

## **NEW AND RARE FOR LITHUANIAN FAUNA BEETLE SPECIES FOUND IN BŪDA BOTANICAL – ZOOLOGICAL AND BIRŽAI FOREST BOTANICAL RESERVES, REPORT OF 2018**

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### **Introduction**

Beetle research in deadwood becomes increasingly important around the globe. Investigation of deadwood fauna reveals certain beetle species diversity in our country. New and rare beetle species were discovered when emergence type traps were placed on the tree trunks for the first time in Lithuania (Lekoveckaitė *et al.*, 2017). Continuation of that kind of research allowed us to identify more rare and new beetle species for Lithuanian fauna, and all of the newly found ones were anticipated to be found in our country based on the records of the neighbouring countries (Tamutis *et al.*, 2011).

### **Material and Methods**

All beetles were collected by emergence traps modified according to Halme *et al.* (2013). Traps were placed on ash and aspen wind-fallen trees in Būda botanical – zoological and Biržai forest botanical reserves from the end of May (26 05 2018 in Biržai district and 29 05 2018 in Kaišiadorys district) until the beginning of November (07 11 2018 in Biržai district and 10 11 2018 in Kaišiadorys district). The traps were checked and beetles collected every 15 days.

Beetles were identified using the keys of Freude *et al.*, (1964), Nunberg (1967), Vogt (1967), Dahlgren (1979), Lohse (1979), Mertlik (2008), Jałoszynski *et al.* (2013), .

New for the Lithuanian fauna beetle species are marked with an asterisk (\*), rarely detected species are marked with two asterisks (\*\*), species included in Lithuanian Red Data Book, is marked with three asterisks (\*\*\*). Systematics of beetles follows that of the Catalogue of Palaearctic Coleoptera (Löbl & Smetana, 2003–2010). The material was collected by the senior author Aistė Lekoveckaitė (A.L.), photographed and identified by Romas Ferenca. Material is deposited in Tadas Ivanauskas Museum of Zoology in Kaunas.

Meanings of the abbreviations used in this paper: Near threatened (NT), Regionally extinct (RE), International Union for Conservation of Nature (IUCN), Least concern (LC).

## List of localities

Locality	Administrative district	Coordinates (LAT, LONG)
Biržai forest botanical reserve (1)	Biržai district	56.24802, 24.96701
Biržai forest botanical reserve (2)	Biržai district	56.24875, 24.96414
Būda botanical – zoological reserve (1)	Kaišiadorys district	54.88327, 24.37104
Būda botanical – zoological reserve (2)	Kaišiadorys district	54.88379, 24.36440
Būda botanical – zoological reserve (3)	Kaišiadorys district	54.88336, 24.35913
Būda botanical – zoological reserve (4)	Kaišiadorys district	54.88291, 24.36787

## List of species

## CANTHARIDAE

**\**Podistra (Absidia) rufotestacea (Letzner, 1845)***

Biržai forest botanical reserve (2), ash tree, 10–25 06 2018, 1 spec. (A.L.) (Fig. 1).

## MONOTOMIDAE

**\**Rhizophagus (Anomophagus) puncticollis C. R. Sahlberg, 1837***

Biržai forest botanical reserve (1), ash tree, 26 05–10 06 2018, 1 spec. (A.L.) (Fig. 2).

## EUCNEMIDAE

**\**Xylophilus testaceus (Herbst, 1806)***

Būda botanical – zoological reserve, aspen tree, (1), 13–28 06 2018, 1 spec. (A.L.) (Fig. 3).

**\*\**Microrhagus emyi (Rouget, 1856)***

Būda botanical – zoological reserve (3), ash tree, 29 05–13 06 2018, 1 spec. (A.L.)

## ADERIDAE

**\**Phytobaenus amabilis Sahlberg, 1834***

Būda botanical – zoological reserve (2), aspen tree, 13–28 07 2018, 1 spec. (A.L.) (Fig. 4).

## STAPHYLINIDAE

**\**Carphacis striatus (Olivier, 1795)***

Būda botanical – zoological reserve (1), aspen tree, 13–28 07 2018, 1 spec. (A.L.) (Fig. 5).

**\*\* *Phyllodrepa (Phyllodrepa) melanocephala subsp. melanocephala (Fabricius, 1787)***

Būda botanical – zoological reserve (2), aspen tree, 29 05–13 06 2018, 1 spec. (A.L.)

## CUCUJIDAE

**\*\*\**Cucujus cinnaberinus (Scopoli, 1763)***

Būda botanical – zoological reserve (4), aspen tree, 27 08–09 11 2018, 2 spec. (A.L.)

## Discussion

*Podistra (Absidia) rufotestacea* is a west Palearctic species known from Austria, Belgium, Central European Russia, East European Russia, North European Russia, Northwest European Russia, Czech Republic, Finland, French mainland, Germany,

Slovakia, Sweden, Ukraine (Stanislav *et al.*, 2019), Poland (Szczepański *et al.*, 2015), Latvia (Telnov, 2004), Belarus (Alexandrovitch *et al.*, 1996), Estonia (Lundberg and Gustafsson, 1995).



Fig. 1. *Podistra (Absidia) rufotestacea*, photo R. Ferenc



Fig. 2. *Rhizophagus (Anomophagus) puncticollis*, photo R. Ferenc



Fig. 3. *Xylophilus testaceus*, photo R. Ferenc



Fig. 4. *Phytobaenus amabilis*, photo R. Ferenc



Fig. 5. *Carphacis striatus*, photo R. Ferenc

*Rhizophagus (Anomophagus) puncticollis* is widely distributed in the whole Palearctic region and recorded from Europe & Northern Asia (excluding China). Distribution of this species reaches Southern Asia (Orrell & Nicolson, 2019) as well. This species was found in Belarus, Finland, Poland, Russia, Slovakia, Ukraine, (Hagstrum & Subramanyam, 2009; Pasqual *et al.*, 2019), Korea (Park *et al.*, 2007). It is a protected species: in Karelia (Russia) – NT, in Finland – RE (Lindholm *et al.*, 2014).

*Xylophilus testaceus*, according to Nieto *et al.* (2010), is categorised as NT in the IUCN Red List species. It is distributed only in central Europe and was found in Czech Republic, Germany, Poland, Slovakia, Switzerland (Nieto *et al.*, 2010), and according to

Alexandrovich *et al.* (1996) it is known from western Belarus. This species is very sensitive to logging and wood harvesting.

*Microrhagus emyi* was found in Lithuania for the first time in 1997 in Kubiliūnai forest (Tamutis, 2003). This beetle is categorised as LC in the IUCN Red List (Hyvärinen *et al.*, 2010). It is widespread in Europe and found in Austria, Bulgaria, Croatia, Czech Republic, France ( (mainland)), Germany, Hungary, Italy ( (mainland)), Poland, Romania, Russian Federation (Kaliningrad, Central European Russia), Slovakia, Spain (Balears, Spain mainland)), Sweden, Switzerland, Ukraine (Hyvärinen *et al.*, 2010) and Estonia (Süda, 2009).

*Phytobaenus amabilis* is recorded from Oriental and Palearctic regions and known from Taiwan, Belarus, Croatia, Czech Republic, Finland, France, Germany, Hungary, Italy, Latvia, Russia (European part, south part of Far East), Poland, Romania, Slovakia, Ukraine and Japan, Northeast Territory of China (Yuan *et al.*, 2015), Sweden (Lundberg & Gustafsson, 1995) and Estonia (Silfverberg, 2004).

*Carphacis striatus* is a widespread European species known from Albania, Austria, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Central European Russia, East European Russia, Croatia, Czech Republic, Danish mainland, Finland, French mainland, Germany, Hungary, Italian mainland, Kaliningrad Region, Poland, Romania, Slovakia, Sweden and Switzerland (Stanislav *et al.*, 2019).

*Phyllodrepa (Phyllodrepa) melanocephala* subsp. *melanocephala* was found in Lithuania for the first time in 2012 in Juodkrantė (Ivinskis *et al.*, 2013), the second time – in 2016 in Būda botanical – zoological reserve (Lekoveckaitė *et al.*, 2017). This species is known in majority of countries neighbouring Lithuania (Telnov, 2004; Alexandrovich *et al.*, 1996; Burakowski *et al.*, 1979; Stanislav *et al.*, 2019).

*Cucujus cinnaberinus* is listed in Lithuanian Red Data Book, also in Hungary, Poland, Czech Republic, Slovakia, Germany, Finland, Norway, Sweden, Latvia Red Lists or Books. *C. cinnaberinus* is included in IUCN Red Lists, category NT since 2009 (Nieto *et al.*, 2010). This species is listed on Appendix II of the Bern Convention and Annex II and IV of the EU Habitats Directive.

## Acknowledgements

Our warmest thanks to Ina Gorban (Vilnius University) for her help to collect part of the material.

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**Naujos ir retos Lietuvos faunos vabalų rūšys, rastos Būdos botaniniame – zoologiniame ir Biržų girios botaniniame draustiniuose, 2018 metų pranešimas**

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**Santrauka**

2018 metais, atliekant vabalų tyrimus negyvoje medienoje, naudojant išsiritimo gaudyklės, Būdos botaniniame – zoologiniame ir Biržų girios botaniniame draustiniuose, uosių ir drebulių virtuoliuose nustatytos penkios naujos Lietuvos faunai (*Podistra (Absidia) rufotestacea* (Letzner, 1845), *Rhizophagus (Anomophagus) puncticollis* C. R. Sahlberg, 1837, *Xylophilus testaceus* (Herbst, 1806), *Phytobaenus amabilis* Sahlberg, 1834, *Carphacis striatus* (Olivier, 1795)), dvi retai aptinkamos vabalų rūšys (*Microrhagus emyi* (Rouget, 1856), *Phyllodrepa (Phyllodrepa) melanocephala* subsp. *melanocephala* (Fabricius, 1787)), bei viena į Lietuvos raudonąją knygą įrašyta rūšis (*Cucujus cinnaberinus* (Scopoli, 1763)).

Received: 21 November, 2019