Fauna of click beetles (Coleoptera: Elateridae) in the interfluve of Rivers Moksha and Sura, Republic of Mordovia, Russia

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Abstract. Ruchin AB, Egorov LV, Semishin GB. 2018. Fauna of click beetles (Coleoptera: Elateridae) in the interfluve of Rivers Moksha and Sura, Republic of Mordovia, Russia. Biodiversitas 19: 1352-1365. The results of the study of fauna of click beetles in the Republic of Mordovia are presented. By now, 58 species of click beetles have been recorded here. Adrastus pallens is a new record for the republic. As per the literature information, 6 species of click beetles (Agriotes pilosellus, Melanotus crassicollis, Melanotus fusciceps, Liotrichus affinis, Pseudanostirus globicollis, Stenagostus rufus) are known and these indications require confirmation. Two species (Agriotes acuminatus, Limoniscus suturalis) are excluded from the fauna. Taking into account the literary information in the fauna of Mordovia, 64 species of Elateridae are known. Agrypnus murinus, Agriotes lineatus, Agriotes obscurus, Agriotes sputator, Dalopius marginatus, Ampedus balteatus, Ampedus pomorum, Hemicrepidius niger, Athous subfuscus, Prosternon tessellatum, Selatosomus aeneus are among the mass species. A list of the species is presented, which with a high degree of probability can still be found in the republic.

Keywords: Click beetles, Coleoptera, Elateridae, fauna, Republic of Mordovia, Russia

INTRODUCTION

The Republic of Mordovia is located in the center of the East European Plain between 42°11’ and 46°45’ east longitude and 53°38’ and 55°11’ north latitude in the southwestern periphery of the Volga basin in the interfluve of rivers Moksha and Sura. The territory includes forest and forest-steppe zones of Central Russia. The eastern part of Mordovia occupies the northwest of the Volga Upland and the western part of the Oka-Don lowland. In this regard, a variety of habitats is observed in the area of study. Broad-leaved forests cover the central and eastern parts. In the east and south-east predominate forest-steppe landscapes (Yamashkin 1998). The variety of landscapes determines the diversity of entomofauna, in which, in addition to the typically nemoral and forest-steppe, taiga and steppe species have been actively detected in recent years (Egorov and Ruchin 2010; Ruchin and Kurmaeva 2010; Ruchin and Artaev 2016; Legalov et al. 2014; Ruchin and Egorov 2017b, 2018a, 2018b; Ruchin and Grishutkin 2018; Ruchin and Makarkin 2017; Chursina and Ruchin 2018).

Click beetles (Coleoptera: Elateridae) is one of the largest families within Coleoptera, including more than 10 thousand species (Bouchard et al. 2017), of which 467 species are reported from Russia (Prosvirov 2017, 2018). Many species are serious polyphagous pests and therefore of great economic importance (Morriss 1951, Subchev et al. 2010; Mulerčikas et al. 2012; Baalbergen et al. 2014; Traugott et al. 2015). Information on the species diversity of click beetles in the Republic of Mordovia is extremely scarce. Plavilschikov (1964) published the first fairly representative list of insects of the Mordovia Reserve, where 14 species of click beetles were recorded. Several species of the family are mentioned in the work on forest pests (Bondarenko 1964). Timraleev et al. (2007) identified 41 species of Elateridae for Mordovia. Thus, before the beginning of our investigations, the fauna of this family in the region has not been studied enough.

MATERIALS AND METHODS

Materials for this paper were collected during seasons in 2006-2017 (most intensively since 2008) using known methods of field entomological research (Fasulati 1971). In total, about 100 localities were studied in all regions of the Republic of Mordovia. In figure 1 the points indicate the collecting grounds. During the research the most diverse biotopes characteristic of the republic were studied: open landscapes (various meadows, cultivated fields, overgrown with birch fields, flood plains of rivers) and afforested (mixed forests, small-leaved forests, pine forests, etc.). The window traps, manual collection, mowing of vegetation were used for the collection of imago. In some cases, imago fell into soil traps (plastic cups). Special soil collections of larvae and imagos were not carried out.

The collections of 2017 from 19 window traps installed in the Mordovia Reserve were studied (cf. Table 1) - 11 km NW of Temnikov, 54°43‘56” N, 43°09‘29” E, quarter 436, mixed forest. In total, more than 2,000 specimens were examined during the study.
There are given references to the literature on the species from the territory of Mordovia (in case there is a reliable indication of the point of discovery it is mentioned either), new collection sites (previously unpublished information), collection date, number of collected specimens, surname of the collector, notes (if any) for each species in the annotated list below. In the absence of new unpublished material of the authors, the section "Material" is not given in the article.

In the section "Habitat" the original information of the authors received during the research on the territory of the republic is given. In the same section information on biotopes, preferred habitats, numbers and flight dates is presented. The section "Remark" provides general comments on the distribution, taxonomy or biology of the species. The section “Distribution” means distribution in Mordovia.

When the collector is not mentioned it means that material was collected by the first author. The original information on the biology of Elateridae, species habitats description and certain observations in nature are given separately. The names of new species (new record) for the
Republic of Mordovia are marked with an asterisk (*). The sign «-» indicates the species, which, for various reasons, we excluded from the list of Republic of Mordovia click beetles. The sign «?» indicates that the findings of the species require confirmation by additional recent.

The nomenclature of Elateridae is given after the Catalogue of Palaearctic Coleoptera (Cate et al. 2007). The dates for the description of some species are specified in accordance with the work (Bousquet 2016). All materials are deposited in the funds of Zoological Museum of Moscow State University (Moscow), Zoological Institute of Russian Academy of Sciences (St. Petersburg), and Museum of Mordovia State Nature Reserve (Pushta) and in the personal collections of authors.

The abbreviations used are MSNR - Mordovia State Nature Reserve, NPS - National Park «Smolny», quarter - quar., cordon - cord., ex. - exemplar(s) (specimen(s)).

**Elateridae Leach, 1815**

**Subfamily Agrypninae Lacordaire, 1857**

*Agrypnus murinus* (Linnaeus, 1758)

**Distribution.** Temnikov Dist. (Plavilshchikov 1964; Timraleev and Chikina 1991; Kurmaeva et al. 2008; Feoktistov 2011; Egorov et al. 2015, 2016, 2017). Found only in the Turgenevo Dist. (Timraleev et al. 2004). Ruzaevka Dist. (Timraleev and Chikina 1991).

**Materials.** Tengushevo Dist., Barashevo, V.2008, 4 ex. Zubova Polyana Dist., Tenishevo, 2.V.2008, 1 ex.; 5 km SW Bystrisch, 1.V.2008, 1 ex.; Vysha, VI.2008, 2 ex.; Zhuravkino, 16.VII.2008, 1 ex.; Mordovskaya Polyana, 7.VI.2008, 1 ex. Temnikov Dist., MSNR, Pusha, VII.2008, 30.V.2008, 15 ex.; quar. 443, VI-VII.2012, 1 ex.; quar. 40, 16-20.VI.2017, 2 ex.; cord. Podrubnyi, 4.VIII.2017, 1 ex., G.B. Semishin, 20.V.2017, 1 ex.; cord. Drozhdenovski, 18.VI.2017, 1 ex.; quar. 408, 11.VII.2017, 1 ex.; quar. 324, 13.VII.2017, 1 ex.; quar. 351, 15.VII.2017, 1 ex.; cord. Inorski, 12.VI.2008, 15.VI.2017, 26.VII.2017, 4 ex.; same label, 15-29.VI.2017, 1 ex., L.V. Egorov, G.B. Semishin; cord. Zhegalovski, V.2012, 1 ex. Temnikov Dist., Tarkhani, V.2009, 1 ex.; Temnikov, V.2009, 1 ex.; Polyanki, 24.VII.2016, 1 ex.; Russkoe Karaevo, 21.V.2017, 1 ex. Atyurevo Dist., Chudinka, 7.VI.2008, 1 ex.; Mordovskaya Kozlovka, VI-VII.2012, 5 ex.; Dmitriev Usad, VI-VII.2012, 33 ex. Elnki Dist., Novye Shaly, V-VI.2014, 8 ex.; Peredovoi, VI-VIII.2014, 6 ex.; Novye Pichingushi, IV-VI.2014, 31 ex.; Cherlyai, 23.VII.2016, 1 ex.; Malye Mordovskie Poshaty, 22.VII.2017, 2 ex. Krasnoslobodsk Dist., Belikovskie Vysselki, VI-VII.2012, 2 ex. Kovylinko Dist., Novoe Mamangino, 6.V.2008, 4 ex. Staroe Shaigovo Dist., Nikolaevskaya Salovka, 8.VII.2017, 1 ex. Ichalki Dist., Sosnovka, 3.VII.2008, 1 ex.; Ichalki, 9.VIII.2013, 1 ex.; 3 km NE Lobaski, 9.VIII.2013, 2 ex. Ichalki Dist., NPS, Barakhmanovskoe forestry, quar. 108, 20.VI-28.VIII.2017, 8 ex., G.B. Semishin, same label, quar. 112, 20.VI-30.VIII.2017, 16 ex., G.B. Semishin, same label, quar. 113, 20.VI.-4.VII.2017, 1 ex., G.B. Semishin; Lvoovskoe forestry, quar. 53, 24.V.2017, 7.VI.2017, 22.VI.2017, 3.VI-31.VII.2017, 15 ex., G.B. Semishin; Kemlyanskie forestry, quar. 66, 27.VII.2017, 1 ex. Ardatovskoi Dist., Svotetekhnika, 18.V.2008, 1 ex.; Turgenevo, 19.V.2008, 1 ex. Romodanovsk Dist., Pushkino, VIII.2013, 1 ex. Ruzevka Dist., Streltsevka Sloboda, 19.V.2009, 2 ex. Chanzinka Dist., Komsomolski, VI.VIII.2008, 2 ex., M.K. Ryzhov; Alekseevka, 12.VI.2017, 1 ex., M.K. Ryzhov; Bolshoe Maresovo, 13.VI.2008, 4 ex. Bolshie Berezniki Dist., Simkin, 9.VII.2009, 1 ex. Kochurovo Dist., Staroe Turdaki, VI-VII.2008, 1 ex.; Podlesnaya Tavla, 8.V.2016, 1 ex.

**Habitat.** Beetles were found on grassy and arboreal vegetation (Figure 2). The species occurs in a wide variety of biotopes (in mixed, deciduous forests, alder forests, floodplain and dry meadows, in pine forests of various types and ages, on the outskirts of marshes, steppe slopes, in vegetable gardens and orchards, agroecosystems, forest shelterbelts, parks and squares of cities). The number of gatherings in soil traps in different biotopes is approximately the same: in the deciduous forest - 1.4 ex./100 trap-days, in the mixed forest - 1.2, in pine forests - 1.1, in birch wood - 1.4.

*Danosoma conspersa* (Gyllenhall, 1808)

**Distribution.** Temnikov Dist. (Egorov et al. 2016). Ichalki Dist. (Egorov and Ruchin 2009).

**Materials.** Ichalki Dist., NPS, Lvoovskoe forestry, quar. 53, 5.VI-31.VII.2017, 5 ex., G.B. Semishin.

**Habitat.** According to our observations the main habitats are mixed forests. Beetles were found under the bark of pine logs frequently.

*Danosoma fasciata* (Linnaeus, 1758)

**Distribution.** Temnikov Dist. (Timraleev and Chikina 1991; Kurmaeva et al. 2008; Feoktistov 2011; Egorov et al. 2016).

**Habitat.** According to our observations the species occurs in pine forests and mixed forests. Beetles were found under the bark of dead fir trees.

*Lacon lepidopterus* (Panzer, 1800)

**Distribution.** Temnikov Dist. (Egorov and Ruchin 2014; Egorov et al. 2015, 2016, 2017). Found only in the Mordovia Reserve.

**Materials.** Temnikov Dist., MSNR, cord. Valzenski, 18.IV.2017, 1 ex.; Pusha, 22.V.2017, 1 ex.

**Habitat.** Inhabits spruce forests, pine forests, mixed forests, floodplain forests. Beetles were found under the bark of pine logs.

**Subfamily Elaterinae Leach, 1815**

*Adrastus pallens* (Fabricius, 1792)

**Materials.** Ichalki Dist., NPS, Barakhmanovskoe forestry, quar. 112, 1-15.VIII.2017, 1 ex., G.B. Semishin.

**Habitat.** It is caught at the edge of mixed forest in soil traps.
Synaptus filiformis (Fabricius, 1781)

**Distribution.** Bolshie Berezniki Dist. (Timraleev and Chikina 1991).

**Materials.** Zubova Polyana Dist., Kargashino, 29.VII.2009, 1 ex.

**Habitat.** The species was caught once in a floodplain.

- Agriotes acuminatus (Stephens, 1830)

**Distribution.** Lyambir Dist. (Loginova et al. 2006).

**Remark.** It is not included in the list of fauna of the Russian beetles (Guryeva 1979; Prosvirov 2018). The area is located much to the west (Merkli and Mertlik 2005; Tolasch et al. 2010; Németh et al. 2014).

Agriotes lineatus (Linnaeus, 1767)

**Distribution.** Temnikov Dist. (Timraleev and Chikina 1991; Kurmaeva et al. 2008; Feoktistov 2011; Egorov and Ruchin 2013, 2014; Egorov et al. 2015, 2016). Elniki Dist. (Timraleev and Chikina 1991). Staroe Shaigovo Dist. (Timraleev and Chikina 1991). Bolshoe Ignatovo Dist. (Ruchin and Alekseev 2008). Ardatov Dist. (Timraleev and Chikina 1991). Atyashevo Dist. (Timraleev et al. 2004). Dubenki Dist. (Timraleev and Chikina 1991). Ruzaevka Dist. (Timraleev and Chikina 1991; Ruchin and Alekseev 2008). Lyambir Dist. (Timraleev and Chikina 1991). Bolshie Berezniki Dist. (Timraleev and Chikina 1991; Ruchin and Alekseev 2008).

**Materials.** Temnikov Dist., MSNR, cord. Steklyannyi, 28.V.2013, 1 ex.; cord. Inorski, 28.V.-1.VI.2017, 2 ex., G.B. Semishin. Zubova Polyana Dist., Vysha, VI.2008, 1 ex. Elniki Dist., Novye Pichingshi, IV-VI.2014, 3 ex. Bolshoe Ignatovo Dist., NPS, Aleksandrovskoe forestry, Lesnoi, IV-V.V.2008, 6 ex.; Barakhamanskoje forestry, quar. 108, IV-V.V.2008, 2 ex., Lvovskoe forestry, quar. 53, IV-V.V.2008, 1 ex. Ardatovo Dist., Svetotekhnika, 18.V.2008, 1 ex. Romodanovo Dist., Pushkino, VIII.2013, 6 ex. Chamzinka Dist., Komsomolski, VIII.2009, 1 ex., M.K. Ryzhov. Ruzaevka Dist., Levzhenskiy, V.2007, 2 ex. Bolshie Berezniki Dist., Simkino, 9.VII.2009, 1 ex. Koekhurovo Dist., Koekhurovo, VII.2009, 1 ex., L. Timoshkina.

Figure 2. Photo of click beetles. A. Agrypnus murinus (Chamzinka Dist., Alekseevka, photograph by M.K. Ryzhov); B. Ampedus pomonae (Temnikov Dist., MSNR, quar. 408, photograph by O.N. Artaev); C. Ampedus sanguinolentus (Temnikov Dist., MSNR, quar. 408, photograph by O.N. Artaev); D. Athous haemorrhoidalis (Chamzinka Dist., Alekseevka, photograph by M.K. Ryzhov); E. Athous subfuscus (Temnikov Dist., MSNR, quar. 408, photograph by O.N. Artaev); F. Denticollis linearis (Chamzinka Dist., Alekseevka, photograph by M.K. Ryzhov); G. Limonius minutus (Temnikov Dist., MSNR, cord. Inorski, photograph by O.N. Artaev); H. Hemicrepidius niger (Bolshie Berezniki Dist., 9 km S Simkino, photograph by A.B. Ruchin); I. Prosternon tessellatum (NPS, Barakhamanskoje forestry, quar. 108, photograph by A.B. Ruchin); J. Selatosomus cruciatus (Temnikov Dist., MSNR, cord. Inorski, photograph by A.B. Ruchin).
**Habitat.** The species occurs in various biotopes: birch forests, aspen forests, forest shelterbelts, deciduous and mixed forests, floodplain and dry meadows, steppe slopes, spruce groves.

*Agriotes obscurus* (Linnaeus, 1758)

**Distribution.** Temnikov Dist. (Kurmaeva et al. 2008; Feoktistov 2011; Egorov and Ruchin 2013, 2014; Egorov et al. 2015, 2017). Bolshoe Ignatovo Dist., Ruzaevka Dist. (Ruchin and Alekseev 2008).

**Materials.** Tensugevo Dist., Barashevo, V.2008, 2 ex. Temnikov Dist., Tarkhany, V.2009, 1 ex. Temnikov Dist., MSNR, quar. 86, VI-VII.2011, 24 ex.; quar. 34, VI-VII.2011, 1 ex.; quar. 114, V-VI.2014, 1 ex. Torbeevo Dist., Vindrey, 6.VI.2008, 1 ex. Elniki Dist., Novoyamskaya Sloboda, 22.VII.2017, 1 ex. Krasnoslobodsk Dist., Selishchi, V.2009, 5.VI.2009, 2 ex. Bolshoe Ignatovo Dist., NPS, Aleksandrovskoe forestry, Lesnoi, V.2007, 37 ex. Ichalki Dist., NPS, Lvovskoe forestry, quar. 53, 21.V.2008, 27.VI.2008, IV-V.2008, 3-17.VII.2017, 9.VI.2017, 19 ex.; Kemlyanskoe forestry, Smolny, V.2009, 1 ex. Inser Dist., Kochetovka, 2015, 3 ex. Ruzaevka Dist., Levzhenskiy, V.2007, 6 ex.; Streletskaia Sloboda, V-VI.2009, 1 ex. Saransk, V.2015, 3 ex.

**Habitat.** The species occurs in floodplain high-grass meadows, in willow thickets along river banks, in pine forests, aspen forests, in mixed forests, on steppe slopes, near vegetable gardens. It was also noted on the fumes (in forests, aspen forests, forest shelterbelts, deciduous and mixed forests, on meadows, on steppe slopes, in burrows of marmots, in tidal spruce forests with alder, birch, in pine-spruce forests with birch. The number of soil traps for different biotopes is approximately similar: in the birch forest - 2.5 ex./100 trap-days, on the dry meadow - 1.8, on the steppe slope - 1.5, in the deciduous forest - 0.4.

*Agriotes ustulatus* (Schaller, 1783)

**Distribution.** Bolshie Berezniki Dist. (Timraleev and Chikina 1991).

**Materials.** Bolshie Berezniki Dist., Simkino, 9.VII.2009, 1 ex.

**Habitat.** The species occurs in the steppe areas.

*Dalopius marginatus* (Linnaeus, 1758)

**Distribution.** Temnikov Dist. (Plavilshchikov 1964; Timraleev and Chikina 1991; Kurmaeva et al. 2008; Egorov and Ruchin 2012, 2013, 2014; Egorov et al. 2015, 2016, 2017). Ichalki Dist. (Egorov and Ruchin 2009). Ardatov Dist. (Timraleev and Chikina 1991). Ruzaevka Dist. (Timraleev and Chikina 1991).

**Materials.** Temnikov Dist., MSNR, Pushta, 3.V.2008, V.2009, 2 ex.; quar. 424, 13.V.2017, 1 ex.; quar. 425, 13.V.2017, 1 ex., L.V. Egorov; quar. 426, 13.V.2017, 1 ex., L.V. Egorov, G.B. Semishin; quar. 436, 12.V.-15.VI.2017, 26 ex., L.V. Egorov, G.B. Semishin; quar. 442, 3.VI.2017, 2 ex.; quar. 437, 29.VI.2017, 1 ex.; cord. Drozhdhenovski, 18.VI.2017, 1 ex.; cord. Pavlovskiy, 6.VII.2017, 1 ex., G.B. Semishin. Zuvba Polyan Forestry, Tenishevo, 2.V.2008, 1 ex.; 5 km SW Bystrischi, 1.V.2008, 2 ex.; Izvest, 8.VI.2008, 1 ex. Ichalki Dist., NPS, Kemlyanskoe forestry, Smolny, V.2009, 1 ex.; Barakhmanovskoe forestry, quar. 108, 20.VI.-4.VII.2017, 1 ex., G.B. Semishin. Zuvba Polyan Forestry, Smolny, V.2009, 1 ex.; Barakhmanovskoe forestry, quart. 53, 7.VI.2017, 19.VI.2017, 2 ex., G.B. Semishin. Ruzaevka Dist., Streletskaia Sloboda, V-VI.2009, 1 ex.

**Habitat.** It is forest species. Every year, in mass, it is found in the forests of the Mordovia Reserve. It occurs in glades, fringes, glades, roads in various types of forests (floodplain deciduous, mixed, pine forests of various types and ages, spruce forests). According to the data of catches in the window traps the main number of beetles came from 12th May to 15th June, and after flight was not observed (cf. Table 1). Sometimes it flies into the light.

*Ectinus aterrimus* (Linnaeus, 1760)

**Distribution.** Temnikov Dist. (Timraleev and Chikina 1991; Kurmaeva et al. 2008; Feoktistov 2011; Egorov and Ruchin 2012, 2013, 2014; Egorov et al. 2015, 2016, 2017). Bolshoe Ignatovo Dist. (Ruchin and Alekseev 2008).

**Materials.** Zubova Polyan Forestry, 5 km SW Bystrischi, 1.V.2008, 2 ex. Temnikov Dist., MSNR, cord. Inorski, 12.V.-1.VI.2017, 1-15.VI.2017, 8 ex., L.V. Egorov, G.B. Semishin.
Table 1. Seasonal dynamics of the number of click beetles from window traps in the Mordovia Reserve (2017)

| Species                      | Time for collection |
|------------------------------|---------------------|
|                              | 12-1.VI | 1-5.VI | 15-29.VI | 28.VI-13.VII | 13-27.VII | 27.VII-6.VIII |
| Athous subfuscus             | 19      | 14     | 1        | 1           | 1          | 1           |
| Athous vittatus              | 6       | 1      |          |             |            |             |
| Hemicrepidius niger          |         |        |          |             | 1          | 4          |
| Diacanthous undulatus        |         |        |          |             | 1          | 2          |
| Denticollis linearis         | 2       | 13     | 1        | 2           | 2          |             |
| Limonius minutus             | 2       | 1      | 3        | 1           |            | 1           |
| Anostirus castaneus          |         |        |          |             | 1          | 1          |
| Ampedus balteatus            | 6       | 2      | 1        | 1           | 1          | 1           |
| Ampedus nigerrimus           |         |        |          |             | 1          | 1          |
| Ampedus erythrogonus         |         |        |          |             | 1          | 1          |
| Ampedus nigrinus             | 2       |        |          |             | 1          | 1          |
| Ampedus pomonae              |         |        |          |             | 1          | 1          |
| Ampedus pomorum              | 4       | 1      | 3        | 1           | 1          | 1           |
| Ampedus praestus             |         |        |          |             | 2          | 1          |
| Melanotus castanipes         | 22      |        | 1        |             | 1          |             |
| Agriotes lineatus            | 1       |        |          |             | 1          |             |
| Ectinus aterrimus            | 7       |        | 1        |             | 1          |             |
| Dalopius marginatus          | 18      | 8      |          |             | 1          |             |
| Total, ex.                   | 89      | 49     | 18       | 8           | 9          | 4           |
| Number of species            | 11      | 13     | 8        | 7           | 5          | 3           |

Habitat. The species occurs in wet meadows, in ripe spruce forests with pine, in tidal fir groves with alder, in floodplain deciduous forests with prevalence of aspen, in ripe pine forests with spruce, birch. According to the data of catches in the window traps, the main number of beetles came from 12th May to 15th June, after that flight was not observed (cf. Table 1).

Ampedus balteatus (Linnaeus, 1758)

Distribution. Temnikov Dist. (Timraleev and Chikina 1991; Kurmaeva et al. 2008; Feoktistov 2011; Egorov and Ruchin 2012, 2013, 2014; Egorov et al. 2015, 2016, 2017). Ichalki Dist., Bolshie Ignatovo Dist. (Egorov and Ruchin 2009).

Materials. Temnikov Dist., Temnikov, V.2009, 1 ex. Temnikov Dist., MSNR, Pushita, 3.V.2008, 24.VII.2017, 2 ex.; quar. 420, 4.V.2008, 1 ex.; quar. 437, 12.V.2017, 1 ex., L.V. Egorov; cord. Inorski, 1-5.VI.2017, 1 ex., L.V. Egorov, G.B. Semishin, same label, 1-5.VI.2017, 1 ex. Ichalki Dist., NPS, Lvovskoe forestry, quar. 53, 22.V.-5.VI.2017, 2 ex., G.B. Semishin. Chamzinka Dist., Konsomol’ski, August 2009, 1 ex., M.K. Ryzhov.

Habitat. The species inhabits forests: mixed, pine forests of various types and ages, ripe spruce forests with birch. Adults visit the inflorescence of Umbelliferae. According to the data of catches in the window traps, the peak of the imago flight was in the first half of June (cf. Table 1).

Ampedus elongatus (Fabricius, 1787)

Distribution. Temnikov Dist. (Plavilshchikov 1964; Egorov and Ruchin 2012; Egorov et al. 2016, 2017). Ichalki Dist. (Egorov and Ruchin 2009).

Materials. Temnikov Dist., MSNR, cord. Inorski, 9.V.2009, 1 ex.; cord. Pavlovskiy, 16.VI.2017, 1 ex., G.B. Semishin; cord. Drozdhenovskiy, 18.VI.2017, 1 ex. Torbeevo Dist., Vindrey, 6.VI.2008, 1 ex. Kadoshkino Dist., Latyshovka, 4.VI.2016, 1 ex. Ruzaevka Dist., Khoovanshchina, 12.VI.2017, 1 ex.

Habitat. The species occurs in mixed and deciduous forests along the fringes and glades.

Ampedus erythrogonus (P.W. Müller, 1821)

Distribution. Temnikov Dist. (Egorov et al. 2016). Temnikov Dist. (Egorov et al. 2017). Elniki Dist. (Timraleev and Chikina 1991). Staroe Shaigovo Dist. (Timraleev and Chikina 1991). Lyambir Dist. (Timraleev and Chikina 1991). Bolshie Berezniki Dist. (Timraleev and Chikina 1991).

Materials. Temnikov Dist., MSNR, cord. Inorski, 1. VI.-13.VII.2017, 3 ex., L.V. Egorov, G.B. Semishin.

Habitat. Mostly in coniferous, floodplain deciduous and mixed forests. According to the data of catches from the window traps the highest activity from 1st June to 13th July (cf. Table 1).

Ampedus karpathicus (Buysson, 1886) (=Ampedus suecicus Palm, 1976)

Distribution. Temnikov Dist. (Egorov et al. 2015, 2016, 2017).

Habitat. The species was repeatedly noted only in the territory of the Mordovia Reserve in ripe spruce forests with pine, birch.

Remark. In our early publications, it is shown as A. suecicus. In the work of Mertlik (2018) it is shown that Ampedus suecicus Palm, 1976 is the younger synonym of Ampedus karpathicus (Buysson, 1886).

Ampedus nigerrimus (Lacordaire, 1835)

Distribution. Temnikov Dist. (Ruchin and Egorov 2017a).

Materials. Temnikov Dist., MSNR, cord. Inorski, 12.V.-27.VII.2017, 13 ex., L.V. Egorov, G.B. Semishin.

Habitat. According to the data of catches in the window traps in the mixed forest, the main number of beetles fell from 12th May to 1st June, then the number decreased, but the imago flew until the end of July (cf. Table 1).
Table 1). A rare European species, a denizen of rotten wood (De Zan et al. 2014).

**Remark.** It is known in Russia from the Krasnodar territory, Voronezh region, Tatarstan (Guryeva 1979).

*Ampedus nigroflavus* (Goeze, 1777)

**Distribution.** Temnikov Dist. (Timraleev and Chikina 1991; Kurmaeva et al. 2008; Feoktistov 2011; Egorov and Ruchin 2014; Egorov et al. 2016, 2017).

**Materials.** Temnikov Dist., MSNR, cord. Inorski, 12.V.-1.VI.2017, 2 ex., L.V. Egorov, G.B. Semishin.

**Habitat.** The species occurs in mixed forests, mature pine forests with spruce, birch, ripe spruce forests with pine, birch, floodplain oak forests, and linden. According to the data of catches in the window traps, the peak of the imago flight was in the second half of May (cf. Table 1).

*Ampedus nigroflavus* (Goeze, 1777)

**Distribution.** Temnikov Dist. (Egorov et al. 2016).

**Habitat.** Single finds are made in a ripe sphagnum pine with spruce, birch and mature spruce with pine.

*Ampedus pomonae* (Stephens, 1830)

**Distribution.** Temnikov Dist. (Plavilshchikov 1964; Timraleev and Chikina 1991; Kurmaeva et al. 2008; Egorov and Ruchin 2012, 2013, 2014; Egorov et al. 2016, 2017).

**Materials.** Temnikov Dist., MSNR, cord. Inorski, 1-15.VI.2017, 29.VI.-13.VI.2017, 2 ex., L.V. Egorov, G.B. Semishin; quar. 395, 18.VI.2017, 1 ex., G.B. Semishin. Torbeevo Dist., Vindrey, 6.VI.2008, 1 ex.

**Habitat.** The species occurs in pine forests with spruce, birch, riparian spruce grove, birch, birch forests with pine, aspen, linden, mixed forests, floodplain oak forests with lindens, wet deciduous forests (Figure 2).

*Ampedus pomorum* (Herbst, 1784)

**Distribution.** Temnikov Dist. (Egorov et al. 2015, 2016, 2017). Ardatov Dist. (Ruchin et al. 2009).

**Materials.** Temnikov Dist., Kitaeva, 12.V.2013, 1 ex.; Andreevka, 11.V.2013, 1 ex. Temnikov Dist., MSNR, quar. 34, VI-VII.2011, 1 ex., quar. 358/389, 20.V.2013, 1 ex.; quar. 424, 13.V.2017, 1 ex., L.V. Egorov; quar. 354, 20.V.2017, 1 ex.; quar. 357, 4.VII.2017, 1 ex.; cord. Inorski, 2.VI.2017, 1 ex., G.B. Semishin, same label, 12.V.-27.VII.2017, 11 ex., L.V. Egorov, G.B. Semishin. Bolshe Berezniki Dist. 9 km S Simkino, 10.VII.2009, 1 ex. Kochkurovo Dist., Podlesnaya Tavla, 8.V.2016, 1 ex.

**Habitat.** It is confined to forest biotopes. It occurs in clearings, fringes, glades in different types of forest: mixed, birch forests, pine forests of various types, lime trees, floodplain foliage. According to the data of catches in the window traps, the main number of beetles came from 12th May to 29th June, the flight lasted until the first half of August (cf. Table 1). Adults visit the inflorescence of Umbelliferae, and also occur under the bark of birch and aspen stumps and logs. It occurs on the fire sites.

*Ampedus praeustus* (Fabricius, 1792)

**Distribution.** Temnikov Dist. (Egorov and Ruchin 2013, 2014; Egorov et al. 2015, 2016, 2017). Staroe Shaigovo Dist. (Timraleev and Chikina 1991). Bolshe Berezniki Dist. (Timraleev and Chikina 1991).

**Materials.** Temnikov Dist., MSNR, Pusha, 11.IV.2008, 14.VI.2017, 2 ex.; quar. 319, 13.VII.2017, 1 ex.; cord. Inorski, 15-29.VI.2017, 13-27.VII.2017, 3 ex., L.V. Egorov, G.B. Semishin. Staroe Shaigovo Dist., Staroe Akshino, 11.V.2008, 1 ex. Bolshoe Ignatovo Dist., NPS, Aleksandrovskoe forestry, quar. 10, 22.V.2008, 1 ex. Ichalki Dist., NPS, Lvovosko forestry, quar. 53, 5-19.VI.2017, 1 ex., G.B. Semishin.

**Habitat.** The species occurs in deciduous and mixed forests, ripe spruce forests with pine, aspen, mature pine forests with spruce, birch, in floodplain oak forests with lime trees.

*Ampedus sanguineus* (Linnaeus, 1758)

**Distribution.** Temnikov Dist. (Ruchin et al. 2009; Egorov and Ruchin 2013; Egorov et al. 2015, 2016). Zubova Polyana Dist. (Ruchin et al. 2009).

**Habitat.** The species occurs in ripe pine forests with spruce, birch, aspen, ripe sphagnum pine forests with spruce, birch, mixed forests.

*Ampedus sanguinolentus* (Schrank, 1776)

**Distribution.** Temnikov Dist. (Egorov and Ruchin 2012; Egorov et al. 2015, 2016, 2017). Ichalki Dist. (Egorov and Ruchin 2009). Bolshe Berezniki Dist. (Timraleev and Chikina 1991).

**Materials.** Temnikov Dist., Andreevka, 11.V.2013, 1 ex.; Mikhailovka, VI-VII.2012, 1 ex. Temnikov Dist., MSNR, Pusha, 27.IV.2009, 1 ex. Zubova Polyana Dist., Tenishevo, 2.V.2008, 1 ex.; Yavas, V.2008, 1 ex. Staroe Shaigovo Dist., Staroe Akshino, 11.V.2008, 1 ex. Ichalki Dist., NPS, Lvovoske forestry, quar. 53, 18.VI.2008, 1 ex. Chamzinka Dist., Komsmoloski, VI.2008, 1 ex., M.K. Ryshov. Bolshe Berezniki Dist., 9 km S Simkino, 28.VI.2009, 1 ex., D.K. Kurmaeva. Saransk, 22.IV.2008, 28.V.2009, 2 ex.

**Habitat.** The species occurs in floodplain forests, small-leaved forests and broad-leaved forests with predominance of aspen, in pine forests with spruce (Figure 2).

*Ampedus tristis* (Linnaeus, 1758)

**Distribution.** Temnikov Dist. (Egorov and Ruchin 2012; Egorov et al. 2016, 2017). It is confined to fire sites. It was repeatedly noted only in the territory of the Mordovia Reserve in pine forests with spruce, mixed forests, ripe spruce forests with pine, birch. Imago was found under the bark of a spruce log. It visits inflorescences Umbelliferae.

*Sericus brunneus* (Linnaeus, 1758)

**Distribution.** Temnikov Dist. (Timraleev and Chikina 1991; Kurmaeva et al. 2008; Feoktistov 2011; Egorov and Ruchin 2012, 2013; Egorov et al. 2015, 2016, 2017).
Materials. Temnikov Dist., MSNR, quar. 424, 13.V.2017, 1 ex., L.V. Egorov; cord. Inorski, 3.VI.2017, 3 ex., G.B. Semishin.

Habitat. The species is constantly found in the Mordovia Reserve. It inhabits on the fringes, clearings, glades in pine forests, mixed forests, spruce forests. It is often wiped out from young pines. It is noted on the fumes.

Subfamily Melanotinae Candèze, 1859 (1856)

Melanotus brunnipes (Germar, 1823)

Distribution. Republic of Mordovia (Timraleev 1992, 1996; Timraleev et al. 2001, 2007).

Habitat. Steppe view.

Remark. The species is known from Chuvashia (Egorov 2013), Ulyanovskaya (Isayev 2000), Tula and Lipetsk regions (Dorofeev 2006; Tsurikov 2009), the Middle Volga region (Dolin 1988).

Melanotus castanipes (Paykull, 1880)

Distribution. Temnikov Dist. (Egorov and Ruchin 2013, 2014; Egorov et al. 2015, 2016, 2017). Ichalki Dist., Chamzinka Dist., Kochovkuro Dist. (Ruchin et al. 2009).

Materials. Temnikov Dist., MSNR, cord. Inorski, 12.V.-15.VI.2017, 23 ex., L.V. Egorov, G.B. Semishin.

Habitat. The species occurs in ripe spruce forests with pine and birch, deciduous forests, floodplain deciduous forests with predominance of aspen, mixed forests, pine forests with spruce. According to the data of catches in the window traps, the main number of beetles came from 12th May to 1st June, from the second half of June the flight ceased (cf. Table 1). It flies into the light.

? Melanotus crassicolis (Erichson, 1841)

Distribution. Temnikov Dist. (Plavilshchikov 1964). Bolshie Berezenki Dist. (Timraleev and Chikina 1991).

Remark. The species is known from the Brest region (Belarus) (Alexandrović 1995), Tula (Dorofeev 2006), Ulyanovsk (Isayev 2000) regions, from the Moscow region on the discovery of the end of the XIX century (Nikitsky et al. 1996). Instructions for Mordovia likely refer to M. castanipes. It is possible to live in the republic, but it needs confirmation.

? Melanotus fusciceps (Gyllenhal, 1817)

Distribution. Temnikov Dist. (Plavilshchikov 1964).

Remark. The species is shown for the adjacent Ulyanovsk region from the Cretaceous steppes (Isayev 2000), therefore the indication of Plavilshchikov (1964) is likely erroneous. It is possible to live in the republic, but it needs confirmation.

Melanotus villosus (Geoffroy, 1785)

Distribution. Temnikov Dist. (Plavilshchikov 1964; Timraleev and Chikina 1991; Kurmaeva et al. 2008). Bolshie Berezenki Dist. (Timraleev and Chikina 1991).

Materials. Saransk, 3.VI.2009, 1 ex.

Habitat. The species was caught at the edge of a deciduous forest.

Subfamily Hypnoidinae Schwarz, 1906

Hypnoidus riparius (Fabricius, 1792)

Distribution. Temnikov Dist. (Egorov and Ruchin 2014).

Habitat. It was caught in mixed forests near water bodies.

Subfamily Denticollinae Stein & J. Weise, 1877 (1856)

Athous haemorrhoidalis (Fabricius, 1801)

Distribution. Temnikov Dist. (Plavilshchikov 1964; Egorov and Ruchin 2014; Egorov et al. 2015, 2017). Bolshie Berezenki Dist. (Timraleev and Chikina 1991).

Materials. Ichalki Dist., NPS, Lvovskoe forestry, quar. 53, 9.VI.2017, 1 ex., G.B. Semishin. Ardatovo Dist., Svetotekhnika, 18.V.2008, 1 ex. Bolshie Berezenki Dist., окр. д. Нерлей, 5.VI.2016, 1 ex. Saransk, 31.V.2009, VI.2014, 2 ex. Chamzinka Distr., Alekseevka, 12.VI.2017, 1 ex., M.K. Ryzhov.

Habitat. The species was noted along the fringes of deciduous forests, in linden trees with aspen, pine and spruce, in floodplain oak forests with lime trees, on floodplain meadows (Figure 2).

Athous subfuscus (O.F. Müller, 1764)

Distribution. Temnikov Dist. (Plavilshchikov 1964; Timraleev and Chikina 1991; Kurmaeva et al. 2008; Egorov and Ruchin 2012, 2013, 2014; Egorov et al. 2015, 2016, 2017). Bolshoe Ignatovo Dist., Ichalki Dist. (Egorov and Ruchin 2009).

Materials. Temnikov Dist., MSNR, Pusha, 30.V.2008, IV-V.2008, V.2009, 7 ex.; cord. Inorski, 12.V.-27.VII.2017, 36 ex., L.V. Egorov, G.B. Semishin. Torbeevo Dist., Vindrey, 6.VI.2008, 1 ex. Ichalki Dist., NPS, Kemlyanskoie forestry, Smolny, V.2009, 1 ex. Bolshie Berezenki Dist., 9 km S Simkino, 5.VIII.2013, 1 ex.

Habitat. The species occurs in a wide variety of forest biotopes (mixed, deciduous forests, pine forests of various types and ages, forest shelter belts) (Figure 2). Beetles often visit the inflorescence of Umbelliferae. According to the data of catches in the window traps, the main number of beetles fell from 12th May to 15th June (cf. Table 1). The number of different biotopes from the data of catches into soil traps varies: in the spruce forest - 0.6 ex./100 trap-days, in the mixed forest - 0.2, in pine-trees - 0.4.

Athous vittatus (Fabricius, 1792)

Distribution. Temnikov Dist. (Plavilshchikov 1964; Timraleev and Chikina 1991; Kurmaeva et al. 2008; Egorov et al. 2017). Ichalki Dist. (Egorov and Ruchin 2009).

Materials. Temnikov Dist., Tarkhany, V.2009, 5.VI.2009, 2 ex. Temnikov Dist., MSNR, cord. Inorski, 12.V.-15.VI.2017, 7 ex., L.V. Egorov, G.B. Semishin. Ardatovo Dist., Bolshoe Kuzmino, 26.V.2017, 1 ex.; Svetotekhnika, 18.V.2008, 1 ex. Insar Dist., Kochetovka, 4.VI.2016, 1 ex. Chamzinka Dist., Bolshoe Maresevo, 13.VI.2008, 1 ex. Lyambir Distr., Ekaterinovka,
29.V.2008, 2.VI.2009, 2 ex. Ruzaevka Dist., Sloboda, 19.V.2009, 1 ex.

**Habitat.** The species was found on the fringes and glades of deciduous forests (including floodplain forests, secondary forests of sprouts, etc.), in pine forests and mixed forests. According to the data of catches in the window traps, the main number of beetles fell from 12th May to 15th June (cf. Table 1).

**Limonia suturalis** (Geble, 1845)

**Distribution.** Temnikov Dist. (Timraleev and Chikina 1991).

**Remark.** In the Volga region habitation the species is known in the Saratov, Volgograd, and Astrakhan regions (Koval et al. 2001; Komarov 2002). An inhabitant of virgin steppes is associated with rodent burrows (Komarov 2002). Being in Mordovia is very unlikely, therefore we exclude the species from the composition of the fauna of the republican click beetles.

**Limonia minuta** (Linnaeus, 1758)

**Distribution.** Temnikov Dist. (Egorov and Ruchin 2012, 2013, 2014; Egorov et al. 2016, 2017). Ichalki Dist. (Egorov and Ruchin 2009).

**Materials.** Temnikov Dist., Temnikov, 1.VI.2008, V.2009, 2 ex. Temnikov Dist., MSNR, quar. 437, 29.VI.2017, 5 ex.; cord. Inorski, 9.V.2009, 21.VII.2017, 12.VII.2017, 4 ex., same label, 13.V.2017, 2 ex., L.V. Egorov; same label, 12.V.-6.VIII.2017, 7 ex., L.V. Egorov, G.B. Semishin. Ichalki Dist., NPS, Barakhmanovskoe forestry, quar. 74, 6.VI.2017, 1 ex., G.B. Semishin; Lvovskoe forestry, quar. 53, 23.V.2017, 9.VII.2017, 24.V.2022, 22.V.-5.VI.2017, 7.VI.2017, 9 ex., G.B. Semishin. Ruzaevka Dist., Levzhenskij, 9.VII.2009, 1 ex. Ichalki Dist., NPS, Lvovskoe forestry, quar. 437, 29.VI.2017, 1 ex., G.B. Semishin; Lvovskoe forestry, quar. 53, 23.V.2017, 9.VII.2017, 24.V.2022, 22.V.-5.VI.2017, 7.VI.2017, 9 ex., G.B. Semishin. Ruchin et al. 2009).

**Habitat.** The species occurs in mixed, deciduous forests, pine forests with spruce, birch, floodplain aspen (Figure 2). According to the data catches in the window traps, flight began from the middle of May and its peak occurred in the first half of June (cf. Table 1). Imago was often found on the inflorescences of Umbelliferae. Larvae were found in a rotten tinder fungus from a birch log.

**Diacyanthis undulatus** (DeGeer, 1774)

**Distribution.** Temnikov Dist. (Timraleev and Chikina 1991; Kurmaeva et al. 2008; Feoktistov 2011; Egorov and Ruchin 2013; Egorov et al. 2016, 2017).

**Materials.** Temnikov Dist., MSNR, cord. Inorski, 1-15.VI.2017, 4 ex., L.V. Egorov, G.B. Semishin.

**Habitat.** The species occurs in ripe spruce forests with pine, birch, in floodplain deciduous forests with aspen predominance, in mixed forests. According to the data catches in the window traps, the peak of the imago flight was in the first half of June (cf. Table 1). It is considered a stenotope forest species inhabiting old-broad leaved growth forests and pine forests (Mitter 1989; Nitsis and Barševskis 2011). In Europe the species is classified as indicator of forest ecosystems (Nieto, Alexander 2010).

**Hemicrepidius hirtus** (Herbst, 1784)

**Distribution.** Temnikov Dist. (Egorov et al. 2015). Ichalki Dist. (Egorov and Ruchin 2009).

**Materials.** Ardatovo Dist., Probuzhdenie, 2.VII.2008, 1 ex. Bolshie Berezniki Dist., 9 km S Simkino, 24.VI.2009, 29.VI.2009, 4 ex. Kochkurovo Dist., Starye Turdaki, 8.VII.2008, 1 ex. Saransk, 2014, 1 ex.

**Habitat.** The species was noted in deciduous and mixed forests, in floodplain oak forests, in floodplain meadows.

**Hemicrepidius niger** (Linnaeus, 1758)

**Distribution.** Temnikov Dist. (Egorov and Ruchin 2013, 2014; Egorov et al. 2015, 2016, 2017). Zubova Polyana Dist. (Timraleev et al. 2000). Ichalki Dist. (Timraleev, Aryanov 2001; Andreichev, Loginova 2005; Ruchin et al. 2007; Timraleev, Aryanov 2001). Saransk (Ruchin and Alekseev 2008).

**Materials.** Temnikov Dist., MSNR, quar. 376, 377.15.VII.2017, 2 ex.; quar. 437, 29.VI.2017, 1 ex., G.B. Semishin; cord. Inorski, 29.VI.-6.VIII.2017, 7 ex., L.V. Egorov, G.B. Semishin. Elniki Dist., Malye Mordovskie forestry, quar. 376, 377.15.VII.2017, 2 ex.; quar. 437, 29.VI.2017, 1 ex., G.B. Semishin; cord. Inorski, 29.VI.-6.VIII.2017, 7 ex., L.V. Egorov, G.B. Semishin. Elniki Dist., Malye Mordovskie forestry, quar. 376, 377.15.VII.2017, 2 ex.; quar. 437, 29.VI.2017, 1 ex., G.B. Semishin; cord. Inorski, 29.VI.-6.VIII.2017, 7 ex., L.V. Egorov, G.B. Semishin. Elniki Dist., Malye Mordovskie forestry, quar. 376, 377.15.VII.2017, 2 ex.; quar. 437, 29.VI.2017, 1 ex., G.B. Semishin; cord. Inorski, 29.VI.-6.VIII.2017, 7 ex., L.V. Egorov, G.B. Semishin. Elniki Dist., Malye Mordovskie forestry, quar. 376, 377.15.VII.2017, 2 ex.; quar. 437, 29.VI.2017, 1 ex., G.B. Semishin; cord. Inorski, 29.VI.-6.VIII.2017, 7 ex., L.V. Egorov, G.B. Semishin. Elniki Dist., Malye Mordovskie forestry, quar. 376, 377.15.VII.2017, 2 ex.; quar. 437, 29.VI.2017, 1 ex., G.B. Semishin; cord. Inorski, 29.VI.-6.VIII.2017, 7 ex., L.V. Egorov, G.B. Semishin. Elniki Dist., Malye Mordovskie forestry, quar. 376, 377.15.VII.2017, 2 ex.; quar. 437, 29.VI.2017, 1 ex., G.B. Semishin; cord. Inorski, 29.VI.-6.VIII.2017, 7 ex., L.V. Egorov, G.B. Semishin.

**Habitat.** The species occurs in various forest biotopes (in small-leaved and broad-leaved forests, floodwood oak forests), as well as in floodplain meadows and steppe slopes (Figure 2). According to the data of catches in the window traps, flight began from the end of June and its peak occurred in the second half of July (cf. Table 1).
? Stenagostus rufus (DeGeer, 1774)

**Distribution.** It was noted without specifying the locality of the findings (Timraleev et al. 2007).

**Remark.** A saproxylic species confined to forests (Lukin 2010; Mertlik 2017). Inhabitance in the republic is unlikely, but it is possible and requires confirmation.

*Actenicerus sjaelandicus* (O.F. Müller, 1764)

**Distribution.** Temnikov Dist. (Feoktistov 2011; Egorov and Ruchin 2012, 2013, 2014; Egorov et al. 2016). Bolshoe Ignatovo Dist. (Ruchin and Alekseev 2008). Ichalki Dist. (Andreichev and Loginova 2005; Ruchin et al. 2007).

**Materials.** Temnikov Dist., MSNR, quar. 86, VI-VII.2011, 1 ex.; quar. 114, VI-VII.2014, 1 ex. Ichalki Dist., NPS, Lvovskoe forestry, quar. 53, 21.V.2008, IV-V.2008, 17.VI.2008, 3 ex., same label, quar. 53, 24.V.2017, 1 ex., G.B. Semishin. Ardatovo Dist., Svetotekhnika, 18.V.2008, 1 ex.

**Habitat.** The species occurs in relatively moist biotopes: meadows, sphagnum pine forests with spruce, birch, floodplain deciduous forests, alders. It was also noted in the gardens and fire sites.

*Anostirus castaneus* (Linnaeus, 1758)

**Distribution.** Temnikov Dist. (Timraleev and Chikina 1991; Kurmaeva et al. 2008; Feoktistov 2011; Egorov and Ruchin 2012, 2013, 2014; Egorov et al. 2015, 2016, 2017).

**Materials.** Bolshoe Ignatovo Dist., Ichalki Dist. (Egorov and Ruchin 2009).

**Materials.** Temnikov Dist., MSNR, Pushhta, 11.IV.2008, 3.V.2008, 4 ex.; quar. 420, 4.V.2008, 1 ex.; cordon. Inorski, 15-29.VI.2017, 1 ex., L.V. Egorov, G.B. Semishin. Zubova Polyana Dist., 5 km SW Bystrisch, 1.V.2008, 1 ex. Kochkurovo Dist., Kočkurovo, 8.V.2016, 1 ex.

**Habitat.** With regard to distribution, the species is mainly restricted to forest biotopes (mixed and deciduous forests, spruce forests with pine, birch, aspen). Adults were found in the inflorescences of Umbelliferae.

*Aplotarsus incanus* (Gyllenhal, 1827)

**Distribution.** Temnikov Dist. (Timraleev and Chikina 1991; Kurmaeva et al. 2008; Feoktistov 2011; Egorov and Ruchin 2012, 2013, 2014; Egorov et al. 2015, 2016, 2017).

**Materials.** Temnikov Dist., MSNR, quar. 408, 13.V.2017, 1 ex., L.V. Egorov; quar. 403, 20.V.2017, 1 ex.; cordon. Pavlovsksiy, 16.VI.2017, 1 ex., G.B. Semishin.

**Habitat.** The species inhabit humidified biotopes (floodplain meadows, sphagnum pine forests, moistened spruce forests, deciduous wet forests along the banks of water bodies). Imago is often on the inflorescences of Umbelliferae.

*Ctenicer a pectincornis* (Linnaeus, 1758)

**Distribution.** Temnikov Dist. (Egorov and Ruchin 2013; Egorov et al. 2015, 2016, 2017). Bolshoe Ignatovo Dist., Kočkurovo Dist. (Ruchin and Alekseev 2008).

**Materials.** Temnikov Dist., MSNR, Pushhta, IV-V.2008, 2 ex. Bolshoe Ignatovo Dist., NPS, Aleksandrovskoe forestry, quar. 10, 22.V.2008, 1 ex. Ichalki Dist., NPS, Lvovskoe forestry, quar. 53, 21.V.2008, 21.VI.2008, 3 ex., same label, 24.V.2017, 23.V.2017, 2 ex., G.B. Semishin. Ardatovo Dist., Bolshoe Kuzmino, 26.V.2017, 2 ex. Chamzinka Dist., Bolshoe Marsevo, 13.VI.2008, 1 ex.

**Habitat.** The main habitats are the fringes and glades of forest tracts: mixed, pine forests with spruce, birch, spruce forests with pine and birch, deciduous.

? Liotrich us affinis (Paykull, 1800)

**Distribution.** Ruzaevka Dist. (Antsiferova and Dobrosmyslov 1966).

**Remark.** Palearctic taiga and forest-tundra species (Gurieva 1989; Medvedev 2005; Delnatt et al. 2013). Inhabitance in the republic requires confirmation.

*Orithales serraticornis* (Paykull, 1800)

**Distribution.** Temnikov Dist. (Timraleev and Chikina 1991; Feoktistov 2011).

**Habitat.** The species occurs mainly on the fringes, roadsides on the shoots of young pines, and also on floodplain meadows in the grass stand (Medvedev 2005, Mertlik 2015).

*Paraphotistus impressus* (Fabricius, 1792)

**Distribution.** Temnikov Dist. (Plavilshchikov 1964; Timraleev and Chikina 1991; Kurmaeva et al. 2008; Egorov et al. 2016, 2017). Bolshoe Ignatovo Dist. (Ruchin and Alekseev 2008).

**Materials.** Temnikov Dist., MSNR, quar. 361, V-VI.2011, 1 ex. Staroe Shaigoovo Dist., Staroe Akshino, 11.V.2008, 1 ex. Ichalki Dist., NPS, Kemlyanskoe forestry, Smolny, V.2009, 1 ex.

**Habitat.** The species occurs on wet meadows, in ripe sphagnum pine forests with spruce, birch, deciduous forests, mixed forests. It was noted on the fire sites.

*Paraphotistus nigricornis* (Panzer, 1799)

**Distribution.** Temnikov Dist. (Timraleev and Chikina 1991; Kurmaeva et al. 2008; Feoktistov 2011; Egorov and Ruchin 2012; Egorov et al. 2015, 2016, 2017). Ruzaevka Dist. (Ruchin and Alekseev 2008).

**Materials.** Temnikov Dist., Tarkhany, 5.VI.2009, 1 ex.

**Habitat.** The species was recorded in the floodplain oak with linden, in birch forest with pine, aspen, linden, and also on the steppe slope.

*Prosternon tessellatum* (Linnaeus, 1758)

**Distribution.** Temnikov Dist. (Bondarenko 1964; Plavilshchikov 1964; Kurmaeva et al. 2008; Egorov and Ruchin 2012, 2013, 2014; Egorov et al. 2015, 2016, 2017). Ichalki Dist. (Ruchin et al. 2007). Bolshoe Ignatovo Dist., Ruzaevka Dist. (Ruchin and Alekseev 2008).

**Materials.** Temnikov Dist., Temnikov, 10.V.2009, 1 ex.; Andreevka, 11.V.2013, 2 ex.; Kitaevka, 12.V.2013, 1 ex.; Russkoe Karaoev, 21.V.2017, 2 ex. Temnikov Dist., MSNR, quar. 354, 20.V.2017, 5 ex.; quar. 437, 29.VI.2017, 2 ex.; quar. 357, 4.VII.2017, 1 ex.; quar. 420, 6.VIII.2017, 1 ex.; cordon. Drozdhenovski, 18.VI.2017, 3 ex.; cordon. Inorski, 14.VI.2017, 1 ex.; cordon. Pavlovsky, 17.VI.2017,
6.VIII.2017, 2 ex.; cord. Podrubnyi, 4.VIII.2017, 2 ex. Zubova Polyana Dist., 5 km SW Byistrisch, I.V.2008, 2 ex.; Mordovskaya Polyana, 7.VI.2008, 1 ex. Atyurevo Dist., Chudunia, 7.VI.2008, 1 ex.; Mordovskaya Kozlovka, VI-VII.2012, 15 ex.; Dmitriev Usad, VI-VII.2012, 1 ex.; Kamenka, 21.VI.2016, 1 ex. Elektro Dist., Novye Pichingushi, IV-VI.2014, 26 ex.; Novye Shaly, V-VI.2014, 2 ex. Krasnoslobodsk Dist., Belikovskie Vyselki, VI-VII.2012, 1 ex. Kovylykino Dist., Andreevka, 30.VI.2008, 1 ex. Staroe Shaigoavo Dist., Lesnichestvo, 17.VII.2009, 1 ex.; Nikol'skaya Salovka, 8.VII.2017, 4 ex. Ichalki Dist., Khaimenevka, V-VI.2009, 3 ex.; 3 km NE Lobaski, 9.VIII.2013, 3 ex.; NPS, Barakhamonovskoe forestry, quar. 108, IV-V.2008, 3 ex., 20.V.2007, 1 ex., same label, quar. 74, 6.VI.2017, 1 ex., G.B. Semishin. Ardatovo Dist., Oktyabrsckiy, 19.V.2008, 1 ex. Dubenki Dist., 8 km SE Engalychevo, 1.VII.2009, 1 ex. Romodanovo Dist., Pushkino, VIII.2013, 10 ex. Ruzaeveka Dist., Levzhenskii, 7.VI.2005, 1 ex. Bolshe Berezniki Dist., 5 km SE Permski, 24.VII.2008, 1 экз. D.K. Kurmaeva; 9 km S Simkino, 30.VI.2009, 2 ex.

Habitat. The species occurs in a wide variety of open and forest habitats (mixed forests, deciduous forests, alder forests, floodplain and meadow meadows, pine forests of various types and ages, orchards and gardens, steppe slopes, agroecosystems, forest shelterbelts) (Figure 2). The species flies into the light.

Selatosomus cruciatus (Linnaeus, 1758)

Distribution. Temnikov Dist. (Timraleev and Chikina 1991; Kurmaeva et al. 2008; Feoktistov 2011; Egorov and Ruchin 2013, 2014; Egorov et al. 2015, 2016, 2017). Zubova Polyana Dist. (Ruchin and Alekseev 2008). Bolshe Berezniki Dist. (Timraleev and Chikina 1991).

Materials. Temnikov Dist., Bochino, VII.2008, 1 ex., S.V. Susarev; Andreevka, 11.V.2013, 2 ex.; Kitsaevka, 12.V.2013, 1 ex. Temnikov Dist., MSNR, quar. 79, V-VI.2014, 4 ex.; quar. 58, V-VI.2014, 1 ex.; quar. 439, V-VI.2014, 1 ex.; quar. 403, 20.V.2017, 1 ex.; окр. Podrubnyi, 20.V.2017, 1 ex.; cord. Inorski, 12.V.2017, 15 ex., L.V. Egorov, G.B. Semishin. Ichalki Dist., NPS, Barakhamonovskoe forestry, quar. 108, IV-V.2008, 3 ex.; Kemyansko forestry, Smolny, V.2009, 1 ex. Ardatovo Dist., Oktyabrsckiy, 19.V.2008, 2 ex.

Habitat. The species occurs in clearings, glades, fringes in forest habitats (mixed, deciduous forests, in alder forests, in riparian spruce grove, in pine forests of various types and ages).

Selatosomus latus (Fabricius, 1801)

Distribution. Temnikov Dist. (Egorov et al. 2015). Lyambir Dist. (Loginova et al. 2006; Ruchin and Alekseev 2008). Ichalki Dist. (Andreevich, Loginova 2005; Ruchin et al. 2007).

Materials. Krasnoslobodsk Dist., Selishchi, 5.VI.2009, 1 ex. Ichalki Dist., NPS, Barakhamonovskoe forestry, quar. 108, IV-V.2008, 1 ex.; Lvoyevskoe forestry, quar. 53, IV-V.2008, 3 ex. Ardatovo Dist., Svetoteknika, 18.V.2008, 1 ex. Ruzaeveka Dist., Levzhenskii, 9.VI.2009, 1 ex. Oktyabrsckiy Dist., Monastyrskoe, 12.VI.2017, 1 ex.

Habitat. The species occurs more often in sparse forests (birch forests, mixed and deciduous forests) and open biotopes (dry and floodplain meadows).

Subfamily Negasstriinae Nakane & Kishii, 1956

Negasstrius pulchellus (Linnaeus, 1760)

Distribution. Temnikov Dist. (Kurmaeva et al. 2008; Feoktistov 2011). Lyambir Dist. (Timraleev and Chikina 1991). Bolshe Berezniki Dist. (Timraleev and Chikina 1991).
Materials. Bolshie Berezniki Dist., 9 km S Simkino, 29.VI.2009, 2 ex.

Habitat. The species occurs in the aquatic biotopes.

Oedostethus quadripustulatus (Fabricius, 1792)

Distribution. Temnikov Dist. (Egorov and Ruchin 2013; Egorov et al. 2016).

Materials. Temnikov Dist., MSNR, quar. 427, VI.2014, 1 ex. Saransk, 2014, 1 ex.

Habitat. The species occurs both in the forests (a ripe spruce forest with a pine, birch, mixed forest), and on floodplain meadows.

Subfamily Cardiophorinae Candeeze, 1859

Cardiophorus asellus (Erichson, 1840)

Distribution. Zubova Polyana Dist. (Ruchin et al. 2009).

Habitat. The species was found in a mixed forest.

Cardiophorus ebeninus (Germar, 1823)

Distribution. Temnikov Dist. (Egorov et al. 2016).

Habitat. One specimen was caught in a ripe sphagnum pine with spruce, birch.

Cardiophorus ruficollis (Linnaeus, 1758)

Distribution. Temnikov Dist. (Timraleev and Chikina 1991; Kurmaeva et al. 2008; Feoktistov 2011; Egorov and Ruchin 2013, 2014; Egorov et al. 2016, 2017). Ichalki Dist. (Egorov and Ruchin 2009).

Materials. Tengushevo Dist., Barashevo, V.2008, 1 ex. Temnikov Dist., Andreevka, 11.V.2013, 1 ex. Temnikov Dist., MSNR, cord. Inorski, quar. 424, 13.V.2017, 1 ex.; cord. Dolgyi Most, 13.V.2017, 1 ex., L.V. Egorov; quar. 408, 11.VII.2017, 1 ex. Ichalki Dist., NPS, Barakhmanovskoe forestry, quar. 108, 5-20.VI.2017, 2 ex., G.B. Semishin; Barakhmanovskoe forestry, quar. 112, 4-19.VII.2017, 1-15.VIII.2017, 2 ex., G.B. Semishin.

Habitat. Roads and habitats occur in clearings, fringes, glades and roads in various types of forests (floodplain deciduous, mixed, pine forests of various types and ages, spruce forests, near forest marshes). The amount of the species in the soil traps was low: in the deciduous forest - 0.4 ex./100 trap-days, in the mixed forest - 0.2. The species flies into the light.

Dicronychus equiseti (Herbst, 1784)

Distribution. Temnikov Dist. (Egorov and Ruchin 2013, 2014; Egorov et al. 2015, 2017). Ichalki Dist. (Egorov and Ruchin 2009).

Habitat. The species occurs in pine forests, mixed forests along fringes and glades, rarely on floodplain meadows.

Discussion

On the territory of the Republic of Mordovia 58 species of click beetles have been recorded so far. Adrastus pallens is a new record for the republic. For 6 species of click beetles (Agriotes pilosellus, Melanotus crassicollis, Melanotus fusciceps, Liothrichus affinis, Pseudanostris globicollis, Stenagostus rufus), known only from the literature, confirmation of findings with new material from the territory of the republic is required. Two species (Agriotes acuminatus, Limoniscus naturalis) are probably excluded from the fauna of the republic. Mass species that occur in various biotopes include Agrypnus murinus, Hemicrepidius riger, Prosternon tessellatum, and Selatosomus aeneus. In addition to them, the most common species that live in a limited number of biotopes are Agriotes lineatus, Agriotes obscurus, Agriotes sputator, Dalopius marginatus, Ampeades balteatus, Ampeudes pomorum and Athous subfuscus.

In general, the number of species of click beetles in Mordovia is comparable to that in adjacent regions. So, in the Ulyanovsk region 69 species are known (Isaev 2000), in Chuvashia - 66 species (according to L.V. Egorov), in Nizhny Novgorod - 62 species (Anufriev et al. 1981). In other adjacent regions (Penza and Ryazan regions) the fauna of this family has not been adequately studied.

In greater depth it was studied in the Tula region - 57 species (Dorofeev 2009; Dorofeev et al. 2015), the Republic of Komi - 56 species (Medvedev 2005), Lipetsk region - 49 species (Tsurikov 2009). In the fauna of the click beetles of the Republic of Komi, Tula region species associated with forest habitats predominate. This is understandable in consideration of high afforestation of these regions. On the other hand, the inhabitants of steppe biotopes appear in the fauna of click beetles of the Ulyanovsk region (Aleimnikova 1962). In the Lipetsk region the species diversity of the click beetles decreases, with decrease in the number of boreal species.

Thus, the high species diversity of the click beetles in Mordovia, Chuvashia, Ulyanovsk and Nizhny Novgorod regions is explained by the forest-steppe character of their territories. In these regions, the fauna of click beetles has a "transitional" character and includes boreal, nemoral and steppe elements. Therefore, it is possible that in the Republic of Mordovia other representatives of both the forest and steppe fauna of the click beetles will be found, e.g., Agriotes gurgistanus (Faldermann, 1835), Sericus sulcipennis (Buysson, 1893), Elater furrugineus (Linnaeus, 1758), Cidnopus aeruginosus (Olivier, 1790), Cidnopus pilosus (Leske, 1785), Oedostethus temnicornis (German, 1823), Drapetes mordelloides (Host, 1789), and some species of Cardiophorus (Eschschtoltz, 1829).

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