, 1758), *A. ulmi* (DeGeer, 1775), *Lixus myagri* Olivier, 1807, *L. filiformis* (Fabricius, 1781), *Otiorrhynchus armadillo* (Rossi, 1792), *Phloeophagus thomsoni* (Grill, 1896), *Rhopalapion longirostre* (Olivier, 1807), and *Rhyncolus sculpturatus* Walzl, 1839, are reported as new for the fauna of Kaliningrad Region, Russia. One of them, namely adventive garden pest species *O. armadillo*, is recorded in the fauna of European Russia outside the North Caucasus for the first time. Additionally, 29 rare coleopteran species are confirmed for regional fauna.

Key words: biodiversity, fauna, distribution, new records, Europe.

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INTRODUCTION

In the time of the present-day anthropogenic loss of species diversity and the so-called “first mass extinction of insects” (Schachat & Labandeira 2021), the inventory of animal species inhabiting of Kaliningrad Region (western Russia) area is still very actual. Several very

rare, endangered or even considered locally extinct coleopteran species are still existing in our strongly transformed by human activity territory. Some of them have very restricted distribution, which sometimes can be measured by few quadrate kilometers. The knowledge of more common and widespread species (the data on phenology, ecological preferences and

distribution) is often insufficient and/or out-to-date. In addition, several species can become new inhabitants in Kaliningrad Region due to widening of their distribution areas in last years. The findings and registration of the probably last refuges of rare species, first localities of alien or invasive species, as well as additional ecological information about poorly known species is useful and important for different biological goals. The use of obtained data on rare species for protection of biodiversity is especially important in the XXI century.

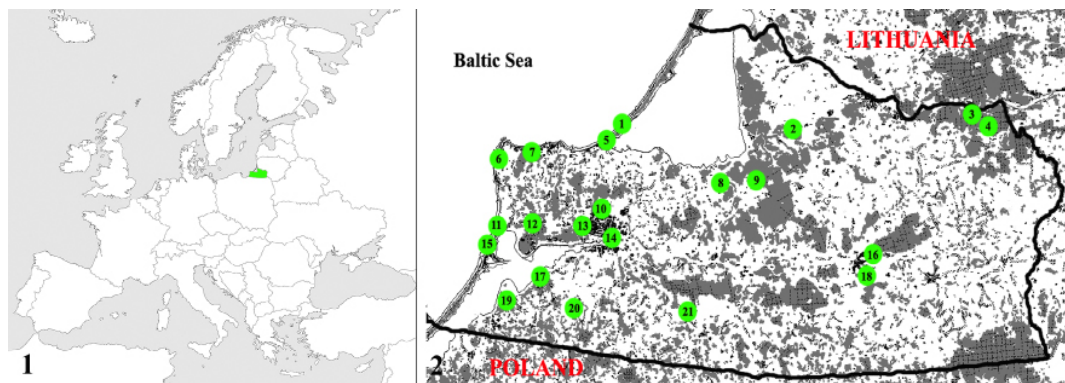
The catalogue of Coleoptera of Kaliningrad Region (the westernmost Russian exclave) in its present geographical borders is absent. The most comprehensive summary of the data concerning the beetles of the region that has appeared so far is “Verzeichnis der Käfer Preußens”, published in the second half of the 20th century (Bercio & Folwaczny 1979). The materials collected before 1945 (i.e. minimum 76 years ago) were summarized in this catalogue. The fauna of several coleopteran groups of the present-day territory of Kaliningrad Region was reviewed in the XXI century: Curculionioidea (Alekseev 2005, 2016), Cerambycidae (Alekseev 2007, Tamutis & Alekseev 2020), Carabidae (Alekseev

2008a), Coccinellidae (Alekseev 2008b), Scolytinae (Mandelshtam 2008), water beetles (Alekseev 2010a), Anthicidae and Aderidae (Alekseev 2010b), Chrysomelidae *sensu lato* (Alekseev 2003, Alekseev & Bukejs 2014a), Scarabaeoidea (Alekseev 2018), Mycetophagidae and Tetratomidae (Alekseev & Bukejs 2019). Many additional faunal data were also published in others papers (e.g. Alekseev & Nikitsky 2008, Bukejs & Alekseev 2009, Alekseev & Bukejs 2010, 2011, 2014b, 2017, Balalaikins et al. 2011, Alekseev 2012, 2020, Alekseev et al. 2012, 2015, Alekseev & Shapoval 2019).

Collecting efforts during recent field trips carried out through Kaliningrad Region led to a better knowledge of the coleopteran fauna of the territory, to fill gaps in the distribution of poorly collected species, and to obtain certain new regional data. The goal of present communication is report about the most interesting and not yet published findings in the Region of the last years.

MATERIAL AND METHODS

The presented material was collected during



Figs 1–2. Maps: 1 – geographical location of Kaliningrad Region in Europe (green color); 2 – sampling localities in Kaliningrad Region: 1 – the Curonian Spit; 2 – Gastellovo environs; 3 – Dolzhanskoe environs; 4 – 3 km N Krasnoznamensk; 5 – Zelenogradsk environs; 6 – Siniavino einvirs; 7 – 1 km W Svetlogorsk, Otradnoe, Lesnoe; 8 – Zelenoe environs; 9 – Fevral’skoe environs; 10 – N Chkalovsk; 11 – Khmelevka and Tanketino environs; 12 – Kremnevo and Kostrovo environs; 13 – W suburb of Kaliningrad; 14 – Kaliningrad; 15 – Mechnikovo environs; 16 – E suburb of Chernyakhovsk and Timofeevka environs; 17 – Ladushkin and Ladygino environs; 18 – SW Cherniakhovsk environs; 19 – Znamenka-Novaja and Veseloe environs; 20 – Medovoe environs; 21 – Grushevka environs.

the period 2015–2021. Primarily, the localities spread in the western, southwestern and central parts of Kaliningrad Region were surveyed (Figs. 1-2). Beetles were collected manually, using entomological sweep net and pitfall traps. Sampling localities included different types of forests, parks, dry meadows, and the Baltic coastal area (the surf zone as well as the beach and bottom of the cliff). The examined material is deposited in the private collection of the first author (Kaliningrad, Russia) as well in the collection of the Kaliningrad Interregional Veterinary Laboratory (Kaliningrad, Russia) [marked with “KIVL”].

The specimens were identified using Freude et al. (1965–1989, 2004), Nikitsky (1993), Ryndevich (2004), Heijerman & Hellingman (2008), Fägerström et al. (2010), Nikitsky & Saitō (2014), Schütte & Stüben (2015), and Muona (2019).

The family-level classification used below follows Bouchard et al. (2011), genera and species are arranged alphabetically. The following information is given for each species: its scientific name and the author’s name; references to bibliographic sources where a species is indicated for the territory of Kaliningrad Region; information on locality, date and circumstances of sampling; comments on general species distribution, bionomy etc. The information on species was supplemented by 16 photographs in nature (Figs 3–18) of some reported beetles made by the first author in the 2021 in the Kaliningrad Region. The aedeagus of *Otiorrhynchus armadillo* is additionally showed together with the photograph of female specimen in nature (Fig. 17 left box).

RESULTS AND DISCUSSION

During the current study of the beetle fauna, a list of 55 poorly known, sporadically distributed and adventive species belonging to 22 families was compiled. The known fauna of Coleoptera of the Kaliningrad Region was supplemented with 26 species. These new species reports for the fauna are marked in the list with one asterisk (*).

Each listed species is provided with comments regarding possible reasons of its novelty in Kaliningrad Region.

Family Carabidae Latreille, 1802

1. *Calosoma (Campalita) auropunctatum* (Herbst, 1784)

Local references: Bercio & Folwaczny 1979 (as *Calosoma maderae* F. ssp. *auropunctatum* Hbst., reported from Loppöhnen [Rybnoe in Zelenogradsk district], Palmnicken [Yantarny in Zelenogradsk district], Neuhäuser [Mechnikov in Baltiysk district]); Alekseev 2008a (this species is now possibly extinct in Kaliningrad region).

Material: Zelenogradsk district, Khmelevka vicinity, 54.76°N, 19.96°E, 01.07.2020, 1 ex., surf zone of the Baltic Sea.

Comments: It is the first record in the territory of the present-day Kaliningrad Region. The distribution of the species in Eastern Baltic region and bionomy are summarized in Balalaikins et al. (2018).

2. *Stenolophus teutonius* (Schrank, 1781)

Local references: Bercio & Folwaczny 1979 (as *Acupalpus (Stenolophus) teutonius* Schrank, reported from Rauschen [Svetlogorsk]); Alekseev 2008 (listed without new data).

Material: Baltiysk district, Tanketino vicinity, 54.74°N, 19.95°E, 22.05.2021, 1 ex., sandy coast of the Baltic Sea (Fig. 3).

Comments: The species is confirmed for the local fauna. It rarely occurs in Kaliningrad Region, Lithuania (Tamutis et al. 2011) and Latvia (Telnov 2004) at northern periphery of main distributional area.

Family Dytiscidae Leach, 1815

*3. *Hydrovatus cuspidatus* (Kunze, 1818)

Local references: Not reported earlier.

Material: western suburb of Kaliningrad, 54.71°N, 20.40°E, 04.05.2020, 1 ex., in shallow water of artificial lake.

Comments: New species for Kaliningrad



Figs 3–10. The photographs of the living specimens in nature (Kaliningrad Region): 3 – *Stenolophus teutonius*; 4 – *Potamophilus acuminatus*; 5 – *Hylis olexai*; 6 – *Denticollis rubens*; 7 – *Melandrya barbata*; 8 – *Mycetophagus ater*; 9 – *Mordellaria aurofasciata*; 10 – *Boros schneideri*.



Figs 11–18. The photographs of the living specimens in nature (Kaliningrad Region): 11 – *Pilemostoma fastuosum*; 12 – *Palaeocallidium coriaceum*; 13 – *Rhagium sycophanta*; 14 – *Ropalopus macropus*; 15 – *Cleopus pulchellus*; 16 – *Lixus filiformis*; 17 – *Otiorrhynchus armadillo*, female (left box – aedeagus from collected specimen of 2020 year); 18 – *Rhopalapon longirostre*.

Region and Eastern Baltic region. The nearest known localities for this species are in northern Poland and Denmark (Tamutis et al. 2011). The species probably extends the distribution range northwards nowadays and occurs in Kaliningrad region at northern periphery of main distributional area. The new locality is the northernmost known in Russia (Prokin 2005).

Family Histeridae Gyllenhal, 1808

*4. *Platylomalus complanatus* (Panzer, 1797)

Local references: Bercio & Folwaczny 1979 (as *Paromalus complanatus* Panz., reported on the territory of the former East Prussia from present-day territory of Poland only).

Material: western suburb of Kaliningrad, 54.73°N, 20.41°E, 18.04.2020, 1 ex., under bark of dead *Populus tremulae*; Zelenogradsk district, 2 km N Kremnevo, 54.75°N, 20.15°E, 27.03.2021, 1 ex., under bark of dead lying *Populus tremulae*.

Comments: The species is widely distributed in the Eastern Baltic Region and known from all countries (Silfverberg 2010; Tamutis et al. 2011). This is the first formal report of the species from Kaliningrad region.

Family Hydrochidae Thomson, 1859

*5. *Hydrochus ignicollis* Motschulsky, 1860

Local references: Not reported earlier.

Material: Baltiisk district, Mechnikovo vicinity, 54.67°N, 19.91°E, 16.06.2021, 1 ex., sandy coast of the Baltic Sea.

Comments: *Hydrochus ignicollis* has been known as synonym of *Hydrochus elongatus* (Schaller, 1783) for a long time and this species was absent in the lists of beetles of Kaliningrad region (e.g. in Alekseev 2010a) or of the former East Prussia [Bercio & Folwaczny 1979]. This is the first formal report of the species from Kaliningrad region. The species is probably native species with unknown distribution in Kaliningrad region.

Family Elmidae Curtis, 1830

*6. *Potamophilus acuminatus* (Fabricius, 1792)

Local references: Not reported earlier.

Material: Cherniakhovsk district, 2 km S Timofeevka, 54.63°N, 21.90°E, 01.07.2021, 1 ex., riverbank of Angrapa (Fig. 4).

Comments: First report of the species for Kaliningrad region and Baltic countries fauna. It is known in northern Belarus (Alexandrovitch et al. 1996; Moroz 2018) and Poland (Buczyński et al. 2011). Known aspects of bionomy, distribution and proposal for including of *Potamophilus acuminatus* to the Red List of IUCN in VU category (vulnerable species) is discussed in Buczyński et al. (2011).

Family Trogossitidae Latreille, 1802

7. *Nemozoma elongatum* (Linnaeus, 1761)

Local references: Bercio & Folwaczny 1979; Alekseev & Bukejs 2014, 2017.

Material: Bagrationovsk district, 2 km SW Ladygino, 54.59°N, 20.19°E, 01.03.2021, 1 ex., under bark of spruce log in mixed forest.

Comments: This species is poorly known in Kaliningrad region, with few recent records.

Family Buprestidae Leach, 1815

8. *Agrilus subauratus* Gebler, 1833

Local references: Bercio & Folwaczny 1979 (reported from Ludwigsort [Ladushkin in Bagrationovsk district], Königsberg [Kaliningrad], Dammhof [Divnoe Lake in Gru'evsk district], Löwenhagen [Komsomol'sk in Gvardeysk district]).

Material: Slavsk district, 2 km E Gastellovo, 55.01°N, 21.52°E, 16.06.2015, 1 ex. [KIVL].

Comments: The species is poorly known; it is the first actual report for Kaliningrad region.

*9. *Agrilus suvorovi* Obenberger, 1935

Local references: Not reported earlier.

Material: Gvardeysk district, 4 km S Ozerki, 54.58°N, 20.87°E, 18.06.2019, 2 exx, on *Populus tremulae* log.

Comments: First report of the species in Kaliningrad region. It is known in Latvia (Telnov 2004) and Poland (Tamutis et al. 2011). The species is overlooked, earlier confused with related *A. viridis* (Linnaeus, 1758), and probably is native and widely distributed in the region species associated with *Populus tremulae*.

10. *Buprestis haemorrhoidalis* Herbst, 1780

Local references: Bercio & Folwaczny 1979 (reported from Königsberg [Kaliningrad]).

Material: Neman district, Dolzhanskoe environs, 55.04°N, 22.36°E, 14.06.2018, 2 exx [KIVL], on *Picea abies* log.

Comments: This species is poorly known; it is the first actual report for Kaliningrad region.

11. *Lamprodila decipiens* (Gebler, 1847)

Local references: Bercio & Folwaczny 1979; Alekseev 2020.

Material: Polesk district, Zelenoe environs, 54.83°N, 21.12°E, 28.08.2020, 1 ex. [KIVL].

Comments: This species is poorly known in Kaliningrad region, with few recent records.

Family Scarabaeidae Latreille, 1802

12. *Aphodius (Agoliinus) nemoralis* Erichson, 1848

Local references: Bercio & Folwaczny 1979 (reported from Insterburg [Cherniakhovsk] and Zehlaubbruch [the bog Tselau in Gvardeisk district]); Alekseev 2018 (listed without new data).

Material: Zelenogradsk district, Kremnevo environs, 54.73°N, 20.16°E, 13.04.2020, 3 exx, under excrements of *Capreolus capreolus*; 3 km NO Zelenogradsk, the Svine bog, 54.96°N, 20.52°E, 21.05.2020, 1 ex., under excrements of *Cervus*; Bagrationovsk district, Ladygino environs, 54.60°N, 20.21°E, 12.04.2021, 1 ex., under excrements of *Capreolus capreolus*.

Comments: Umbrophilous forest species with spring-active imago, encountered in the feces of cervids. This species is probably widely distributed and not rare in a particular season,

however it is the first actual report for Kaliningrad region.

Family Dermestidae Latreille, 1804

13. *Ctesias serra* (Fabricius, 1792)

Local references: Bercio & Folwaczny 1979 (reported from Loppöhnen [Rybnoe in Zelenogradsk district], Königsberg and Moosbude [Kaliningrad]).

Material: Baltiisk district, Tanketino vicinity, 54.72°N, 19.96°E, 25.02.2021, 2 exx (larvae), under bark of dead *Quercus robur*, between web material of spider nest.

Comments: This species is poorly known (probably because cryptic and short life of imago). It is the first actual report of the species for Kaliningrad region.

Family Nitidulidae Latreille, 1802

14. *Nitidula bipunctata* (Linnaeus, 1758)

Local references: Bercio & Folwaczny 1979 (reported from Kleinheide [Gur'evsk], Dammhof [Divnoe Lake in Gru'evsk district], Königsberg [Kaliningrad], Insterburg [Cherniakhovsk]).

Material: Baltiisk district, Khmelevka vicinity, 54.74°N, 19.95°E, 22.05.2021, 3 exx, on dead seal, sandy coast of the Baltic Sea.

Comments: This necrophagous species is probably reduced in population and distribution in last half a century because economic changes of livestock production. It is the first actual report of the species for Kaliningrad region.

Family Eucnemidae Eschscholtz, 1829

15. *Eucnemis capucinus* Ahrens, 1812

Local references: Lentz 1879; Bercio & Folwaczny 1979 (as *Eucnemis capucina* Ahr., reported from Königsberg and Friedrichsburg [Kaliningrad], Löwenhagen [Komsomol'sk in Gvardeysk district]).

Material: Pravdinsk district, Grushevka vicinity, 54.49°N, 20.94°E, 10.06.2015, 2 exx, roadside, on laying *Tilia*; Baltiisk district, Mechnikov

vicinity, 54.70°N, 19.93°E, 25.05–21.06.2016, 2 exx, ibidem 07.05–06.06.2018, 1 ex., pitfall traps in *Fageto-Quercetum* forest; 1 km E Cherniakhovsk, 54.64°N, 21.85°E, 05.06.2017, 1 ex., Angrappa river bank; Kaliningrad, 54.72°N, 20.53°E, 04.06.2021, 1 ex., hollow of old oak, park; Bagrationovsk district, Znamenka-Novaia vicinity, 54.51°N, 20.01°E, 16.06.2021, 1 ex., dried standing *Carpinus betulis*; Bagrationovsk district, Veseloe vicinity, 54.52°N, 19.98°E, 16.06.2021, 1 ex., roadside, hollow of old *Salix alba*; 1 km W Kaliningrad, 54.74°N, 20.41°E, 19.06.2021, 2 exx, on old *Quercus robur*; Bagrationovsk district, 4 km S Medovoe, 54.52°N, 20.34°E, 26.06.2021, 1 ex., on standing *Tilia*, margin of mixed forest.

Comments: A previously overlooked *Eucnemis zaitzevi* Mamaev, 1976 formerly known from Siberia and Russian Far East recently has been showed to occur in Eastern Europe (Estonia, Finland and Ukraine) (Muona 2019). In spite of this fact, *Eucnemis* specimens from Kaliningrad region (material collected in 2015–2021 years) were re-examined using new key (Muona 2019). The species *E. capucinus* is confirmed for the Kaliningrad region and comparatively often occurs in local fauna at eastern periphery of main distributional area.

*16. *Hylis cariniceps* (Reitter, 1902)

Local references: Not reported earlier.

Material: 1 km W Kaliningrad, 54.74°N, 20.41°E, 23.05–26.07.2020, 1 ex., pitfall trap near old *Quercus robur*.

Comments: This is the first report of the species from Kaliningrad region. The species is probably native species with unknown distribution in region.

*17. *Hylis olexai* (Palm, 1955)

Local references: Not reported earlier.

Material: Svetlogorsk district, Otradnoe vicinity, 54.95°N, 20.11°E, 14.07.2021, 4 exx, on log of *Alnus glutinosa* in ravine, the Baltic Sea cliff (Fig. 5).

Comments: This is the first report of the species from Kaliningrad region. The species is probably

native species in region.

18. *Hylis procerulus* (Mannerheim, 1823)

Local references: Bercio & Folwaczny 1979 (as *Hypocoelus procerulus* Mnnh., reported from Zehlaubruch [the bog Tselau in Gvardeisk district], the authors additionally noted, since the “species” is composed of the complex of four different species, the specimen from the region is named “*procerulus*” without sure morphological identification).

Material: 3 km N Kaliningrad, 54.79°N, 20.44°E, 19.06.2018, 1 ex., clearing in mixed forest.

Comments: The earlier supposed presence of the species is confirmed.

Family Elateridae Leach, 1815

19. *Denticollis rubens* Piller et Mitterpacher, 1783

Local references: Alekseev & Bukejs 2017.

Material: Svetlogorsk district, Lesnoe vicinity, 54.94°N, 20.07°E, 03.06.2021, 2 exx, deciduous forest, the Baltic Sea cliff (Fig. 6).

Comments: The species is poorly known in Kaliningrad region, with probable very restricted distribution in natural forested area of northern seaside of the Sambian peninsula.

Family Cryptophagidae Kirby, 1837

*20. *Caenoscelis fleischeri* Reitter, 1889

Local references: Not reported earlier.

Material: Kaliningrad, 54.70°N, 20.43°E, 31.03.2020, 1 ex., wood residues on wasteland.

Comments: This is the first report of the species from Kaliningrad region. The species is probably adventive species recently introduced in Kaliningrad region.

Family Oedemeridae Latreille, 1810

21. *Ischnomera cyanea* (Fabricius, 1792)

Local references: Alekseev 2020.

Material: Cherniakhovsk, 54.64°N, 21.85°E,

30.05.2021, 1 ex., Angrapa riverbank, on vegetation.

Comments: This species is poorly known in Kaliningrad region, with few recent records.

Family Mycetophagidae Leach, 1815

22. *Mycetophagus* (s. str.) *ater* (Reitter, 1879)

Local references: Alekseev and Bukejs [2017, 2019].

Material: Kaliningrad, 54.72°N, 20.53°E, 04.06.2021, 1 ex., old dead standing *Quercus robur* in park infested with bracket fungi (Fig. 8).

Comments: This species is sporadically distributed and poorly known in Kaliningrad region, with few recent records.

23. *Mycetophagus* (*Ilendus*) *multipunctatus* Fabricius, 1792

Local references: Lentz 1879; Bercio & Folwaczny 1979; Alekseev & Bukejs 2019.

Material: Baltiisk district, Tanketino vicinity, 54.72°N, 19.96°E, 25.02.2021, 2 exx, in dried *Laetiporus sulphureus* on old dead standing *Quercus robur*.

Comments: This species is sporadically distributed and poorly known in Kaliningrad region, with few recent records.

Family Melandryidae Leach, 1815

*24. *Abdera* (*Caridua*) *affinis* (Paykull, 1799)

Local references: Lentz 1879; Bercio & Folwaczny 1979 (reported on the territory of the former East Prussia from present-day territory of Poland only).

Material: 1 km W Kaliningrad, 54.74°N, 20.41°E, 03.05.2020, 3 exx, bracket fungi (*Inonotus* sp.) on dead *Alnus glutinosa*.

Comments: This is the first formal report of the species from Kaliningrad region. The species is rare but widely distributed in the Eastern Baltic Region and Europe (Tamutis et al. 2019).

*25. *Melandrya barbata* (Fabricius, 1792)

Local references: Lentz 1879 (as *Melandrya*

flavicornis Dft., “seldom” without localities); Bercio & Folwaczny 1979 (mentioned for the territory of the former East Prussia from present-day territory of Poland).

Material: 1 km SW Cherniakhovsk, 54.60°N, 21.86°E, 31.05.2021, 1 ex., in flying, forest edge (Fig. 7).

Comments: This is the first report of the species from Kaliningrad region and Eastern Baltic Region. Rare and very locally distributed species in European Russia, candidate for the Red Book of Russia (Egorov & Ruchin 2020).

26. *Xylita laevigata* (Hellenius, 1786)

Local references: Bercio & Folwaczny 1979 (reported from Medenauer Wald [Logvino vicinity in Zelenogradsk district], Caporner Heide [forest W of Kaliningrad], Wilkie, Vierbrüderkrug [Kaliningrad environs], Wehlau [Znamensk in Gvardeisk district]).

Material: Zelenogradsk district, Kremnevo environs, 54.73°N, 20.15°E, 24.03.2020, 3 exx, under bark of dead standing *Pinus sylvestris*; ibidem, 20.05-09.06.2020, 1 ex., window trap in mixed forest.

Comments: This species is sporadically distributed and poorly known in Kaliningrad region.

*27. *Zilora elongata* Sahlberg, 1881

Local references: Not reported earlier.

Material: Zelenogradsk district, Kremnevo environs, 54.73°N, 20.15°E, 24.03.2020, 1 ex., under bark of dead standing *Pinus sylvestris* infected by *Trichaptum abietinum*.

Comments: This is the first report of the species from Kaliningrad region. The species is probably native species with unknown distribution in region.

*28. *Zilora obscura* (Fabricius, 1794)

Local references: Bercio & Folwaczny 1979 (listed as *Zilora sericea* Strm. from present-day territory of Poland with remark “*ferruginea* in the Seidlitz’s catalogue”).

Material: 3 km NE Zelenogradsk, 54.97°N,

20.52°E, 21.05.2020, 1 ex., on dead laying *Pinus sylvestris*, sphagnous bog.

Comments: This is the first formal report of the species from Kaliningrad region. The species is rare but comparatively wide-distributed in the Baltic Region (Tamutis et al. 2019). According to Nikitsky & Saitô (2014), *Z. ferruginea* (Paykull, 1798) and *Z. obscura* (Fabricius, 1794) (= *Z. sericea*) are two separate European species, which can presumably inhabit Kaliningrad region. Recent paper on Lithuanian melandryid beetles (Tamutis et al. 2019) showed that characters previously given for identifications of these species are variable and taxonomic status of the species is unclear.

Family Mordellidae Latreille, 1802

*29. *Mordellaria aurofasciata* (Comolli, 1837)

Local references: Not reported earlier.

Material: Cherniakhovsk, 54.65°N, 21.84°E, 29.05.2021, 1 ex., on old willow, Angrapa riverbank (Fig. 9).

Comments: This is the first report of the species from Kaliningrad region and Eastern Baltic Region. Rare and locally distributed species in European Russia (Zemoglyadchuk et al. 2020); the nearest localities are known in Poland (Kubisz et al. 2015; Plewa et al. 2021).

Family Boridae Thomson, 1859

*30. *Boros schneideri* (Panzer, 1795)

Local references: Bercio & Folwaczny 1979 (reported on the territory of the former East Prussia from present-day territory of Poland).

Material: Polessk district, 3 km S Fevral'skoe, 54.80°N, 21.32°E, 22.03.2021, 4 exx, under bark of dead standing medium-sized pines in edge of coniferous forest (Fig. 10).

Comments: This is the first report of the species from Kaliningrad region. It is rare and locally distributed in Eastern Baltic region and Poland (Gutowski et al. 2014; Ozols et al. 2020), and could be candidate for the next issue of the Red Book of Kaliningrad Region. The species connected with the southern taiga forest type and associated with standing dead pines.

Family Chrysomelidae Latreille, 1802

31. *Chrysomela lapponica* Linnaeus, 1758

Local references: Bercio & Folwaczny 1979; Alekseev & Bukejs 2014; Alekseev et al. 2015.

Material: Polessk district, 3 km S Fevral'skoe, 54.80°N, 21.32°E, 14.06.2021, 3 exx, on *Salix* sp., roadside in coniferous forest.

Comments: This species is sporadically distributed and poorly known in Kaliningrad region. All specimens (observed and collected) belong to *Ch. lapponica* ab. *bulgharensis* Fabricius, 1798 (entirely metallic color).

*32. *Oomorplus concolor* (Sturm, 1807)

Local references: Not reported earlier.

Material: Svetlogorsk district, Lesnoe environs, 54.95°N, 20.07°E, 26.05.2020, 1 ex.; ibidem, 02.10.2020, 1 ex.; ibidem, 24.05.2021, 2 exx, on *Aegopodium podagraria*; ibidem observed 14.07.2021.

Comments: This is the first report of the species from Kaliningrad region and the second in European Russia outside the North Caucasus (Egorov 2020). Very locally distributed species (not rare during the warm season in several quadrat kilometers of single known locality only); probably overlooked earlier native species of humid, non-transformed, broad-leaved forest.

*33. *Pilemostoma fastuosum* (Schaller, 1783)

Local references: Bercio & Folwaczny 1979 (reported on the territory of the former East Prussia from present-day territory of Poland (Heubude, i.e. Gdańsk part); Alekseev & Bukejs 2014 (as expected species for Kaliningrad region). **Material:** 1 km SW Cherniakhovsk, 54.60°N, 21.86°E, 31.05.2021, 1 ex., shore of a pond, forest edge (Fig. 11).

Comments: This is the first report of the species from the territory of Kaliningrad region. The species occurs in Kaliningrad region at northern periphery of main distributional area.

Family Cerambycidae Latreille, 1802

***34. *Agapanthia (Smaragdula) intermedia* Ganglbauer, 1884**

Local references: Not reported earlier.

Material: 1 km W Cherniakhovsk, 54.64°N, 21.85°E, 10.06.2020, 1 ex., sweeping, dry meadow near Angrapa riverbank.

Comments: This is the first report of the species from the Kaliningrad region. Few years ago, it was recorded in Lithuania (Ivinskis et al. 2015). The species is absent in the list of the beetles of the former East Prussia (Bercio & Folwaczny 1979) and apparently was absent in the local fauna before the XXI century. The species probably extends the distribution range northwards nowadays and occurs in the intrazonal xeric habitats in eastern Kaliningrad region and in southern Lithuania at northern periphery of main distributional area.

35. *Cortodera femorata* (Fabricius, 1787)

Local references: Bercio & Folwaczny 1979; Tamutis & Alekseev 2020.

Material: Zelenogradsk district, Kremnevo environs, 54.73°N, 20.16°E, 20.06.2021, 3 exx, on standing dead *Picea abies*, on dead *Pinus sylvestris* and on vegetation in mixed forest.

Comments: The species is poorly known in Kaliningrad region, with few actual records.

36. *Oplosia cinerea* (Mulsant, 1839)

= *fennica* (Paykull, 1800) nec (Linnaeus, 1758)

Local references: Bercio & Folwaczny 1979 (as *Oplosia fennica* Payk., reported from Rauschen [Svetlogorsk], Warnicken [Lesnoe in Svetlogorsk district], Friedrichstein [Kamenka in Gur'evsk district], Forst Fritzen [forest northwards Kaliningrad], Arnau [Rodniki in Gur'evsk district], Löwenhagen [Komsomol'sk in Gvardejsk district], Insterburg [Cherniakhovsk]); Alekseev 2007 ("not found in research time").

Material: 1 km W Cherniakhovsk, 54.64°N, 21.85°E, 30.05.2021, 2 exx, sweeping under linden, Angrapa riverbank; 1 km SW Cherniakhovsk, 54.60°N, 21.86°E, 31.05.2021,

1 ex., forest edge.

Comments: The species is poorly known in Kaliningrad region, with few actual records.

37. *Palaeocallidium coriaceum* (Paykull, 1800)

Local references: Bercio & Folwaczny 1979; Alekseev & Bukejs 2017.

Material: Zelenogradsk district, Kremnevo environs, 54.73°N, 20.16°E, 20.06.2021, 2 exx, on standing living *Picea abies* in mixed forest (Fig. 12).

Comments: The species is poorly known in Kaliningrad region, with few actual records.

38. *Rhagium sycophanta* (Schranck, 1781)

Local references: Bercio & Folwaczny 1979; Tamutis & Alekseev 2020 (listed without new data).

Material: Baltiisk district, Mechnikovo environs, 54.69°N, 19.92°E, 02.06.2021, 1 ex., on old oak, *Fageto-Quercetum* forest; Bagrationovsk district, Medovoe environs, 54.53°N, 20.36°E, 26.06.2021, 1 ex., on old oak, roadside (Fig. 13).

Comments: It is the first actual records of this species from the territory of the present-day Kaliningrad Region since more than 75 years. The species is associated with standing dead old oaks and is probable candidate for the next issue of the Red Book of Kaliningrad Region.

39. *Ropalopus macropus* (Germar, 1824)

Local references: Alekseev et al. 2015.

Material: 1 km W Kaliningrad, 54.74°N, 20.41°E, 09.06.2021, 1 ex., under old *Quercus robur* (Fig. 14).

Comments: The species is poorly known in Kaliningrad region, with few actual records from Kaliningrad city.

Family Curculionidae Latreille, 1802

***40. *Acalles echinatus* (Germar, 1824)**

Local references: Not reported earlier; mentioned only as potential species for Kaliningrad region (Alekseev 2016).

Material: Baltiisk district, Mechnikovo vicinity, 54.67°N, 19.91°E, 09.04-07.05.2018, 1 ex., pitfall trapping in *Fageto-Quercetum* forest; ibidem, 08.07-04.08.2018, 1 ex.; ibidem, 02.06.2021, 1 ex., on old *Fagus sylvatica*.

Comments: This is the first report of the species from Kaliningrad region. It is probably native cryptic species with unknown distribution in Kaliningrad region.

***41. *Anthonomus pedicularius* (Linnaeus, 1758)**

Local references: Not reported earlier; mentioned only as potential species for Kaliningrad region (Alekseev 2016).

Material: Bagrationovsk district, 1 km SW Medovoe, 54.53°N, 20.36°E, 19.04.2021, 1 ex., flying.

Comments: This is the first report of the species from Kaliningrad region. It is probably native species with unknown distribution in Kaliningrad region.

***42. *Anthonomus ulmi* (DeGeer, 1775)**

Local references: Not reported earlier; mentioned only as potential species for Kaliningrad region (Alekseev 2016).

Material: 3 km NE Cherniakhovsk, 54.67°N, 21.85°E, 10.06.2020, 1 ex., on *Ulmus* sp. leaves, mixed forest margin.

Comments: This is the first report of the species from Kaliningrad region. It is probably native species with unknown distribution in Kaliningrad region.

43. *Cleopus pulchellus* (Herbst, 1795)

Local references: Lentz 1879; Bercio & Folwaczny 1979; Alekseev 2016 (listed without new data).

Material: Zelenogradsk district, the Curonian Spit, 54.98°N, 20.56°E, 11.07.2021, 3 exx, on *Scrophularia nodosa* at the Curonian Gulf shore (Fig. 15) together with *Cionus scrophulariae* (Linnaeus, 1758).

Comments: The species is sporadically

distributed and poorly known in Kaliningrad region.

***44. *Lixus (Epimeces) filiformis* (Fabricius, 1781)**

Local references: Not reported earlier.

Material: Zelenogradsk district, Kostrovo environs, 54.74°N, 20.10°E, 27.06.2021, 4 exx, roadside on meadow, on *Cirsium crispus* (Fig. 16).

Comments: This is the first report of the species from Kaliningrad region and Eastern Baltic region.

***45. *Lixus (Eulixus) myagri* Olivier, 1807**

Local references: Not reported earlier.

Material: Gur'evsk district, 2 km N Chkalovsk, 54.79°N, 20.44°E, 08.04.2020, 1 ex., forest edge; Zelenogradsk district, Siniavino environs, 54.89°N, 19.93°E, 24.06.2020, 1 ex., surf zone, the Baltic seacoast.

Comments: This is the first report of the species from Kaliningrad region and Eastern Baltic region. It is possible adventive species in Kaliningrad region.

46. *Magdalis exarata* (Brisout de Barneville, 1862)

Local references: Alekseev et al. 2015; Alekseev 2016.

Material: 1 km SW Cherniakhovsk, 54.60°N, 21.86°E, 31.05.2021, 1 ex., on *Quercus robur*, forest edge.

Comments: The species is poorly known in Kaliningrad region, with few actual records.

47. *Magdalis memnonia* (Gyllenhal, 1837)

Local references: Bercio & Folwaczny 1979; Alekseev 2016 (listed without new data).

Material: 3 km N Krasnoznamensk, 54.98°N, 22.46°E, 01.08.2019, 1 ex. [KIVL], on *Pinus sylvestris*, road in mixed forest.

Comments: The species is poorly known in Kaliningrad region, with few actual records.

***48. *Otiorrhynchus armadillo* (Rossi, 1792)**

Local references: Not reported earlier.

Material: Kaliningrad, 54.71°N, 20.43°E, 26.08.2020, 1 ex., sweeping on bushes along roadside in evening; ibidem, 29.08.2020, 2 exx (aedeagus – Fig. 17, left box); Kaliningrad, 54.71°N, 20.45°E, 31.08.2020, 1 ex., on lilac; Kaliningrad, 54.71°N, 20.44°E, 11.07.2021, 1 ex., on ground (Fig. 17).

Comments: This is the first report of the species from Kaliningrad region and the first in European Russia outside the North Caucasus, where the species is known from vicinity of Sochi in Krasnodar Region (Bieńkowski 2019). This adventive species recently introduced in Kaliningrad region and actually known from western part of Kaliningrad city only. *O. armadillo* started to occupy northern Europe in the end of XX century: it was recorded from Sweden in 1995 (Borisch 1997; Fägerström et al. 2010), from Great Britain in 1998 (Barclay 2003), from Poland in 2005 (Mazur & Mokrzycki 2011; Konopko et al. 2017; Jarosiewicz & Nejfeld 2020), from Netherlands in 2008 (Heijerman & Hellingman 2008), and from Norway and Lithuania in 2010 (Staverløkk 2010; Ivinskis et al. 2013).

***49. *Phloeophagus thomsoni* (Grill, 1896)**

Local references: Not reported earlier; mentioned only as potential species for Kaliningrad region (Alekseev 2016).

Material: Bagrationovsk district, 3 km SW Medovoe, 54.52°N, 20.35°E, 11.07.2019, 1 ex., logs on forest edge; Baltiisk district, Mechnikovo vicinity, 54.67°N, 19.91°E, 02.06.2021, 1 ex., old standing *Acer pseudoplatanus*, forest on the Baltic seacoast.

Comments: This is the first report of the species from Kaliningrad region. It is probably native species with unknown distribution in region.

50. *Pityokteines curvidens* (Germar, 1824)

Local references: Lentz 1879; Bercio & Folwaczny 1979; Alekseev 2005, 2016; Mandelshtam 2008.

Material: Kaliningrad, 54.72°N, 20.49°E, 05.07.2016, 3 exx, under bark of *Pinus sylvestris* logs.

Comments: The species is poorly known in Kaliningrad region, with few actual records.

***51. *Rhyncolus sculpturatus* Walth, 1839**

Local references: Bercio & Folwaczny 1979 (reported on the territory of the former East Prussia from present-day territory of Poland only); Alekseev 2016 (mentioned only as potential species for Kaliningrad region).

Material: W suburb of Kaliningrad, 54.71°N, 20.37°E, 28.02.2021, 1 ex., under bark of old dead standing *Pinus sylvestris*, mixed forest.

Comments: This is the first report of the species from Kaliningrad region. It is probably native species with unknown distribution in region.

52. *Scolytus carpini* (Ratzeburg, 1837)

Local references: Lentz 1879; Bercio & Folwaczny 1979; Alekseev 2005, 2016 (listed without new data); Mandelshtam 2008 (Zelenogradsk).

Material: Kaliningrad suburb, 54.73°N, 20.38°E, 19.06.2021, 1 ex., on old *Carpinus betulus*, roadside.

Comments: The species is poorly known in Kaliningrad region, with few actual records. The beetle associated with *Carpinus* on road alleys and parks.

Family Brentidae Billberg, 1820

53. *Aspidapion aeneum* (Fabricius, 1775)

Local references: Lentz 1879; Bercio & Folwaczny 1979; Alekseev 2016.

Material: Medovoe environs, 54.53°N, 20.36°E, 26.06.2021, 2 exx, on stems and buds of *Alcea rosea*, roadside, together with *Rhopalapion longirostre* (Oliver, 1807)

Comments: It is probably adventive species naturalized in region before 1945 and with unknown present-day distribution in Kaliningrad region.

54. *Protapion ononidis* (Gyllenhal, 1827)

Local references: Bercio & Folwaczny 1979; Alekseev 2016.

Material: Chrniakhovsk, 54.64°N, 21.84°E, 01.07.2021, 2 exx, on *Ononis arvensis*, roadside on meadow near Angrapa river.

Comments: The species is sporadically distributed and poorly known in Kaliningrad region.

***55. *Rhopalapion longirostre* (Olivier, 1807)**

Local references: Not reported earlier.

Material: Kaliningrad, 24.06.2021, 54.71°N, 20.44°E, 3 exx, (Fig. 18), abundant on stems and buds of *Alcea rosea* in small private garden, together with numerous *Aspidapion validum* (Germar, 1817); Medovoe environs, 54.53°N, 20.36°E, 26.06.2021, 2 exx, on stems and buds of *Alcea rosea*, roadside, together with *Aspidapion aeneum* (Fabricius, 1775).

Comments: This is the first report of the species from Kaliningrad Region. It is adventive species, monophagous on *Alcea rosea*, recently introduced in Kaliningrad Region and actually known as established in western parts of region (human settlements) only.

In total, 26 beetle species, *Hydrovatus cuspidatus*, *Platylomalus complanatus*, *Hydrochus ignicollis*, *Potamophilus acuminatus*, *Agrilus suvorovi*, *Hylis olexai*, *H. cariniceps*, *Caenoscelis fleischeri*, *Abdera affinis*, *Zilora obscura*, *Z. elongata*, *Melandrya barbata*, *Mordellaria aurofasciata*, *Boros schneideri*, *Oomorplus concolor*, *Pilemostoma fastuosum*, *Agapanthia intermedia*, *Otiorrhynchus armadillo*, *Anthonomus ulmi*, *A. pedicularius*, *Lixus myagri*, *L. filiformis*, *Acalles echinatus*, *Phloeophagus thomsoni*, *Rhyncolus sculpturatus*, and *Rhopalapion longirostre*, are reported from Kaliningrad Region for the first time. Among regionally confirmed species, the most interesting actual findings are *Calosoma auropunctatum*, *Denticollis rubens* and *Rhagium sycophanta*. The newly reported locality of *Hydrovatus cuspidatus* is the northernmost known one in Russia; the

new records of *Potamophilus acuminatus*, *Melandrya barbata*, *Mordellaria aurofasciata*, *Oomorplus concolor*, *Otiorrhynchus armadillo* and *Rhopalapion longirostre* from Kaliningrad Region are important for understanding of distribution of these species in Russia; such species as *Lixus myagri* and *L. filiformis* are mentioned for Eastern Baltic Region for the first time; *Agapanthia intermedia* is recorded at the northern periphery of its distribution range.

All new findings can be conditionally grouped into three categories in accordance to human activity: (1) favored by human activity beetles (invaders and inhabitants of landscapes strongly transformed by human), (2) depressed by humans (rare and endangered species of natural habitats with restricted distribution), and (3) neutral to human activities (but often with cryptic and short living adult stage). The basis for such grouping in respect to each species is sometimes ambiguous or controversial. New synanthropic beetles in Kaliningrad Region (first group) could be listed as following: *Caenoscelis fleischeri*, *Otiorrhynchus armadillo*, *Lixus myagri*, and *Rhopalapion longirostre*. Typical species of natural and weakly influenced habitats should be following: *Potamophilus acuminatus*, *Hylis* spp., *Abdera affinis*, *Zilora* spp., *Melandrya barbata*, *Boros schneideri*, *Oomorplus concolor*, *Pilemostoma fastuosum*, and *Acalles echinatus*. The following species might be not too sensitive to current human activity in Kaliningrad Region: *Hydrovatus cuspidatus*, *Platylomalus complanatus*, *Hydrochus ignicollis*, *Agrilus suvorovi*, *Mordellaria aurofasciata*, *Agapanthia intermedia*, *Anthonomus ulmi*, *A. pedicularius*, *Lixus filiformis*, *Phloeophagus thomsoni*, and *Rhyncolus sculpturatus*.

List of Central European primeval forest relict species of saproxylic beetles (Eckelt et al. 2018) includes three reported in the paper species: *Platylomalus complanatus*, *Mycetophagus ater*, and *Boros schneideri*. Several beetles reported here are mentioned in the current IUCN European Red List of saproxylic beetles (Cálix et al. 2018): *Boros schneideri* as “vulnerable” species, *Mycetophagus ater* as “data deficient”

species, and nine species (*Eucnemis capucinus*, *Hylis* spp., *Denticollis rubens*, *Mycetophagus multipunctatus*, *Palaeocallidium coriaceum*, *Rhagium sycophanta*, *Ropalopus macropus*) as “least concern”.

ACKNOWLEDGEMENTS

The first author thanks Viktor V. Alekseev, Anastasia V. Alekseeva (Kaliningrad), and Irina I. Alekseeva (Cherniakhovsk) for accompanying him in field samplings and for enthusiastic providing with all detected small beetles. We thank Dr. Stephan Gottwald (Berlin, Germany) for his attention and identification of *Agrilus suvorovi*. We are very thankful to two anonymous referees for their helpful comments on an earlier version of the manuscript.

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Received: 20.04.2021.

Accepted: 15.07.2021.

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