

An Annotated Checklist of the Tumbling Flower Beetles (Coleoptera, Mordellidae) of the Republic of Mordovia, with a Short Review of the Family in European Russia

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Abstract—Thirty species of Mordellidae were found in 2011–2018 in the Republic of Mordovia. Of them, *Mordellistena hirtipes* Schilsky, 1895, *M. michalki* Ermisch, 1956, *M. rugipennis* Schilsky, 1895, and *Stenalia ascaniaenovae* Lazorko, 1974 are recorded from Russia for the first time, and 21 species are new to the Republic of Mordovia. A preliminary checklist of Mordellidae of European Russia is compiled, comprising 73 species.

Keywords: Coleoptera, Mordellidae, biology, distribution, faunistics, Republic of Mordovia, European Russia

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The family of tumbling flower beetles (Mordellidae) has a worldwide distribution and comprises 2308 species in 115 genera (Liu et al., 2018), with new taxa still being described (Ruzzier, 2018a, 2018b). These are diurnal, actively flying beetles, most of which are palynivorous and some are mycetophagous (Takakuwa, 1992; Nikitsky et al., 1996; Tsuru, 2004; Odnosum, 2010; Zemoglyadchuk and Buyalskaya, 2017; Campbell et al., 2018). The larvae of most species are poorly studied but they are known to be predominantly xylomycetophagous and phytosaprophagous (Odnosum, 1991, 2010; Ford and Jackman, 1996; Krasutsky, 1997; Lisberg and Young, 2003; Hanks, 2004; Lu, 2006; Hansen and Sagvolden, 2007; Tooker and Kubisz et al., 2010; Zemoglyadchuk, 2013; Ding et al., 2014; Tsurikov, 2016).

In Russia the tumbling flower beetles are insufficiently studied, though data on Mordellidae have been published since 1871 in regional lists of beetle faunas. This paper will hopefully serve as a starting point for further research of Mordellidae in Russia.

The Republic of Mordovia is located in the center of the Russian Plain between 42°11' and 46°45'E and between 53°38' and 55°11'N, within the interfluvial area of the rivers Moksha and Sura. Its territory lies at the boundary of the forest and forest-steppe zones of Middle Russia. The eastern part of Mordovia lies in the northwest of the Volga Upland, and its western part, within the Oka–Don Lowlands. Correspondingly, boreal coniferous and mixed forests occur in the west, northwest, and north of the republic, broad-leaved forests are preserved in the central and eastern parts, while forest-steppe landscapes prevail in the east and southeast of Mordovia (Yamashkin, 1998).

The material was collected in 2011–2018 using the common methods of field entomological research (Fasulati, 1971). Altogether, over 700 specimens were collected and studied.

Below, we present the annotated checklist of Mordellidae containing all the known records of each species

from the territory of Mordovia; the specimens for which no collector's name is indicated were collected by A.B. Ruchin. The biological data, descriptions of the habitats, and some observations in nature are also included. In the absence of original data on the biology of certain species, we used the previously published data and also the observations made earlier in Belarus by the first author. The previously known ranges and the new data on the species' distribution are given in the *Remarks* section. The species recorded herein as new to the Republic of Mordovia are marked with asterisks (*), and those new to the fauna of Russia, with exclamation signs (!).

The nomenclature of tumbling flower beetles follows the *Catalogue of Palaearctic Coleoptera* (Horák, 2008) with the subsequent taxonomic changes (Zemoglyadchuk, 2012). The species were identified using the keys of Ermisch (1977), Batten (1977), Kaszab (1979), and Odnosum (2010). The zoogeographic and faunal species complexes of Mordellidae correspond to those described by Odnosum (2010).

ANNOTATED CHECKLIST OF MORDELLIDAE OF THE REPUBLIC OF MORDOVIA

Family *Mordellidae* Latreille, 1802

* *Curtimorda maculosa* (Naezen, 1794)

Material. Temnikovskii District: Mordovia Nature Reserve, plot 34, 8–28.VI.2018, 1 spm., Semishin G.B., Egorov L.V.

Biology. A mesophilous species (Odnosum, 2010) developing in basidial fungi (Nikitsky et al., 1996; Kratsutsky, 1997), in particular in “bracket fungi on pine stumps” (Barovsky, 1922). We found the species in a lime forest with birch and fallen spruce trees.

Hoshihananomia perlata (Sulzer, 1776)

Material. Temnikovskii District: Mordovia Nature Reserve, Pavlovskii area, plot 420, 17.VI.2013, 1 spm., Egorov L.V.

Biology. The species occurs in mature pine forests with spruce, birch, and aspen (Egorov and Ruchin, 2014). Its larvae develop in the wood of deciduous trees: *Fagus*, *Quercus*, *Betula*, and *Salix* (Odnosum, 1984; Burakowski et al., 1987).

Mordella aculeata Linnaeus, 1758

Material. Temnikovskii District: env. of Veselyi, 6.VI.2015, 4 ♂, 3 ♀; env. of Purdoshki, 31.V.2014, 1 ♀. Temnikovskii District: Mordovia Nature Reserve, plot 283, 3.VII.2016, 3 ♂, 2 ♀, plot 429, 15.VI.2016, 1 ♂, plot 358, 18.VII.2016, 1 ♀, plot 406, 1.VII.2016, 1 ♀, plot 372, 13.VIII.2015, 1 ♀, Podrubnyi area, 12.VI.2013, 1 ♂, plot 342, 20.VI.2015, 1 ♂, plot 384, 17.VI.2014, 27.VII.2014, 2 ♂, plot 431, 23.VI.2013, 1 ♂, 1 ♀. Tengushevskii District: env. of Khlebino, 2.VIII.2014, 1 ♀; env. of Dachnyi, 7.VI.2014, 1 ♂; env. of Barashevo, 30.VI.2013, 18.VII.2015, 2 ♂; 6 km W of Barashevo, 7.VI.2014, 3 ♂. Atyurievskii District: env. of Mordovskaya Kozlovka, 8.VI.2013, 1 ♀. Zubovo-Polyanskii District: env. of Tenishevo, 2.VIII.2015, 1 ♀.

Biology. The species occurs in deciduous, mixed, and pine forests, at forest edges, in glades, and in meadows. The larvae develop in the dead wood of deciduous trees (Nikitsky et al., 1996). The most intense flight is observed in Mordovia from June to August. Adults predominantly feed on the pollen of umbellifers.

* *Mordella brachyura* Mulsant, 1856

Material. Atyurievskii District: env. of Mordovskaya Kozlovka, 10.VIII.2014, 1 ♂; env. of Russkaya Velyazma, 2.VII.2016, 12 ♂, 4 ♀; env. of Stepanovka, 24.V.2014, 1 ♀. Staroshaigovskii District: env. of Govorovo, 10.VII.2016, 1 ♂; env. of Konopat, 9.VII.2016, 1 ♂. Lyambirskii District: env. of Belogorskoe, 29.VII.2016, 1 ♂. Krasnoslobodskii District: env. of Selishchi, 19.VII.2014, 2 ♂, 2 ♀. Temnikovskii District: env. of Tarkhany, 22.VI.2013, 7.VII.2013, 4 ♂, 3 ♀; env. of Lavrentievo, 6.VII.2013, 1 ♀; env. of Babevo, 8.VI.2013, 6 ♀; env. of Purdoshki, 31.V.2014, 1 ♂. Tengushevskii District: env. of Khlebino, 2.VIII.2014, 1 ♀. Tengushevskii District: env. of Barashevo, 30.VI.2013, 18.VII.2015, 1 ♀, 1 ♂; 6 km W of Barashevo, 7.VI.2014, 5 ♂, 3 ♀; env. of Dachnyi, 7.VI.2014, 1 ♀. Zubovo-Polyanskii District: env. of Tenishevo, 2.VIII.2015, 1 ♀. Ruzaevskii District: env. of Levzhenskii, 13.VI.2015, 28.VII.2016, 2 ♂, 2 ♀; env. of Palaevka, 26.VI.2016, 3 ♂, 2 ♀; env. of Boldovo, 4.VI.2016, 5 ♀. Bolshebereznikovskii District: 6 km SE of Permisi, 12.VI.2015, 1 ♂; env. of Nerlei, 5.VI.2016, 1 ♂, 1 ♀. Elnikovskii District: env. of Novye Shaly, 19.VII.2015, 1 ♂, 2 ♀; env. of Malye Mordovskie Poshaty, 31.V.2014, 1 ♀. Temnikovskii District: Mordovia Nature Reserve, Podrubnyi area, 12.VI.

2013, 25.V.2014, 19.VII.2016, 2 ♂, 4 ♀, plot 434, 5.VI.2015, 13.VII.2015, 7 ♂, 2 ♀, plot 421, 8.VI.2014, 13.VI.2016, 2 ♂, 3 ♀, Inorskii area, 8.VII.2012, 9.VI.2013, 15.VIII.2014, 5 ♂, 8 ♀, Polyanskii area, 17.VIII.2014, 1 ♀, Novenkovskii area, 13.VII.2014, 1 ♂, plot 403, 5.VII.2015, 1 ♂, 1 ♀, plot 368, 21.VII.2013, 2 ♂, 1 ♀, plot 301, 20.VII.2014, 11.VII.2015, 2 ♀, Pushta, 9.VI.2012, 1 ♀, Steklyanni area, 12.VII.2014, 1 ♀, plot 384, 27.VII.2014, 21.VI.2015, 1 ♂, 2 ♀, plot 429, 15.VI.2016, 3.VII.2016, 3 ♂, 1 ♀, plot 329, 1.VII.2016, 1 ♂, plot 430, 12.VI.2016, 3 ♀, plot 345, 20.VI.2015, 2 ♂, 1 ♀, plot 274, 13.VIII.2015, 1 ♀, plot 408, 15.VI.2014, 1 ♂, plot 331, 9.VI.2016, 1 ♂, Taratinskii area, 15.VIII.2014, 1 ♂, 1 ♀, plot 342, 31.V.2015, 2 ♀, plot 422, 13.VI.2016, 1 ♀, plot 431, 7.VII.2014, 1 ♂, plot 82, 28.VII.2015, 1 ♂, 2 ♀, plot 115, 18.VI.2016, 1 ♂, 1 ♀, plot 276, 20.VII.2014, 1 ♀.

Biology. The species occurs in a wide range of biotopes: on stepped slopes with calcareous rock outcrops, in deciduous and mixed forests (in glades, cuttings, on roadsides and at forest edges), in small isolated meadows, steppified and floodplain meadows. The larvae probably develop in the dead wood of deciduous trees. The most intense flight is observed in June–August. Adults feed on the pollen of umbellifers.

* *Mordella holomelaena* Apfelbeck, 1914

Material. Temnikovskii District: env. of Veselyi, 6.VI.2015, 2 ♂; env. of Lavrentievo, 6.VII.2013, 1 ♂; env. of Nizhnie Borki, 30.V.2015, 1 ♀. Temnikovskii District: Mordovia Nature Reserve, plot 421, 29.V.2015, 2 ♂, plot 430, 30.VI.2015, 1 ♂, Podrubnyi area, 9.VI.2013, 25.V.2014, 1 ♂, 2 ♀, plot 379, 1.VII.2016, 1 ♂, plot 142, 29.V.2016, 1 ♂, Novenkovskii area, 13.VII.2014, 1 ♂, plot 413, 12.VI.2016, 1 ♀, plot 408, 10.VI.2012, 1 ♀, plot 442, 2.VI.2016, 1 ♀, plot 435, 13.VI.2016, 1 ♀, plot 37, 29.V.2016, 1 ♀, plot 376, 19.VI.2016, 1 ♂. Atyurievskii District: env. of Mordovskaya Kozlovka, 8.VI.2013, 1 ♀. Kochkurovskii District: env. of Mordovskoe Davydovo, 25.VI.2016, 1 ♀.

Biology. The species occurs in various forest types, planted forest belts, and meadows with dead trees at the stage of decomposition suitable for larval development and with blossoming plants suitable for adult feeding. According to the results obtained earlier by the first author in Belarus, the larvae develop for at least two years in the trunks and branches of *Populus tremula* L.,

Quercus robur L., and *Betula alba* L., reaching considerable densities in some wood fragments. Hibernation takes place at the larval stage. The flight continues from May to August, but adults may sometimes be found in late April and in September. Adults feed on the pollen of umbellifers.

* *Mordella viridescens* Costa, 1854

Material. Atyurievskii District: env. of Pichepolonga, 2.VII.2016, 2 ♂. Temnikovskii District: Mordovia Nature Reserve, plot 358, 18.VII.2016, 1 ♀.

Biology. A xylobiont species (Odnosum, 2010), collected by us in pine and mixed forests. Its larva is unknown.

Remarks. The species is recorded here for the first time for the central zone of European Russia.

* *Mordellaria aurofasciata* (Comolli, 1837)

Material. Temnikovskii District: Mordovia Nature Reserve, env. of Pushta, 26.VI–13.VII.2018, 1 spm., Semishin G.B., Egorov L.V., plot 34, 8–28.VI.2018, 2 spms., Semishin G.B., Egorov L.V., plot 19, 27.VI–12.VII.2018, 2 spms., Semishin G.B., Egorov L.V.

Biology. A mesophilous species. Its larva was earlier recorded in the wood of *Acer saccharinum* L. (Zemoglyadchuk, 2012). We collected the species in a mature pine forest with birch, spruce, and aspen in a river floodplain, in a lime forest with birch and fallen spruce trees, and in a lime forest with alder, birch, and aspen.

Tomoxia bucephala Costa, 1854

Material. Tengushevskii District: 6 km W of Barashevo, 7.VI.2014, 1 ♀. Temnikovskii District: Mordovia Nature Reserve, plot 436, 12.VII.2017, 26.VII.2017, 15–27.IX.2017, 158 spms., Egorov L.V., Semishin G.B., env. of Pushta, 19.V–6.VI.2018, 26.VI–13.VII.2018, 23 spms., Semishin G.B., Egorov L.V., plot 86, 6.VI–10.VII.2018, 14 spms., Semishin G.B., Egorov L.V., plot 34, 8.VI–17.VII.2018, 45 spms., Semishin G.B., Egorov L.V., plot 19, 8–27.VI.2018, 27.VI–12.VII.2018, 61 spms., Semishin G.B., Egorov L.V.

Biology. The species occurs in mixed and deciduous forests, planted forest belts, parks, and meadows in the presence of wood decayed by white rot fungi. According

to the results obtained earlier by the first author in Belarus, the larvae develop for at least two years in the trunks and branches of *Betula* sp., *Populus tremula* L., *Fraxinus excelsior* L., *Quercus robur* L., *Tilia cordata* Mill., *Acer platanoides* L., *Sorbus aucuparia* L., and *Salix* sp., and may reach high densities in large trunks. Hibernation takes place at the larval stage (Nikitsky et al., 1996). Adults are usually captured in window-pane traps from mid-June to the second half of September, with a peak in the first half of July (Fig. 1).

* *Variimorda* (s. str.) *briantea* (Comolli, 1837)

Material. Atyurievskii District: env. of Mordovskaya Kozlovka, 10.VIII.2014, 3 ♂, 2 ♀; env. of Klopinka, 29.VI.2013, 1 ♀. Temnikovskii District: env. of Lavrentievo, 6.VII.2013, 1 ♂, 3 ♀; env. of Tarkhany, 7.VII.2013, 2 ♂, 1 ♀; env. of Kitsaevka, 18.VII.2014, 1 ♂. Tengushevskii District: env. of Klemeshchei, 2.VIII.2014, 18.VII.2015, 2 ♂, 4 ♀; env. of Khlebino, 2.VIII.2014, 18.VII.2015, 2 ♂, 1 ♀; 6 km W of Barashevo, 7.VI.2014, 1 ♀; env. of Barashevo, 30.VI.2013, 2 ♂, 5 ♀. Temnikovskii District: Mordovia Nature Reserve, Podrubnyi area, 11.VII.2015, 19.VII.2016, 5 ♂, 4 ♀, plot 276, 20.VII.2014, 2 ♂, 1 ♀, plot 283, 3.VII.2016, 8 ♂, 6 ♀, plot 398, 24.VII.2016, 3 ♂, 1 ♀, plot 434, 13.VII.2015, 1 ♂, 3 ♀, plot 360, 27.VII.2014, 21.VI.2015, 1 ♂, 1 ♀, plot 379, 1.VII.2016, 1 ♂, Inorskii area, 8.VII.2012, 28.VI.2015, 3 ♂, 2 ♀, plot 283, 4.VII.2015, 3 ♂, 2 ♀, plot 386, 7.VII.2016, 1 ♀, plot 408, 22.VI.2012, 1 ♀, plot 427, 30.VI.2012, 3 ♂, plot 403, 5.VII.2015, 2 ♀, plot 301, 20.VII.2014, 1 ♂, 1 ♀, plot 368, 21.VII.2013, 4.VII.2015, 1 ♂, 1 ♀, Novenkovskii area, 13.VII.2014, 1 ♂, Steklyannyi area, 12.VII.2014, 1 ♀, plot 406, 1.VII.2016, 1 ♂, plot 115, 11.VII.2015, 1 ♂, plot 249, 13.VIII.2015, 1 ♂, 2 ♀, plot 358, 18.VII.2016, 4 ♂, 2 ♀, plot 329, 1.VII.2016, 1 ♂, 2 ♀, plot 411, 7.VII.2016, 3 ♂, 1 ♀, plot 142, 11.VII.2015, 4 ♂, 3 ♀, plot 345, 20.VI.2015, 1 ♀, plot 406, 1.VII.2016, 2 ♀, plot 405, 5.VII.2015, 4 ♂, 2 ♀, plot 331, 18.VII.2016, 3 ♂, 9 ♀, plot 79, 28.VII.2015, 24.VII.2016, 1 ♂, 3 ♀, plot 431, 21.VII.2012, 23.VI.2013, 7.VII.2014, 13 ♂, 6 ♀, plot 342, 20.VI.2015, 2 ♂, plot 276, 20.VII.2014, 4 ♂, 4 ♀, plot 361, 7.VII.2016, 7 ♂, 4 ♀, plot 384, 27.VII.2014, 1 ♂, 3 ♀, plot 301, 11.VII.2015, 1 ♂, 7 ♀, plot 330, 19.VII.2016, 1 ♀. Ruzaevskii District: env. of Palaevka, 26.VI.2016, 1 ♀. In-sarskii District: env. of Vasina Polyana, 30.VII.2016, 1 ♂. Zubovo-Polyanskii District: env. of Lesnoi, 2.VIII.2015, 2 ♂, 3 ♀. Krasnoslobodskii District: env. of Si-

nyakovo, 19.VII.2014, 1 ♂. Elnikovskii District: env. of Cherlyai, 23.VII.2016, 1 ♀; env. of Novye Shaly, 19.VII.2015, 1 ♂.

Biology. The species occurs in various forest types, planted forest belts, and also in meadows where adults feed; it can be often found at the edges of deciduous forests and in glades. The larvae develop in the wood of deciduous trees, in particular alder (Odnosum and Mamaev, 1986). The flight is observed from June to August. Adults are most often found on the flowers of umbellifers and composites.

* *Variimorda* (s. str.) *mendax* Méquignon, 1946

Material. Kovylnskii District: env. of Silikatnyi, 8.VIII.2013, 1 ♂. Tengushevskii District: 6 km W of Barashevo, 18.VII.2015, 1 ♀; env. of Barashevo, 18.VII.2015, 1 ♂, 2 ♀. Temnikovskii District: Mordovia Nature Reserve, plot 301, 20.VII.2014, 1 ♂, plot 79, 28.VII.2015, 1 ♂, plot 82, 28.VII.2015, 1 ♂.

Biology. The species occurs in various forest types, planted forest belts, and meadows; it can be found both in dry stations, such as glades and edges of pine and mixed forests, and in river floodplains. Adults feed on the pollen of umbellifers and composites. Flight takes place in July–August.

Remarks. The species is recorded here for the first time for the central part of Russia.

Variimorda (s. str.) *villosa*
(Schränk von Paula, 1781)

Material. Bolshebereznikovskii District: env. of Degilevka, 12.VI.2015, 1 ♂, 1 ♀. Temnikovskii District: env. of Tarkhany, 22.VI.2013, 1 ♂; env. of Kitsaevka, 18.VII.2014, 1 ♀. Tengushevskii District: env. of Khlebino, 2.VIII.2014, 1 ♂, 4 ♀; env. of Klemeshchei, 2.VIII.2014, 2 ♀; 6 km W of Barashevo, 7.VI.2014, 3 ♀; env. of Barashevo, 18.VII.2015, 1 ♂. Temnikovskii District: Mordovia Nature Reserve, Inorskii area, 8.VII.2012, 17.VIII.2013, 8.VI.2014, 28.VI.2015, 5 ♂, 3 ♀, plot 406, 1.VII.2016, 1 ♂, plot 434, 13.VII.2015, 1 ♂, 2 ♀, Podrubnyi area, 11.VII.2015, 19.VII.2016, 2 ♂, 4 ♀, plot 379, 1.VII.2016, 1 ♀, Novenkovskii area, 13.VII.2014, 1 ♂, plot 115, 11.VII.2015, 1 ♂, 1 ♀, plot 429, 15.VI.2016, 1 ♂, plot 329, 1.VII.2016, 1 ♀, plot 142, 11.VII.2015, 1 ♂, 1 ♀, plot 406, 1.VII.2016, 1 ♀, plot 368, 24.VIII.2014, 1 ♀, plot 82, 28.VII.2015, 3 ♂, plot 276,

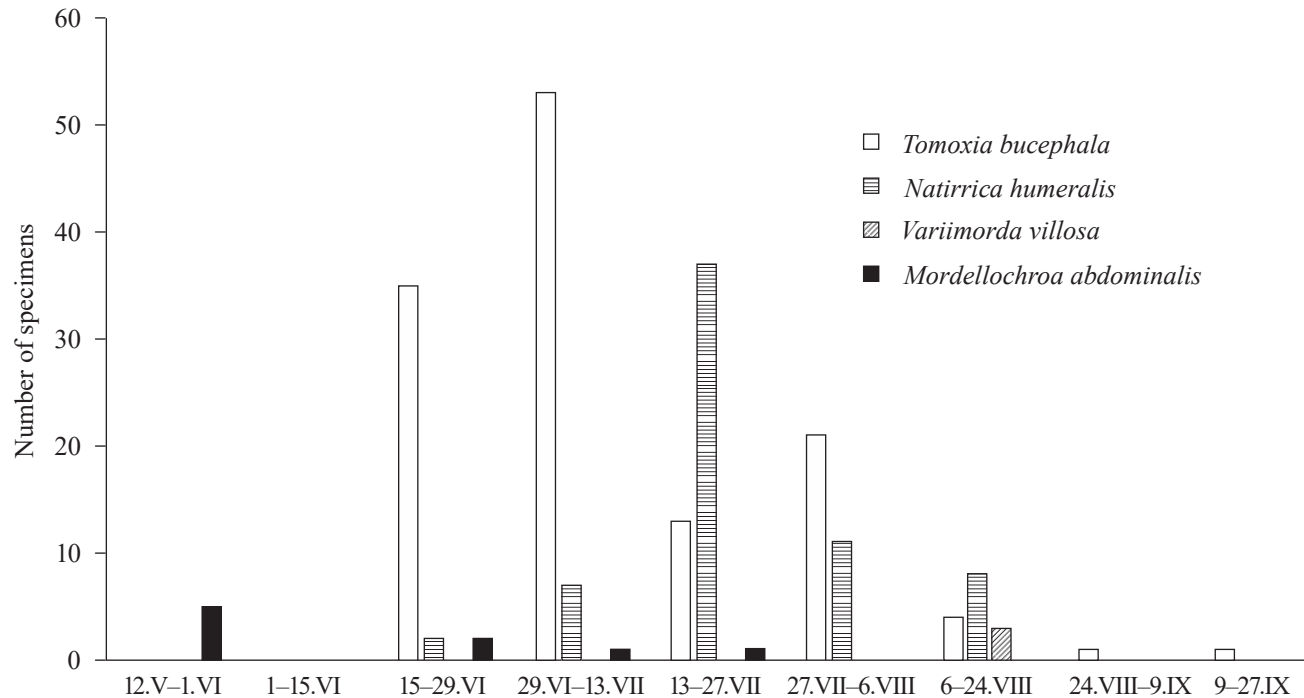


Fig. 1. Seasonal dynamics of abundance of some Mordellidae species in the Mordovia State Nature Reserve in 2017, based on window-pane trap capture data.

20.VII.2014, 1 ♂, 2 ♀, plot 301, 11.VII.2015, 3 ♂, 2 ♀, plot 111, 1.VIII.2017, 1 spms.; plot 397, 6.VIII.2017, 2 spms., plot 436, 13.VII.2017, 6-24.VIII.2017, 4 spms., Egorov L.V., Semishin G.B., plot 34, 12-30.VII.2018, 2 spms., Semishin G.B., Egorov L.V. Kovylnskii District: env. of Silikatnyi, 8.VIII.2013, 3 ♂, 1 ♀. Ruzaevskii District: env. of Yakovshchina, 26.VI.2016, 1 ♂; env. of Palaevka, 26.VI.2016, 1 ♂, 2 ♀. Insarskii District: env. of Vasina Polyana, 30.VII.2016, 1 ♂. Zubovo-Polyanskii District: env. of Lesnoi, 2.VIII.2015, 1 ♂, 1 ♀. Elnikovskii District: env. of Novye Shaly, 19.VII.2015, 1 ♂, 1 ♀. Kochkurovskii District: 5 km E of Sabaev, 25.VI.2016, 2 ♀.

Biology. The species occurs in various forest types and planted forest belts; it can be found in glades, clearings, at forest edges, and on the slopes of steppe gullies. The larvae develop for at least two years, usually in the basal parts of standing dead trees and also in the stumps or fallen trunks of aspen and various *Salix* species decayed by brown rot fungi. The larvae typically reach high densities in small wood areas, probably as the result of local development of certain fungus species. Hibernation takes place at the larval stage. The flight takes place from June to August. Adults feed on the

pollen of umbellifers and often occur on spurges, buttercups, and meadowsweet.

Natirrica humeralis (Linnaeus, 1758)

Material. Temnikovskii District: Mordovia Nature Reserve, plot 431, 1.VI.2014, 2 ♀, plot 435, 13.VI.2016, 1 ♂, plot 79, 28.VII.2015, 1 ♂, 1 ♀, plot 301, 20.VII.2014, 1 ♂, Drozhdenovskii area, 17.VIII.2013, 1 ♀, plot 408, 9.VI.2013, 2 ♂, 4 ♀, plot 405, 5.VII.2015, 1 ♀, Inorskii area, 9.VI.2013, 8.VI.2014, 4 ♂, 5 ♀, Podrubnyi area, 12.VI.2013, 5 ♀, plot 115, 18.VI.2016, 1 ♀, plot 431, 23.VI.2013, 1 ♀, plot 420, 22.VIII.2015, 1 ♀, plot 436, 15-24.VIII.2017, 65 spms., Egorov L.V., Semishin G.B., env. of Pushta, 26.VI.-13.VII.2018, 1 spm., Semishin G.B., Egorov L.V., plot 34, 8.VI.-17.VII.2018, 30.VII-29.VIII.2018, 21 spms., Semishin G.B., Egorov L.V., plot 19, 8-27.VI.2018, 27.VI.-12.VII.2018, 12 spms., Semishin G.B., Egorov L.V. Tengushevskii District: 6 km W of Barashevo, 18.VII.2015, 1 ♂, 1 ♀; env. of Dachnyi, 7.VI.2014, 1 ♀. Zubovo-Polyanskii District: env. of Yavas, 5.VIII.2013, 1 ♀.

Biology. The species occurs in various forest types, including floodplain oak forests, planted forest belts,

and parks. It develops in thin branches of *Betula* spp. decayed by white rot fungi. The larvae occur singly, without forming aggregations. According to the results obtained earlier by the first author in Belarus, the larvae develop for at least two years. Hibernation takes place at the larval stage. The flight is observed from June to August, with a peak in the second half of July (Fig. 1). Adults are most commonly found on the flowers of umbellifers.

Natirrica variegata (Fabricius, 1798)

Material. Temnikovskii District: Mordovia Nature Reserve, plot 421, 8.VI.2014, 1 ♂, plot 79, 28.VII.2015, 1 ♂, 1 ♀, Inorskii area, 8.VI.2014, 1 ♂, 1 ♀, plot 19, 8–27.VI.2018, 4 spms., Semishin G.B., Egorov L.V.

Biology. The species occurs in various forest types. Its larvae are unknown; they probably develop in the wood of deciduous trees. The flight is observed from June to August. Adults feed on the pollen of umbellifers and are usually found under the forest canopy, in glades, and at forest edges (Burakowski et al., 1987).

* *Mordellistena* (s. str.) *bicoloripilosa*
Ermisch, 1967

Material. Elnikovskii District: env. of Malye Mordovskie Poshty, 31.V.2014, 1 ♀.

Biology. According to the data obtained in Belarus, the species occurs in meadows and wastelands, less commonly at well-heated forest edges and on the sides of forest roads. Larvae develop for 4–6 months in the stems of *Artemisia vulgaris* L.; several larvae may simultaneously develop in one stem. Hibernation takes place at the larval stage. Some larvae stop feeding before winter and pupate in April, while others continue development in spring and feed on the dead stem tissues. The flight peak in Belarus is observed in June. Adults are more commonly found on bedstraws and composites. In Mordovia a single specimen was found at the southern edge of a mixed forest.

* *Mordellistena* (s. str.) *dives* Emery, 1876

Material. Atyashevskii District: env. of Kamenka, 24.VI.2016, 1 ♂, 2 ♀.

Biology. We collected three specimens on a steppified slope with calcareous rock outcrops.

Remarks. The species is recorded here for the first time for the central part of Russia. It was previously recorded for Armenia, Georgia, Hungary, and the south of European Russia (Ermisch, 1977; Horák, 2008).

!* *Mordellistena* (s. str.) *hirtipes* Schilsky, 1895

Material. Temnikovskii District: env. of Tarkhany, 7.VII.2013, 1 ♂. Temnikovskii District: Mordovia Nature Reserve, Pushta, 3.VI.2014, 1 ♀. Elnikovskii District: env. of Malye Mordovskie Poshty, 23.VII.2016, 1 ♀.

Biology. The species was collected at the edge of a mixed forest with steppe-like herbaceous vegetation, in a floodplain meadow, and in a settlement surrounded with forests. The larvae are unknown; they probably develop in herbaceous plants.

Remarks. The species is recorded here for the first time for the fauna of Russia. Its reliably known distribution covers Greece, Israel, Jordan, Iran, Cyprus, North Macedonia, Syria, Turkey, Turkmenistan, Ukraine, and France (Odnosum, 2003, 2005, 2010; Horák, 2008; Ruzzier et al., 2017).

* *Mordellistena* (s. str.) *kraatzii* Emery, 1876

Material. Temnikovskii District: env. of Tarkhany, 22.VI.2013, 1 ♂.

Biology. A xerophilous species developing in the stems of *Centaurea salonitana* (Odnosum, 2007, 2010). The only specimen recorded in Mordovia was collected at the edge of a deciduous forest with distinctly steppified herbaceous vegetation. Since *C. salonitana* is absent in Mordovia, the beetle probably develops in some other *Centaurea* species. According to the data obtained in Gomel Province of Belarus, larval development takes approximately 6 months. The plant stem is usually occupied by a single larva whose tunnel extends over a considerable part of the stem. Hibernation takes place at the larval stage. The most intense flight in Belarus is observed in June and July. Adults commonly feed on the pollen of bedstraws, composites, and umbellifers.

* *Mordellistena* (s. str.) *micans* (Germar, 1817)

Material. Temnikovskii District: Mordovia Nature Reserve, Steklyanni area, 12.VII.2014, 1 ♂, plot 360, 21.VI.2015, 1 ♀.

Biology. The species develops in herbaceous plants of the genus *Cannabis* (Odnosum, 2010).

!* *Mordellistena* (s. str.) *michalki* Ermisch, 1956

Material. Ruzaevskii District: env. of Yakovshchina, 26.VI.2016, 1 ♀, 2 ♂. Bolshebereznikovskii District: env. of Degilevka, 12.VI.2015, 1 ♀.

Biology. We collected this species on a steppified slope with calcareous rock outcrops and at the edge of a deciduous forest with distinctly steppified vegetation. The larvae are unknown; they probably develop in herbaceous plants.

Remarks. The species is recorded here for the first time for the fauna of Russia. Its reliably known distribution range covers Austria, Bosnia, Germany, Italy, Kazakhstan, Macedonia, Slovakia, Slovenia, Turkmenistan, Ukraine, and France (Odnosum, 2010; Horák, 2008; Ruzzier, 2013).

Mordellistena (s. str.) *parvula* (Gyllenhal, 1827)

Material. No original material.

Biology. Within its range, the species inhabits various types of meadows. Its larvae develop for half a year or less in the basal stem parts of *Phalacrolooma septentrionale* (Fern. et Wieg.) Tzvel. and *Achillea millefolium* L. The larvae develop singly in the stems and make short tunnels barely extending above the soil surface. The species is also known as a pest of *Helianthus annuus* L., whose stems are infested along their entire length (Yakutkin, 2003; Voicu and Ivancia, 1996). Hibernation typically takes place at the larval stage, but pupation and adult emergence may also occur before winter. The flight is largely observed in June–August.

* *Mordellistena* (s. str.) *parvicauda* Ermisch, 1967

Material. Zubovo-Polyanskii District: env. of Tenishevo, 2.VIII.2015, 1 ♂, 1 ♀. Temnikovskii District: Mordovia Nature Reserve, Steklyannyi area, 12.VII.2014, 1 ♂, plot 329, 1.VII.2016, 1 ♀. Atyurievskii District: env. of Strelnikovo, 2.VII.2016, 1 ♂; env. of Stepanovka, 24.V.2014, 1 ♀.

Biology. We captured the species at the edge of a mixed forest and in a floodplain meadow. The larvae are unknown; they probably develop in herbaceous plants.

Remarks. The species is recorded here for the first time for the central part of Russia. It is known from Azerbaijan, Albania, Armenia, Bulgaria, Bosnia and Herzegovina, Greece, Georgia, North Macedonia, Turkey, Ukraine, and Croatia (Odnosum, 2010; Horák, 2008).

* *Mordellistena* (s. str.) *pentas* Mulsant, 1856

Material. Temnikovskii District: env. of Tarkhany, 22.VI.2013, 2 ♂, 1 ♀; env. of Alkaevo, 30.V.2015, 1 ♂, env. of Kitsaevka, 18.VII.2014, 1 ♀. Bolshebereznikovskii District: env. of Permisi, 12.VI.2015, 5.VI.2016, 2 ♂; env. of Degilevka, 12.VI.2015, 1 ♂. Kadoshkinskii District: env. of Latyshovka, 4.VI.2016, 2 ♂. Tengushevskii District: 6 km W of Barashevo, 7.VI.2014, 1 ♂. 1 ♀. Atyurevskii District: env. of Stepanovka, 24.V.2014, 2 ♂. Elnikovskii District: env. of Novye Shaly, 19.VII.2015, 1 ♀. Temnikovskii District: Mordovia Nature Reserve, plot 342, 20.VI.2015, 1 ♀, plot 331, 18.VII.2016, 1 ♂, Pushta, 9.VI.2012, 1 ♀, Inorskii area, 8.VII.2012, 1 ♀. Ruzaevskii District: env. of Yakovshchina, 26.VI.2016, 2 ♂. Atyashevskii District: env. of Selishchi, 24.VI.2016, 1 ♀.

Biology. We collected the species at the edges of deciduous, mixed, and dry pine forests, on steppified slopes, and in upland meadows. Its larvae develop in the stems of *Sonchus arvensis* (Odnosum, 1985).

Remarks. The species is recorded here for the first time for the central part of Russia. It is known from Europe and North Africa (Odnosum, 2005, 2010; Köhler, 2011; Hamet et al., 2012).

Mordellistena (s. str.) *pumila* (Gyllenhal, 1810)

Material. Ruzaevskii District: env. of Yakovshchina, 26.VI.2016, 1 ♂. Temnikovskii District: Mordovia Nature Reserve, plot 37, 29.V.2016, 1 ♂, plot 405, 5.VII.2015, 1 ♂, 1 ♀, plot 431, 2.VI.2016, 3 ♀, Srednyaya Melnitsa area, 16.VI.2015, 1 ♂, plot 427, 30.VI.2012, 1 ♂, Steklyannyi area, 12.VII.2014, 1 ♂, Podrubnyi area, 12.VI.2013, 25.V.2014, 11.VII.2015, 2 ♂, 1 ♀, plot 427, 16.VI.2014, 1 ♂, plot 276, 20.VII.2014, 1 ♂, plot 276, 25.V.2014, 1 ♂, plot 434, 5.VI.2015, 1 ♀, plot 384, 17.VI.2014, 1 ♀, plot 421, 8.VI.2014, 1 ♀, plot 431, 7.VII.2014, 1 ♀, plot 408, 10.VI.2012, 1 ♀, plot 413, 9.VIII.2014, 1 ♀, Inorskii area, 28.VI.2015, 1 ♀. Atyashevskii District: env. of Selishchi, 24.VI.2016, 1 ♀. Atyashevskii District: env. of Kamenka, 24.VI.2016,

1 ♂. Elnikovskii District: env. of Malye Mordovskie Poshaty, 31.V.2014, 1 ♂. Atyurievskii District: env. of Kamenka, 21.VI.2016, 1 ♂; env. of Russkaya Velyazma, 24.V.2014, 1 ♂; env. of Mordovskaya Kozlovka, 8.VI.2013, 1 ♀. Temnikovskii District: env. of Veselyi, 25.V.2013, 1 ♂; env. of Tarkhany, 22.VI.2013, 1 ♂; env. of Lavrentievo, 6.VII.2013, 2 ♂; env. of Aksel, 30.V.2015, 1 ♂; env. of Tretyakovo, 17.V.2014, 1 ♀. Tengushevskii District: env. of Barashevo, 30.VI.2013, 1 ♂; env. of Khlebino, 18.VII.2015, 1 ♀. Torbeevskii District: env. of Surgod, 21.VI.2016, 1 ♀. Bolshebereznikovskii District: env. of Permissi, 12.VI.2015, 1 ♀. Krasnoslobodskii District: env. of Selishchi, 19.VII.2014, 1 ♀.

Biology. The species occurs in various types of meadows, mostly upland ones; it can be found at the edges of deciduous forests, in clearings, on steppified slopes, in planted forest belts and deciduous forests. The larvae develop for approximately half a year in the stems of *Knautia arvensis* (L.) Coult., one larva per stem. The larval tunnel extends over a considerable part of the stem length. According to the literature data (Odnosum, 1989), larvae may also develop in the stems of *Cichorium intybus* L. Hibernation takes place at the larval stage. The flight in Mordovia is observed from May to August. Adults feed on the pollen of umbellifers and composites; in May they often occur on the flowers of *Taraxacum officinale* Wigg., and in June and July, on the flowers of *Galium* sp.

!* *Mordellistena* (s. str.) *rugipennis*
Schilsky, 1895

Material. Temnikovskii District: Mordovia Nature Reserve, Podrubnyi area, 9.VI.2013, 1 ♂.

Biology. We collected the species in a clearing in a mixed forest. Its larvae are unknown; they probably develop in the stems of herbaceous plants.

Remarks. The species is recorded here for the first time for the fauna of Russia. Its range includes Bulgaria, Cyprus, Greece, North Macedonia, Iraq, Israel, Jordan, Syria, Turkey, and Ukraine (Odnosum, 2003; Horák, 2008; Ruzzier et al., 2017).

* *Mordellistena* (s. str.) *secreta* Horák, 1983

Material. Tengushevskii District: 6 km W of Barashevo, 7.VI.2014, 1 ♂. Temnikovskii District: Mordovia

via Nature Reserve, plot 427, 16.VI.2014, 1 ♂, Novenkovskii area, 13.VII.2014, 1 ♂, plot 399, 7.VI.2015, 1 ♀. Elnikovskii District: env. of Malye Mordovskie Poshaty, 31.V.2014, 1 ♂. Bolshebereznikovskii District: env. of Nerlei, 5.VI.2016, 3 ♀. Ruzaevskii District: env. of Boldovo, 4.VI.2016, 1 ♀. Atyashevskii District: env. of Kamenka, 24.VI.2016, 1 ♀.

Biology. A widespread species (von Herger and Horak, 1994; Levey, 1999; Ruzzier, 2013; Zemoglyadchuk, 2013), inhabiting various types of meadows, mostly upland ones, and the slopes of steppe gullies. It can be found near agrocenoses, in wastelands, glades, and at forest edges. The larvae develop for approximately half a year in the stems of *Melandrium album* (Mill.) Garske, 1 or 2 larvae per stem. Hibernation takes place at the larval stage. The flight in Mordovia is observed from late May to late June. Adults feed on the pollen of bedstraws, and also composites and umbellifers.

Remarks. The species is recorded here for the first time for the central part of Russia. It is reliably known from Belarus, Great Britain, Italy, Poland, Czech Republic, Switzerland, and the south of Sweden and Norway (von Herger and Horak, 1994; Levey, 1999; Silfverberg, 2004; Kubisz et al., 2010; Hamet et al., 2012; Ruzzier, 2013; Zemoglyadchuk, 2013).

* *Mordellistena* (s. str.) *stenidea*
Mulsant, 1856

Material. Kadoshkinskii District: env. of Latyshovka, 4.VI.2016, 1 ♂. Temnikovskii District: Mordovia Nature Reserve, Podrubnyi area, 25.V.2014, 1 ♀.

Biology. We captured this species at the edge of a deciduous forest and in a clearing in a mixed forest. The larvae are unknown; they probably develop in herbaceous plants.

* *Mordellistena* (s. str.) *tarsata*
Mulsant, 1856

Material. Bolshebereznikovskii District: env. of Permissi, 5.VI.2016, 1 ♂. Bolshebereznikovskii District: env. of Degilevka, 12.VI.2015, 1 ♀.

Biology. The species was collected at the edge of a deciduous forest and on a steppified slope with calcareous rock outcrops. The larvae are unknown; they probably develop in herbaceous plants.

* *Mordellistena* (s. str.) *thuringiaca*

Ermisch, 1963

Material. Tengushevskii District: env. of Dachnyi, 7.VI.2014, 1 ♂. Temnikovskii District: Mordovia Nature Reserve, plot 338, 21.VII.2013, 1 ♂, plot 384, 17.VI.2014, 1 ♂, Srednyaya Melnitsa area, 16.VI.2015, 1 ♂, 1 ♀, plot 376, 19.VI.2016, 1 ♀. Bolshebereznikovskii District: env. of Permisi, 12.VI.2015, 2 ♂.

Biology. A xerophilous species, distributed in Belarus, Hungary, Germany, Spain, Poland, and France (Horák, 2008; Kubisz et al., 2010; Odnosum, 2010; Serrahima, 2011). We collected this species in a floodplain meadow, a sparse pine forest, and in clearings and meadow patches in mixed forests. The larvae are unknown; they probably develop in herbaceous plants.

Mordellochroa abdominalis (Fabricius, 1775)

Material. Temnikovskii District: Mordovia Nature Reserve, plot 442, 5.V.2016, 1 ♀, plot 435, 13.VI.2016, 1 ♀, plot 421, 8.VI.2014, 1 ♀, Inorskii area, 11.VI.2012, 1 ♀, Podrubnyi area, 29.V.2016, 1 ♂, plot 421, 13.VI.2016, 1 ♀, plot 436, 12.V.–27.VII.2017, 9 spms., Egorov L.V., Semishin G.B., plot 19, 25.V.–8.VI.2018, 8–27.VI.2018, 27.VI.–12.VII.2018, 16 spms., Semishin G.B., Egorov L.V., plot 86, 17.V.–6.VI.2018, 1 spm., Semishin G.B., Egorov L.V., plot 34, 16.V.–17.VII.2018, 5 spms., Semishin G.B., Egorov L.V. Insarskii District: env. of Kochetovka, 4.VI.2016, 1 ♀; env. of Vasina Polyana, 4.VI.2016, 3 ♂. Temnikovskii District: env. of Babevo, 8.VI.2013, 1 ♀. Bolshebereznikovskii District: env. of Nerlei, 5.VI.2016, 1 ♂, 1 ♀.

Biology. The species was recorded in various stations: at forest edges, along roads in mixed and deciduous forests, in lime forests, glades, and meadows. Its larvae are unknown. The literature data on the species' biology vary; in particular, it has been assumed that its larvae may develop in the wood of *Salix* sp. and *Padus avium* Mill. (Nikitsky et al., 1996) or in herbaceous plants (Odnosum, 2010). The flight is observed from May to July with a peak in the second half of May (Fig. 1). Adults feed on the pollen of umbellifers.

!* *Stenalia ascaniaenovae* Lazorko, 1974

Material. Temnikovskii District: env. of Tarkhany, 7.VII.2013, 1 ♀.

Biology. The only specimen was found at the edge of a deciduous forest with distinctly steppified herbaceous vegetation. The larvae are unknown; they probably develop in herbaceous plants (Odnosum, 2010).

Remarks. The species is recorded here for the first time for the fauna of Russia. Its reliably known distribution range covers Armenia, Kazakhstan, Uzbekistan, and Ukraine (Odnosum, 2001, 2010; Horák, 2008).

Thus, 30 species of Mordellidae have been recorded in the Republic of Mordovia; 4 of them are herein recorded for the first time for the fauna of Russia, and 21 species, for the region. The most diverse genus is *Mordellistena*, comprising 15 species in Mordovia; the genera *Mordella*, *Natirrica*, and *Variimorda* include 4, 3, and 2 species, respectively; the genera *Curtimorda*, *Hoshihananomia*, *Mordellaria*, *Tomoxia*, *Mordellochroa*, and *Stenalia* are represented by one species each. The Mordellidae of Mordovia belong to six zoogeographic complexes, with distinct prevalence of the Trans-Palae-arctic complex (15 species). The Turano-Mediterranean and European complexes are represented by 5 and 4 species, respectively, while the Mediterranean, South European, and Euro-Siberian complexes include 3, 2, and 1 species, respectively.

PRELIMINARY CHECKLIST OF
MORDELLIDAE OF EUROPEAN RUSSIA

The sources used in compiling this checklist are given below, separately for each region of European Russia. The abbreviated region names, given in parentheses, are also used below to describe the distribution of individual species.

Astrakhan Province (Astr): Odnosum, 2000; Makarov et al., 2009; *Sostoyanie* ..., 2012.

Belgorod Province (Bel): Odnosum, 2001; Prisnyi, 2003; Prisnyi and Vorobyeva, 2005.

Bryansk Province (Br): Odnosum, 2004a, 2004b; E.F. Sitnikova, pers. comm.

Chuvash Republic (ChR): Lebedev, 1906; Egorov, 1997, 2000, 2002, 2004, 2014.

Kabardino-Balkarian Republic (KBR): Ermisch, 1969; Horák, 1983.

Kaliningrad Province (Kalin): Alekseev, 2014.

- Kaluga Province (Kal): Chernyshev, 1930.
- Kirov Province (Kir): Yakovlev, 1910; *Zhivotnyi mir...*, 1974; Yuferev, 2000, 2004.
- Komi Republic (KR): *Zhivotnyi mir...*, 2010; Kozminykh, 2019.
- Krasnodar Territory (KrT): Horák, 1983; Odnosum, 2000, 2010; Nikitsky et al., 2008.
- Kursk Province (Kur): Odnosum, 2005.
- Leningrad Province (Len): Mazarakii, 1901, 1903; Barovsky, 1922, 1925; Odnosum, 2004a, 2004b, 2005.
- Lipetsk Province (Lip): Tsurikov, 2009; Mazurov, 2015, 2017.
- Mari El Republic (MER): Lebedev, 1906; Matveev et al., 2008.
- Moscow Province (Mosc): Lindeman, 1871; Samkov and Belov, 1988; Nikitsky et al., 1996; Nikitsky and Semenov, 2001; Nikitsky, 2003; Nikitsky and Schigel, 2004; Odnosum, 2004a, 2005.
- Nizhny Novgorod Province (Nizh): Odnosum, 2005.
- Novgorod Province (Novg): Zaitsev, 1906; Lobanov, 2014.
- Orenburg Province (Or): Lindeman, 1871; Nemkov, 2011; Kozminykh, 2019.
- Penza Province (Pen): Levkovich and Levkovich, 2006; Dobrolyubova, 2013.
- Perm Territory (Per): Kozminykh, 2019.
- Republic of Adygea (RA): Nikitsky et al., 2008; *Zhestkokrylye nasekomye...*, 2010; Odnosum, 2010.
- Republic of Bashkortostan (RB): Bayanov et al., 2015; Khabibullin, 2016; Kozminykh, 2019.
- Republic of Dagestan (RD): Odnosum, 2000.
- Republic of Karelia (RKa): Poppius, 1899; Palmen, 1946; Jakovlev et al., 2014.
- Republic of Mordovia (RMor): Redikortsev, 1938; Plavilstshikov, 1964; Timraleev et al., 2007; Feoktistov, 2011; Egorov and Ruchin, 2013, 2014; our data.
- Republic of North Ossetia–Alania (RNO): Odnosum, 2004b.
- Republic of Tatarstan (RT): Lebedev, 1906, 1925.
- Rostov Province (Ros): Odnosum, 2010.
- Ryazan Province (Ryaz): Priklonsky et al., 2001; Ananyeva et al., 2008.
- Samara Province (Sam): Krasnobaev et al., 1995; *Kadastr...*, 2007.
- Saratov Province (Sar): Sazhnev and Rodnev, 2004; Volodchenko and Sazhnev, 2016; Sazhnev and Anikin, 2017; Sazhnev et al., 2017.
- Smolensk Province (Smol): Semenov et al., 2011.
- Tambov Province (Tam): Beskokotov and Samokhin, 2009; Volodchenko et al., 2018.
- Tula Province (Tula): Dorofeev, 2003, 2007, 2013; Dorofeev et al., 2015; Nikitsky et al., 2016.
- Tver Province (Tver): Odnosum, 2004a.
- Udmurt Republic (UR): Dedyukhin et al., 2007.
- Ulyanovsk Province (Ul): Isaev and Kovalev, 2003.
- Vladimir Province (Vlad): Semenov, 2009, 2013.
- Volgograd Province (Vol): Odnosum, 2004a, 2006.
- Voronezh Province (Vor): Prisnyi, 2003; *Kadastr...*, 2005; Prisnyi and Vorobyeva, 2005; Negrobov and Negrobova, 2010.
- Yaroslavl Province (Yar): Yakovlev, 1902; Gemmelman, 1927; Vlasov, 1999.
- Family **Mordellidae** Latreille, 1802
- Subfamily **Mordellinae** Latreille, 1802
- Tribe Conaliini Ermish, 1956
- Conalia baudii* Mulsant & Rey, 1858: KrT, Mosc, RA.
- Tribe Mordellini Latreille, 1802
- Curtimorda bisignata* (Redtenbacher, 1849): KrT, Mosc, RA, Sar, Tula, Ul, Yar.
- Curtimorda maculosa* (Naezen, 1794): Kir, KR, Len, Mosc, RB, RKa, RMor, Tula, Tver, Udm, Vlad, Vor, Yar.
- Hoshihananomia perlata* (Sulzer, 1776): ChR, Kir, Len, Mosc, Novg, RKa, RMor, RT, Sam, Ul, UR, Vlad, Vor.

- Mordella aculeata* Linnaeus, 1758: Astr, Bel, Br, ChR, Kal, Kir, KR, Lip, MER, Mosc, Novg, Or, RA, RB, RKa, RMor, RT, Ryaz, Sam, Sar, Smol, Tula, Ul, UR, Vlad, Vor, Yar.
- Mordella brachyura* Mulsant, 1856: Bel, Br, Kr, Len, Lip, Mosc, Per, RA, RMor, Sam, Tula, Ul, UR, Vor.
- Mordella duplicata* Schilsky, 1895: KrT.
- Mordella holomelaena* Apfelbeck, 1914: Astr, Bel, Br, Kalin, KR, KrT, Len, Lip, Mosc, Novg, Or, Pen, RA, RKa, RMor, RNO, Sam, Smol, Sar, Tula, UR, Vlad, Vor.
- Mordella huetheri* Ermisch, 1956: Bel, KrT, Lip, RA.
- Mordella leucaspis* Küster, 1849: Kir, KrT, RA, Vor, Yar.
- Mordella velutina* Emery, 1876: Bel, Or, Sam, Sar, Ul, Vor.
- Mordella viridescens* Costa, 1854: RMor, Sar.
- Mordellaria aurofasciata* (Comolli, 1837): ChR, KrT, Mosc, RA, RMor, Tula, UR.
- Tomoxia bucephala* Costa, 1854: ChR, Kalin, Kal, Kir, KR, Len, Lip, MER, Mosc, Or, RA, RKa, RMor, RT, Ryaz, Sam, Sar, Smol, Tam, Tula, Ul, UR, Vlad, Vor, Yar.
- Variimorda* (s. str.) *basalis* (Costa, 1854): Bel, KrT, Lip, Mosc, Sar, Tam, Ul, Vor.
- Variimorda* (s. str.) *briantea* (Comolli, 1837): Bel, KrT, Len, Mosc, RA, RMor, Sar, Ul, Vlad, Vor.
- Variimorda* (s. str.) *mendax* Méquignon, 1946: RA, KrT, RMor, Vor.
- Variimorda* (s. str.) *villosa* (Schrank von Paula, 1781): Bel, Br, ChR, Kal, Kir, Lip, MER, Mosc, Novg, Or, Pen, RA, RB, RKa, RMor, RT, Ryaz, Sar, Smol, Tam, Tula, Ul, UR, Vlad, Vor, Yar.
- Variimorda* (*Galeimorda*) *hladili* Horák, 1985: Vol.
- Tribe Mordellistenini Ermish, 1941
- Natirrica humeralis* (Linnaeus, 1758): ChR, Kalin, Kir, Len, Lip, Mosc, Novg, RA, RKa, RMor, RT, Sam, Sar, Smol, Tula, UR, Vlad, Yar.
- Natirrica variegata* (Fabricius, 1798): Astr, Br, ChR, KrT, Lip, Mosc, RA, RMor, Sar, Tula, UR, Vor, Yar.
- Natirrica neuwaldeggiana* (Panzer, 1796): Bel, RA.
- Natirrica rufifrons* (Schilsky, 1894): RA.
- Mordellistena* (s. str.) *austriaca* Schilsky, 1899: Bel, Or, Pen, RA, Sam, Vor.
- Mordellistena* (s. str.) *bicoloripilosa* Ermisch, 1967: RA, RMor, UR, Vlad.
- Mordellistena* (s. str.) *brevicauda* (Bohemann, 1849): Astr, Bel, RA, Sam, Sar, UR, Vor.
- Mordellistena* (s. str.) *dives* Emery, 1876: RMor.
- Mordellistena* (s. str.) *hirtipes* Schilsky, 1895: RMor.
- Mordellistena* (s. str.) *intersecta* Emery, 1876: Astr, RA.
- Mordellistena* (s. str.) *kraatzi* Emery, 1876: Astr, Bel, RA, RMor, Sam, Vor.
- Mordellistena* (s. str.) *longicornis* Mulsant, 1856: RA.
- Mordellistena* (s. str.) *micans* (Germar, 1817): Kal, Novg, RA, RB, Per, RMor, RT, Sam, Yar.
- Mordellistena* (s. str.) *michalki* Ermisch, 1956: RMor.
- Mordellistena* (s. str.) *minima* Costa, 1854: RA.
- Mordellistena* (s. str.) *parvicauda* Ermisch, 1967: RA, RMor.
- Mordellistena* (s. str.) *parvula* (Gyllenhal, 1827): Astr, Bel, ChR, Kalin, Kal, Kir, Len, Lip, Mosc, MER, Novg, Per, RA, RB, RKa, RMor, Sam, Sar, Tul, UR, Vlad, Vor, Yar.
- Mordellistena* (s. str.) *parvuliformis* Stchegoleva-Barovskaya, 1930: Bel, KrT, Lip, Pen, RA, Ros, Vol, Vor.
- Mordellistena* (s. str.) *pentas* Mulsant, 1856: RA, RMor.
- Mordellistena* (s. str.) *perroudi* Mulsant, 1856: Sar.
- Mordellistena* (s. str.) *pseudobrevicauda* Ermisch, 1963: Astr, Br, RA.
- Mordellistena* (s. str.) *pseudopumila* Ermisch, 1963: Vor.
- Mordellistena* (s. str.) *pumila* (Gyllenhal, 1810): Astr, Bel, ChR, Kalin, Kir, Kur, Len, Lip, Mosc, Nizh, Novg, Or, Per, RA, RB, RKa, RMor, Ryaz, Sam, Sar, Smol, Tula, UR, Vlad, Vor, Yar.
- Mordellistena* (s. str.) *purpurascens* Costa, 1854: Lip, RA.

Mordellistena (s. str.) *purpureonigrans* Ermisch, 1963: RA, Sar, Vor.

Mordellistena (s. str.) *reichei* Emery, 1876: Bel, Sam.

Mordellistena (s. str.) *rugipennis* Schilsky, 1895: RMor.

Mordellistena (s. str.) *secreta* Horák, 1983: KBR, KrT, RMor.

Mordellistena (s. str.) *stenidea* Mulsant, 1856: Bel, Kir, Or, RMor, Sam, Vor.

Mordellistena (s. str.) *stoecleini* Ermisch, 1956: Lip.

Mordellistena (s. str.) *tarsata* Mulsant, 1856: Bel, Lip, Or, RA, RMor, Sam, Sar, Vor.

Mordellistena (s. str.) *thuringiaca* Ermisch, 1963: Astr, Lip, RA, RMor, Sar, Vor.

Mordellistena (s. str.) *weisei* Schilsky, 1895: Astr, Lip, RA, Vor.

Mordellistena (*Pseudomordellina*) *acuticollis* Schilsky, 1895: RU.

Mordellistena (*Pseudomordellina*) *nana* Motschulsky, 1860: Bel, Lip, Sam, Vor.

Mordellistena (*Pseudomordellina*) *nanula* Ermisch, 1967: Astr.

Mordellistenula *perrisi* (Mulsant, 1857): Kir, Sar, Vor.

Mordellochroa abdominalis (Fabricius, 1775): Br, ChR, Len, Kalin, Kal, Kir, Mosc, Per, RA, RKa, RMor, RT, Sam, Sar, Tula, Ul, UR, Vlad, Yar.

Mordellochroa humerosa (Rosenhauer, 1847): Tam, Tula, Ul, Vor.

Mordellochroa tournieri (Emery, 1876): Lip, RA, Sam, Sar, Ul, Vor.

Tolida artemisiae (Mulsant, 1856): Vor.

Tribe Stenaliini Franciscolo, 1955

Stenalia araxicola Khnzorian, 1957: Astr, Bel, RD.

Stenalia ascaniaenovae Lazorko, 1974: RMor.

Stenalia testacea (Fabricius, 1787): Astr, RD, Vor.

The above checklist does not include *Mordellistena* (s. str.) *falsoparvuliformis* Ermisch, 1963, reported from

the south of Russia without indication of an exact locality (Ermisch, 1977), and six species listed for the south of European Russia in the *Catalogue of Palaearctic Coleoptera* (Horák, 2008): *Mordellistena* (s. str.) *altifrons* Stshegoleva-Barovskaya, 1927, *Mordellistena* (s. str.) *elbrusicola* Ermisch, 1969, *Mordellistena* (s. str.) *goetzi* Ermisch, 1969, *Mordellistena* (s. str.) *inexpectata* Ermisch, 1967, *Mordellistena* (s. str.) *paraintersecta* Ermisch, 1965, and *Mordellistena* (s. str.) *pygmaeola* Ermisch, 1956. Three additional species were listed by Silfverberg (2010) for the Russian part of Fennoscandia comprising Karelia and Murmansk Province: *Mordellistena* (s. str.) *connata* Ermisch, 1969, *Mordellistena* (s. str.) *thurepalmi* Ermisch, 1965, and *Mordellistena* (s. str.) *praesagita* Kangas, 1988.

Thus, considering our new material and the previously published data, 73 species of Mordellidae are presently known from European Russia. However, this list is by no means complete; for instance, as many as 87 species have been recorded in Ukraine (Odnosum, 2010). Since the fauna of Mordellidae is still very poorly studied in the steppe zone of European Russia, the faunal list is likely to be supplemented by the future research. The distribution of most species is difficult to analyze due to the scarcity of data on the individual regional faunas. At present, the following species are the most widespread in European Russia: *Mordella aculeata* (recorded in 27 regions), *Variimorda villosa* (26), *Mordellistena pumila* (26), *Tomoxia bucephala* (25), *Mordellistena parvula* (23), and *Mordella holomelaena* (23).

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COMPLIANCE WITH ETHICAL STANDARDS

The authors declare that they have no conflict of interest. All the applicable international, national, and/or institutional guidelines for the care and use of animals were followed. All the procedures performed in studies involving animals were in accordance with the ethical standards of the institution or practice at which the studies were conducted.

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