

PROTECTED SPECIES OF INSECTS IN CONSERVATION AREAS OF CENTRAL LITHUANIA RECORDED IN 2007

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Introduction

The system of protected territories in Lithuania consists of territories having conservation priority (e.g., strict nature reserves, preserves, objects of heritage), zones of ecological conservation (e.g., buffer zones of preserves or national parks), territories for the renewing natural resources (e.g. genetic sites for valuable plants), and complex protected areas (national parks, biosphere strict nature reserves and biosphere polygons). The aim of preserves is to protect complex of unique or characteristic natural and cultural landscapes, while natural and regional monitoring of the environment should be carried out in biosphere polygons. There are 260 state preserves and 26 biosphere polygons in Lithuania (State Service for Protected Areas..., 2008).

Insects are very good bioindicators of the state of the environment. 123 species of insects are included into the Red Data Book of Lithuania (Rašomavičius, 2007).

The aim of this article is to provide data on protected species of insects registered in four protected territories located in Kaunas and Kaišiadorys districts, the central Lithuania. Studies of insects were very scarce in the protected areas and there were only few data on species included into the Red Data Book of Lithuania.

Material and Methods

The research of insects was carried out in four protected territories: the Babtų-Varluvos biosphere polygon (4418.77 ha), the Kamša botanical-zoological preserve (321 ha) (both belong to Kaunas administrative district), the Palaraisis telmological preserve (346 ha) and the Būdos botanical-zoological preserve (791.4 ha) (Kaišiadorys administrative district, Figure 1). The material was collected during field expeditions from March till September, 2007. The main attention was paid to butterflies (Lepidoptera), beetles (Coleoptera) and dragonflies (Odonata). Insects were collected in different habitats using standard entomological net. Some beetles were captured using pitfall traps. Some of the material was collected by V. Bačianskas (V.B.) and V. Inokaitis (V.I.). The material is preserved in the collections of Vilnius Pedagogical University (butterflies and dragonflies) and Lithuanian University of Agriculture (beetles). The geographical coordinates were measured using a Garmin eTrex GPS receiver.

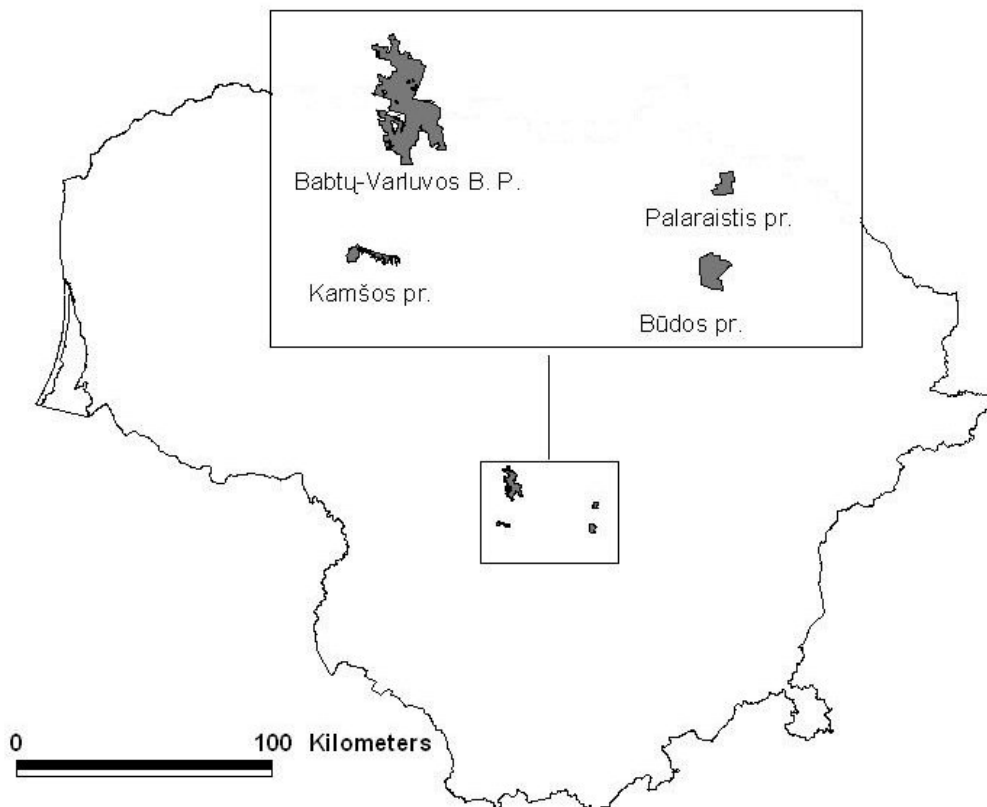


Figure 1. The studied protected territories in Lithuania in 2007.

List of species

COLEOPTERA

CARABIDAE

Agonum (Punctagonum) ericeti (Panzer, 1809)

Palaraisčio pr. (54°57'53"N, 24°23'09"E), 07 07–26 06 2007, 25 spec., in pitfall traps.

Carabus (Procrustes) coriaceus Linnaeus, 1758

Kamša pr. (54°53'48"N, 23°50'34"E), 27 08 2007, 3 spec., (54°54'14"N, 23°48'29"E), 27 08 2007, 1 spec.

LUCANIDAE

Ceruchus chrysomelinus (Hochenwart, 1785)

Būdos pr. (54°53'18"N, 24°20'48"E), 26 06 2007, some larvae, (54°53'18"N, 24°21'03"E), 26 06 2007, some larvae; Palaraisčio pr. (54°57'22"N, 24°21'56"E), 02 06 2007, 3 spec.

SILPHIDAE

Dendroxena quadrimaculata (Scopoli, 1772)

Kamša pr. (54°53'48"N, 23°50'34"E), 22 03 2007, 1 spec.

CETONIIDAE

Protaetia (Liocola) lugubris (Herbst, 1786)

Kamša pr. (54°53'48"N, 23°50'34"E), 19 07 2007, 1 spec.

BUPRESTIDAE

Ovalisia (Scintillatrix) rutilans (Fabricius, 1777)

Kamša pr. (54°53'48"N, 23°50'34"E), 02 07 2007, 1 spec.

TROGOSITIDAE

Ostoma ferruginea (Linnaeus, 1758)

Babtu-Varlivos B.P. (55°01'23"N, 23°53'49"E), 15 06 2007, 1 spec. (V.I.); Kamša pr. (54°54'13"N, 23°51'12"E), 10 06 2007, 1 spec.

Peltis grossa (Linnaeus, 1758)

Babtu-Varlivos B.P. (55°01'47"N, 23°53'47"E), 15 06 2007, 2 spec. (V.I.); Palaraistis pr. (54°57'30"N, 24°21'53"E), 02 06 2007, 1 spec.

CUCUJIDAE

Cucujus cinnaberinus (Scopoli, 1763)

Kamša pr. (54°54'14"N, 23°48'29"E), 16 08 2007, 4 spec., (54°54'14"N, 23°48'40"E), 16 08 2007, 4 spec.

LEPIDOPTERA

LYCAENIDAE

Lycaena dispar (Haworth, 1802)

Babtu-Varlivos B.P. (55°04'18"N, 23°53'14"E), 15 06 2007, 4 spec., (55°02'37"N, 23°53'07"E), 15 06 2007, 2 spec., (55°01'04"N, 23°53'59"E), 15 06 2007, 4 spec. (V.B); Būdos pr. (54°53'24"N, 24°23'25"E), 15 06 2007, 4 spec., (54°53'03"N, 24°22'44"E, 15 06 2007, 2 spec., (54°53'04"N, 24°21'40"E), 15 06 2007, 1 spec., (54°53'15"N, 24°20'39"E), 15 06 2007, 3 spec., 17 06 2007, (54°52'56"N, 24°22'40"E), 17 06 2007, 2 spec. (V.B.), (54°53'00"N, 24°22'39"E), 17 06 2007, 1 spec. (V.B.), (54°53'19"N, 24°20'39"E), 17 06 2007, 5 spec. (V.B.), (54°53'24"N, 24°22'37"E), 26 06 2007, 1 spec., (54°53'23"N, 24°22'26"E), 26 06 2007, 1 spec., (54°53'20"N, 24°21'25"E), 26 06 2007, 1 spec., (54°53'10"N, 24°20'39"E), 26 06 2007, 2 spec.

Plebeius eumedon (Esper, 1780)

Babtu-Varlivos B.P. (55°01'07"N, 23°53'57"E), 15 06 2007, 1 spec., 03 07 2007, 3 spec.; Būdos pr. (54°53'17"N, 24°20'39"E), 17 06 2007, 3 spec. (V.B.), 26 06 2007, 2 spec., (54°53'13"N, 24°20'39"E), 26 06 2007, 3 spec.

NYMPHALIDAE

Melitaea diamina (Lang, 1789)

Būdos pr. (54°52'43"N, 24°21'38"E), 15 06 2007, 1 spec.

Euphydryas maturna (Linnaeus, 1758)

Babtu-Varlivos B.P. (55°04'14"N, 23°53'12"E), 15 06 2007, 1 spec., (55°01'04"N, 23°53'59"E), 15 06 2007, 2 spec. (V.B.); Būdos pr. (54°53'25"N, 24°23'20"E), 15 06 2007, 1 spec., (54°53'22"N, 24°22'08"E), 15 06 2007, 1 spec., (54°52'56"N, 24°22'40"E), 17 06 2008, 2 spec. (V.B.), (54°53'20"N, 24°21'06"E), 17 06 2008, 2 spec. (V.B.), (54°53'19"N, 24°20'39"E), 17 06 2008, 1 spec. (V.B.),

***Lopinga achine* (Scopoli, 1763)**

Babtu-Varlupos B.P. (55°04'24"N, 23°53'08"E), 15 06 2007, 6 spec., (55°04'12"N, 23°53'47"E), 15 06 2007, 1 spec., (55°04'04"N, 23°53'05"E), 15 06 2007, 6 spec., (55°03'45"N, 23°52'57"E), 15 06 2007, 1 spec., (55°02'39"N, 23°53'03"E), 15 06 2007, 3 spec., (55°02'19"N, 23°53'42"E), 15 06 2007, 5 spec., (55°01'50"N, 23°53'47"E), 15 06 2007, 1 spec., (55°01'36"N, 23°53'44"E), 15 06 2007, 5 spec., (55°01'18"N, 23°53'52"E), 15 06 2007, 6 spec.; Būdos pr. (54°53'25"N, 24°23'19"E), 15 06 2007, 2 spec., 26 06 2007, 1 spec., (54°53'02"N, 24°22'38"E), 15 06 2007, 3 spec., (54°52'56"N, 24°22'40"E), 15 06 2007, 2 spec., (54°53'22"N, 24°22'26"E), 15 06 2007, 1 spec., 26 06 2007, 1 spec., (54°53'14"N, 24°21'37"E), 15 06 2007, 2 spec., (54°53'04"N, 24°21'40"E), 15 06 2007, 1 spec., (54°52'46"N, 24°21'45"E), 15 06 2007, 1 spec., (54°53'18"N, 24°20'40"E), 15 06 2007, 4 spec., 26 06 2007, 1 spec., (54°53'13"N, 24°20'39"E), 15 06 2007, 7 spec., (54°53'20"N, 24°21'06"E), 17 06 2007, 1 spec. (V.B.), (54°53'21"N, 24°21'38"E), 26 06 2007, 1 spec., (54°53'20"N, 24°21'25"E), 26 06 2007, 1 spec. (V.B.), (54°53'10"N, 24°20'39"E), 26 06 2007, 1 spec.,

***Coenonympha hero* (Linnaeus, 1761)**

Babtu-Varlupos B.P. (55°03'33"N, 23°51'18"E), 16 06 2007, 1 spec. (V.B.); Palaraitis pr. (54°57'18"N, 24°22'52"E), 08 06 2007, 1 spec., (54°57'52"N, 24°22'53"E), 08 06 2007, 3 spec.

***Oeneis (Oeneis) jutta* (Hübner, 1806)**

Palaraitis pr. (54°57'40"N, 24°23'12"E), 08 06 2007, 1 spec., (54°57'47"N, 24°23'11"E), 08 06 2007, 2 spec., (54°57'49"N, 24°23'10"E), 08 06 2007, 1 spec., (54°57'53"N, 24°23'05"E), 08 06 2007, 2 spec.

ODONATA**GOMPHIDAE*****Ophiogomphus cecilia* (Fourcroy, 1785)**

Babtu-Varlupos B.P. (55°01'16"N, 23°53'53"E), 16 06 2007, 2 spec.; Būdos pr. (54°53'12"N, 24°22'39"E), 15 06 2007, 2 spec., (54°53'21"N, 24°22'07"E), 15 06 2007, 2 spec., (54°53'14"N, 24°21'37"E), 15 06 2007, 2 spec., (54°52'46"N, 24°21'45"E), 15 06 2007, 1 spec., (54°53'20"N, 24°21'07"E), 15 06 2007, 3 spec., (54°53'26"N, 24°23'28"E), 26 06 2007, 1 spec., (54°53'35"N, 24°21'36"E), 26 06 2007, 1 spec.; Palaraitis pr. (54°57'18"N, 24°22'52"E), 08 06 2007, 3 spec., 26 06 2007, 1 spec., (54°57'34"N, 24°23'13"E), 08 06 2007, 1 spec., (54°57'43"N, 24°23'11"E), 08 06 2007, 2 spec., (54°57'53"N, 24°22'59"E), 26 06 2007, 2 spec.

Discussion

17 species of insects included into the Red Data Book of Lithuania were registered during the research. Of these, nine species represent the order Coleoptera, seven – Lepidoptera and one – Odonata. Six species (*Cucujus cinnaberinus*, *Euphydryas maturna*, *Lopinga achine*, *Coenonympha hero*, *Lycaena dispar*, and *Ophiogomphus cecilia*) are protected in the European Union according to the Habitats Directive. Eight protected species of insects were registered in the Būdos preserve, six in the Palaraitis

and the Kamša preserves, and nine species in the Babtų-Varlupos biosphere polygon.

One species (*Oeneis jutta*) was mentioned from the Palaraistis preserve found in 1993 (Kazlauskas, 2003), while it is an important site for another tyrphobiontic species, *Agonum ericeti*. Both species prefer the most natural central part of the bog and they were not found in the densely overgrown margins of the preserve.

Only one protected species (*Peltis grossa*) was known from the Būdos preserve, but the exact finding places were not indicated (Šablevičius, 1995, 2000). Seven additional protected insect species were registered in 2007.

The studies of the Babtų-Varlupos biosphere polygon were carried out by T. Ūsaitis and six protected species of Lepidoptera were registered in 2005–2006 (Ūsaitis, 2007). Some species were not registered in 2007, e.g., *Papilio machaon*, *Maculinea teleius* and *Carterocephalus palaemon*. *P. machaon* has no association with a particular habitat, while *M. teleius* and *C. palaemon* form very local and small populations.

More entomological studies were carried out in the Kamša preserve. There are some data on rare Coleoptera (Pileckis, 1968; Šablevičius, Ferenca, 1995; Tamutis, 2003, 2006) and Lepidoptera species (Navasaitis & Ščeponavičius, 1984) from this preserve. Two species of butterflies (*P. machaon* and *L. dispar*) were registered in 1978 and 1979, but they were not found in 2007. Some species of beetles were registered only some decades ago as well, e.g. *Prionus coriarius*, *Cucujus haematodes*, and they were not registered repeatedly, so their status is unclear. This territory is very important for the *Cucujus cinnaberinus* population which is observed since 2000.

Adults of *Ophiogomphus cecilia* were registered in all the preserves studied except the Kamša site. Anyway, there were no suitable habitats for their breeding, so the adults used these territories as feeding places.

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Saugomos vabzdžių rūšys, užregistruotos 2007 metais vidurio Lietuvos saugomose teritorijose

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Santrauka

Atlikus entomofaunos tyrimus 2007 metais keturiose Kauno ir Kaišiadorių rajonų saugomose teritorijose, užregistruota 17 į Lietuvos raudonąją knygą įtrauktų vabzdžių rūšių, priklausančių vabalų (Coleoptera), drugių (Lepidoptera) ir žirgelių (Odonata) būriams. Šešios rūšys (*Cucujus cinnaberinus*, *Euphydryas maturna*, *Lopinga achine*, *Coenonympha hero*, *Lycaena dispar* ir *Ophiogomphus cecilia*) yra saugomos ES Buveinių Direktyvos. Babtų-Varluvos biosferos poligone aptiktos 9 (apibendrinus literatūros duomenis, iš viso žinoma 11 rūšių), Kamšos botaniniame–zoologiniame draustinyje – 6 (iš viso – 10), Palaraisčio telmologiniame – 6, Būdos botaniniame–zoologiniame draustinyje – 8 saugomos vabzdžių rūšys.

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