

RARE SPECIES OF BEETLES (COLEOPTERA) FOUND IN ŽALIOSIOS PIEVŲ BOTANICAL-ZOOLOGICAL PRESERVE

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Introduction

The territory of Anykščiai district covers 1765 km² which comprised more than 530 km² of forests, 22 km² of surface are covered by waters, which includes 76 lakes, and lot of rivers, which largest of them are Šventoji, Jara, Virinta, Anykšta. Open areas comprise more than 56 % of the territory of the district and biggest part of this area are covered by natural and seminatural meadows, which are valuable in ecological aspect. Nine nature preserves and 79 territories of forest key habitats are established in the district (Kudaba, 1988; Kirstukas, 2004; Valstybinė saugomų teritorijų tarnyba..., 2015).

One of the recently established preserves is Žaliosios pievų Botanical-Zoological preserve. It was established in 2012 following the directives of Natura 2000 seeking to conserve the valuable habitats of natural meadows and rare and endangered species of plants and animals, such as *Orchis morio*, *Orchis mascula*, *Gentianella amarella*, *Platanthera chlorantha*, *Dactylorhiza baltica*, *Dactylorhiza incarnata*; and animals: *Melitaea aurelia*, *Melitaea diamina*, *Lopinga achine*, *Coenonympha hero*, *Lycaena dispar*, *Leucorrhinia pectoralis*, *Euphydryas aurinia*, *Triturus cristatus* (The resolution of Government of Lithuania..., 2012).

Despite the richness of nature of Anykščiai district its investigations are relatively very poor. No exceptions are the beetles (Coleoptera) as well. Sporadic records of some rare species of beetles are scattered in several previous faunistic papers (Pileckis, 1963, 1968; Pileckis & Monsevičius, 1982; Monsevičius, 1982, 1983, 1985, 1988, 2013; Perkovskis & Monsevičius, 1988; Auglys, 1994; Monsevičius & Pankevičius, 2001; Šablevičius, 2003, 2004; Pankevičius, 2007; Švitra & Aliukonis, 2009; Ivinskis *et al.*, 2009; Tamutis *et al.*, 2010; Blažytė-Čereškienė & Karalius, 2010; Tamutis & Dapkus, 2014). Unfortunately any data on this order of insects in the territory of Žaliosios pievų Botanical-Zoological preserve have been published before.

It was presumed, that territory of current preserve is rich by species composition of the beetles and some rare and officially protected species could populate in this area as well. The investigations were started in 2014 by initiative of the author with the aim to disclose the diversity of beetle species and presence of rare ones in territory of preserve. Some results of these investigations are presented in this paper.

Material and Methods

The territory of Žaliosios pievų Botanical-Zoological preserve comprises 40.45 ha of area and located in Western part of Anykščiai district (Fig. 1), coordinates: 55° 33' XX"N, 24° 48' XX"E. Almost half of territory is covered by meadow, other half – by forest.

The material was collected in the period from 11 July, 2014 to 9 May, 2015.

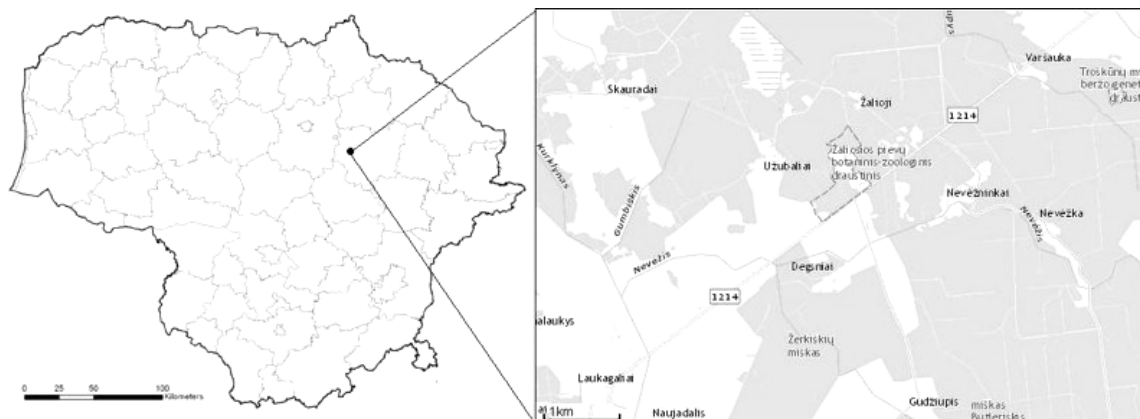


Fig. 1. Location of Žaliosios pievų Botanical-Zoological preserve (Source: www.maps.lt)

Since the territory of preserve is relatively small – many points of searching were explored in whole area, therefore, specific coordinates to each point are not given. Current investigations were concentrated in such habitats: water stand and its banks, forests and forest edges, dry or moderately dry grasslands.

Three water ponds have been investigated in this research too. All of them were formed after exploitation of sand like sand pits. They were relatively small and shallow, eutrophic water stands, often drying in the summer period, rich in plant communities (brief characteristics are given in table 1).

Table 1. A brief characteristics of investigated water stands in Žaliosios pievų Botanical-Zoological preserve

Water stand code	Area, ha	Dominant plants in the community	Coordinates (WGS)
A	0.166	<i>Carex rostrata</i> , <i>Salix purpurea</i> , <i>S. rosmarinifolia</i>	55°34'00.71"N, 24°48'28.91"E
B	0.053	<i>Carex rostrata</i> , <i>Oenanthe aquatica</i> , <i>Hippuris vulgaris</i> , <i>Lemna minor</i>	55°33'51.64"N, 24°48'31.26"E
C	0.123	<i>Elodea canadensis</i>	55°33'35.19"N, 24°48'21.23"E

During the research several different methods were used: pitfall traps, baited traps, and sweep net, survey of specific habitats of some beetles' species, such as: under bark of dead trees, rotten wood stumps, fungus and etc. The plastic cups (in 7 cm diameter of hole and 9 cm height) one third filled by ~9% vinegar solution have been used for pitfall traps. Horse dung and carrion of small animals have been used for the bait. Non baited funnel traps were used to catch water beetles.

The category of species rarity was followed by Pileckis and Monsevičius (1995, 1997). The nomenclature of Coleoptera followed as it is accepted in the "Catalogue of Lithuanian beetles" (Tamutis *et al.*, 2011).

Beetles were identified using microscope MBC-9 and several identification guides (Barševskis, 2003; Barševskis *et al.*, 2005; Freude *et al.*, 1966–2004; Hackston, 2015; Pileckis & Monsevičius, 1995, 1997; Trautner & Geigenmuller, 1987).

During the research 220 beetle species were identified, 54 of them were classified as rare and listed here.

The material is deposited in a personal collection of author.

List of species

CARABIDAE

***Cicindela campestris* Linnaeus, 1758**

20 04 2015, 2 spec., in dry meadow, by pitfall trap.

***Harpalus rubripes* (Duftschmid, 1812)**

29 07 2014, 1 spec., in meadow, by pitfall trap.

***Nebria brevicollis* (Fabricius, 1792)**

24 07 2014, 1 spec., in forest, by pitfall trap; 21 08 2014, 1 spec., in dry meadow by pitfall trap.

***Panagaeus cruxmajor* (Linnaeus, 1758)**

20 04 2015, 1 spec., in meadow, by pitfall trap.

***Stomis pumicatus* (Panzer, 1796)**

24 07 2014, 1 spec., in forest, by pitfall trap; 20 04 2015, 1 spec., in forest, by pitfall trap.

DYTISCIDAE

***Dytiscus dimidiatus* Bergsträsser, 1778**

11 07 2014, 1♂1♀, in A; 15 07 2014, 3♂1♀, in A; 21 07 2014, 4♂5♀, in A; 29 07 2014, 2♀, in B; 01 08 2014, 1♂1♀, in C; 07 08 2014, 1 spec., in C; 14 08 2014, 4 spec., in C.

***Graphoderus austriacus* (Sturm, 1834)**

24 07 2014, 1♂, in B.

***Graphoderus cinereus* (Linnaeus, 1758)**

12 07 2014, 1♂, in A; 14 07 2014, 3♂, in B; 21 07 2014, 1♀, in A; 22 07 2014, 1♂, in B; 24 07 2014, 3♀, in B; 29 07 2014, 8 spec., in B; 04 08 2014, 1♂, in C; 14 08 2014, 1♂, in C.

***Graphoderus zonatus* (Hoppe, 1795)**

07 08 2014, 1♂1♀, in C; 14 08 2014, 1♂, in C.

***Hydaticus continentalis* Balfour-Browne, 1944**

14 07 2014, 1 spec., in B; 14 08 2014, 1 spec., in C.

***Hydaticus seminiger* (DeGeer, 1774)**

11 07 2014, 2 spec., in A; 12 07 2014, 3 spec., in A; 14 07 2014, 1 spec., in B; 21 07 2014, 11 spec., in A; 24 07 2014, 1 spec., in B; 29 07 2014, 1 spec., in B; 04 08 2014, 1 spec., in C; 14 08 2014, 6 spec., in C; 24 04 2015, 1 spec., in A; 25 04 2015, 2 spec., in A.

***Hydaticus transversalis* (Pontoppidan, 1763)**

12 07 2014, 3 spec., in A; 14 07 2014, 6 spec., in B; 21 07 2014, 2 spec., in A; 22 07 2014, 1 spec., in B; 24 07 2014, 3 spec., in B; 29 07 2014, 7 spec., in B; 01 08 2014, 2 spec., in C; 04 08 2014, 2 spec., in C; 14 08 2014, 5 spec., in C.

***Hygrotus polonicus* (Aubé, 1842)**

12 07 2014, 1 spec., in A.

***Rhantus frontalis* (Marsham, 1802)**

22 07 2014, 1♂, in B; 14 08 2014, 1♂, in C.

***Rhantus notaticollis* (Aubé, 1837)**

29 07 2014, 1 spec., in B.

HYDROPHILIDAE

***Hydrochara caraboides* (Linnaeus, 1758)**

07 08 2014, 2 spec., in C; 14 08 2014, 6 spec., in C.

***Hydrophilus aterrimus* Eschscholtz, 1822**

21 07 2014, 1♂, in A; 24 07 2014, 1♀ in B.

***Sphaeridium lunatum* Fabricius, 1792**

14 07 2014, 2 spec., horse dung in dry meadow.

HISTERIDAE

***Hister unicolor* Linnaeus, 1758**

24 07 2014, 2 spec., on cat carrion; 09 05 2015, 6 spec., by traps baited with carrion.

***Platysoma deplanatum* (Gyllenhal, 1808)**

09 05 2015, 1 spec., in forest, under bark of *Betula pendula*.

SILPHIDAE

***Nicrophorus humator* (Gleditsch, 1767)**

25 07 2014, 5 spec., on cat carrion; 04 08 2014, 2 spec., in forest, by pitfall trap; 27 09 2014, 2 spec., by traps baited with carrion; 09 05 2015, 15 spec., by traps baited with carrion.

***Silpha tristis* Illiger, 1798**

21 08 2014, 1 spec., in forest, by pitfall trap.

STAPHYLINIDAE

***Ocyopus brunnipes* (Fabricius, 1781)**

22 07 2014, 1 spec., in meadow, by pitfall trap.

***Ocyopus fuscatus* (Gravenhorst, 1802)**

09 05 2015, 1 spec., in dry meadow, by pitfall trap.

***Ontholestes murinus* (Linnaeus, 1758)**

09 07 2014, 1 spec., in horse dung; 24 07 2014, 2 spec., on cat carrion; 25 07 2014, 1 spec., on cat carrion.

***Platydracus stercorarius* (Olivier, 1795)**

12 07 2014, 1 spec., in meadow, by pitfall trap; 21 07 2014, 6 spec.; 24 07 2014, 9 spec.; 29 07 2014, 4 spec.; 01 08 2014, 2 spec.; 04 08 2014, 4 spec.; 14 08 2014, 4 spec., all in dry meadow, by pitfall trap.

***Rabigus tenuis* (Fabricius, 1793)**

21 07 2014, 4 spec., in meadow, by pitfall trap; 01 08 2014, 5 spec., in dry meadow, by pitfall trap; 04 08 2014, 5 spec., in dry meadow, by pitfall trap; 14 08 2014, 3 spec., in dry meadow, by pitfall trap.

***Sepedophilus bipustulatus* (Gravenhorst, 1802)**

21 08 2014, 1 spec., on mushroom in forest.

SCARABAEIDAE

***Acrossus depressus* (Kugelann, 1792)**

15 07 2014, 1 spec., in horse dung in dry meadow.

***Agrilinus ater* (DeGeer, 1774)**

14 07 2014, 1 spec., in horse dung in dry meadow.

***Oxythyrea funesta* (Poda, 1761)**

12 07 2014, 3 spec., in meadow, by sweeping net.

***Protaetia lugubris* (Herbst, 1786)**

12 07 2014, 1 spec., on blooming plant in meadow, by hand.

***Volinus equestris* (Panzer, 1798)**

09 05 2015, 1 spec in forest, by pitfall traps.

BUPRESTIDAE

***Dicerca alni* (Fischer von Waldheim, 1823)**

14 07 2014, 1 spec., on dead *Alnus incana* tree, in forest.

TROGOSSITIDAE

***Peltis grossa* (Linnaeus, 1758)**

25 04 2015, 1 spec., on dead *Alnus incana* tree, in forest.

NITIDULIDAE

***Glischrochilus grandis* (Tournier, 1872)**

21 08 2014, 1 spec., on mushroom, in forest.

COCCINELLIDAE

***Hippodamia notata* (Laicharting, 1781)**

11 07 2014, 2 spec.; 12 07 2014, 1 spec.; 15 07 2014, 4 spec.; 22 07 2014, 2 spec.; 24 07 2014, 4 spec., all in meadow, by sweeping net.

MYCETOPHAGIDAE

***Mycetophagus quadripustulatus* (Linnaeus, 1761)**

21 08 2014, 1 spec., on mushroom, in forest.

ZOPHERIDAE

***Bitoma crenata* (Fabricius, 1775)**

07 03 2015, 2 spec., under bark of dead *Picea abies* in forest; 09 05 2015, 2 spec., on *Betula pendula* trunk in forest.

***Orthocerus clavicornis* (Linnaeus, 1758)**

24 07 2014, 1 spec., in dry meadow, by pitfall trap; 29 07 2014, 1 spec., in dry meadow, by pitfall trap.

OEDEMERIDAE

***Anogcodes ustulatus* (Scopoli, 1763)**

25 07 2014, 1 spec., in meadow, by sweeping net.

SCRAPTIIDAE

***Anaspis frontalis* (Linnaeus, 1758)**

12 07 2014, 1 spec., in meadow, by sweeping net.

CERAMBYCIDAE

***Obrium cantharinum* (Linnaeus, 1767)**

01 08 2014, 1 spec., on blooming plant, in forest, by sweeping net.

CHRYSOMELIDAE

***Bruchidius marginalis* (Fabricius, 1777)**

15 07 2014, 2 spec., in meadow, by sweeping net; 30 07 2014, 1 spec., in meadow, by sweeping net; 04 08 2014, 1 spec., in meadow, by pitfall trap.

***Cassida sanguinosa* Suffrian, 1844**

30 07 2014, 2 spec., in meadow, by sweeping net.

***Chrysomela vigintipunctata* (Scopoli, 1763)**

11 07 2014, 2 spec., in meadow, by sweeping net; 12 07 2014, 3 spec., in meadow, by sweeping net; 25 04 2015, 1 spec., in meadow, by shaking *Salix sp.*

***Cryptocephalus decemmaculatus* (Linnaeus, 1758)**

11 07 2014, 1 spec., in meadow, by sweeping net.

***Cryptocephalus moraei* (Linnaeus, 1758)**

24 07 2014, 1 spec., in meadow, by sweeping net.

***Labidostomis longimana* (Linnaeus, 1761)**

30 07 2014, 1 spec., in meadow, by sweeping net.

ANTHRIBIDAE

***Tropideres albirostris* (Herbst, 1783)**

25 04 2015, 09 05 2015 (2, 2) spec. on dead *Alnus incana* tree in forest.

CURCULIONIDAE

***Coeliodes nigratarsis* (Hartmann, 1895)**

25 04 2015, 1 spec., in forest, by sweeping.

***Hylobius excavatus* (Laicharting, 1781)**

26 08 2014, 1 spec., in forest, by pitfall traps.

***Rhamphus pulicarius* (Herbst, 1795)**

12 07 2014, 1 spec., in meadow, by shaking *Salix sp.*

***Trypodendron domesticum* (Linnaeus, 1758)**

07 03 2015, 1 spec., under bark of dead *Picea abies* in forest.

Comments

Two species found during research are included into Red Book of Lithuania. *Protaetia lugubris* (Herbst, 1786) belongs to 2 (V) category – vulnerable specie whose population figures and abundance is rapidly decreasing. *Peltis grossa* (Linnaeus, 1758) – 3 (R) – rare species with a small number of populations due to their biological characteristics. Both species are protected in Lithuania since 1989 (Rašomavičius, 2007). Five species included into forest key habitats (FKH) indicator species were found during the research: *Protaetia lugubris* (Herbst, 1786), *Peltis grossa* (Linnaeus, 1758), *Mycetophagus quadripustulatus* (Linnaeus, 1761), *Saperda perforata* (Pallas, 1773) (01 08 2014, 1 spec., in forest, on blooming plant) and *Platycerus caraboides* (Linnaeus, 1758) (07 03 2015, 1♂1♀, in forest, hibernating in decomposing tree). *S. perforata* and *P. caraboides* were not described as rare in monograph “Lietuvos fauna. Vabalai” (Pileckis & Monsevičius, 1995, 1997) but are included into FKH indicator species, therefore are mentioned here (Ehnström *et al.*, 2003).

One species is included in the list of specialized species of forest key habitats: *Dicerca alni* (Fischer von Waldheim, 1823) (Ehnström *et al.*, 2003).

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Retos vabalų (Coleoptera) rūšys aptiktos Žaliosios pievų botaniniame-zoologiniame draustinyje

Ž. OBELEVIČIUS

Santrauka

Vabalų tyrimai buvo vykdomi 2014-07-11 – 2015-05-09 laikotarpiu Anykščių rajone esančiame Žaliosios pievų botaniniame-zoologiniame draustinyje. Tyrimams buvo naudojami įvairūs metodai, kuriuos taikant aptiktos 54 retos Lietuvoje vabalų rūšys priklausančios 19 šeimų. Dvi iš jų – marmurinis auksavabalis (*Protaetia lugubris*) ir didysis skydvabalis (*Peltis grossa*), yra įtrauktos į Lietuvos raudonąją knygą, 5 rūšys – į kertinių miško buveinių (KMB) indikatorių rūšių sąrašą, 1 rūšis – į KMB specializuotų rūšių sąrašą. Publikacijoje pateikiami duomenys apie kiekvienos rūšies aptikimo datą, buveinę, rinkimo būdą taip pat nurodomas stebėtų (surinktų) individų kiekis. Surinkta medžiaga saugoma asmeninėje autoriaus kolekcijoje.

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