

# Beetles (Coleoptera) caught in traps baited with pheromones for *Dendroctonus rufipennis* (Kirby) (Curculionidae: Scolytinae) in Lithuania

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Sticky traps baited with pheromones for *Dendroctonus rufipennis* were set up in the Klaipėda port and at the Vaidotai railway station alongside temporary stored timbers and in forests along roads in June–July 2000 (21 localities across the entire Lithuania); 111 beetle species and 6 genera were detected. Eight trophic groups of beetles were identified, and among them the largest number (38.7% of species detected and 28.5% of beetle specimens) presented a decaying wood and mycetobiont beetle group. Most frequent beetles were *Dasytes plumbeus* (Dasytidae), *Sciodreporoides watsoni* (Leiodidae) and *Polygraphus poligraphus* (Curculionidae). Scolytinae were represented by 5 species and 83 beetle specimens. No *D. rufipennis* was trapped. *Rhacopus sahlbergi* (Eucnemidae) and *Anobium nitidum* (Anobiidae) beetles were caught in two localities, and the species were ascertained as new for the Lithuanian fauna. There was detected 71 new localities with the occurrence of 54 beetle species rare for Lithuania.

**Key words:** bark beetles, sticky traps, rare Lithuanian species, new fauna species

## INTRODUCTION

Wood is a very important material for many countries, and Lithuania is actively engaged in international wood trade. Economically significant insect species may be imported with wood from other parts of the world and cause undesirable consequences. It is necessary to organize the search in plant material imported to Lithuania in localities where timbers are temporarily stored (port and railway stations) or transported via roads close to forests. In early stages of insect invasion it is usually possible to eliminate the focus and to keep the costs of applied measures at a lower level. This investigation was one of the first attempts of the State Plant Protection Service to search for non-European bark beetles – *Dendroctonus rufipennis* after the establishing the Phytosanitary Research Laboratory in 1997. The hosts of *D. rufipennis* (Kirby) are *Picea* spp. (CAB 1997). Some tree species (*P. engelmannii*, *P. glauca*) that host *D. rufipennis* grow in Lithuanian parks, botanical gardens or plantations (Snarskis, Galinis, 1974; Januškevičius, 2004) and pose a

risk of introducing the species via international trade. Also, pheromones for *D. rufipennis* were established (Pitman, Vite, 1970; Vite et al., 1972; Kline et al., 1974; Furniss et al., 1976; Gries et al., 1992) and easily ordered. The goals of the present study were to test sticky (Cross-vane) traps for catching bark beetles (Curculionidae: Scolytinae), to perform the search for *D. rufipennis* in Lithuania and to examine the species composition of non-target insects in the traps.

## MATERIALS AND METHODS

Sticky traps (Cross-vane traps, product code BC2590, AgriSense-BCS Ltd., former subsidiary of Thermo Trilog Corporation, USA; Figure) and pheromone baits for *D. rufipennis* (lure, product code L085, AgriSense-BCS Ltd., former subsidiary of Thermo Trilog Corporation, USA) were used. The pheromone bait was assumed to work for a period not shorter than a month. The traps were fastened to upper spruce branches 1.5 m above the ground at forest edges. The same height was used to hang the traps on stakes in localities where timbers were stored. The string, on which the traps

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were attached, allowed the traps to turn in all directions when the wind blew, so that flying beetles got sucked in and adhered to the glue. One trap per locality was used. Three localities were in the Klaipėda port (Klaipėda county), one nearby the Vaidotai railway station (Vilnius county), and the others along the roads in the following forests: Arvydai and Vievis (Vilnius county), Daugai and Druskininkai (Alytus county), Bubiai and Aukštelkai (Šiauliai county), Eičiai and Sakalinė (Tauragė county), Gražiškiai and Žalioji (Marijampolė county), Trimargis (Kaunas county), Rokiškis, Šilai and Žaliosios (Panevėžys county). In total, traps were set up in 21 localities during the period June 15 – July 31, 2000. Beetle specimens were removed from the glue with the help of a solvent (Heksan). Then beetles were washed in distilled water, dried and mounted. Species descriptions published in issues of Freude et al. (1966, 1967, 1969, 1971, 1974, 1976, 1979, 1981), Pileckis, Monsevičius (1995, 1997) were used for the trophic group determination. The nomenclature for beetles follows Silfverberg (2004). The index of dominance was calculated, and the classes of species were detected according to Durska (2001). The frequency of species (%) was calculated as a ratio of the number of localities where a species was recorded to the number of all the localities investigated.

## RESULTS AND DISCUSSION

In total, 83 bark beetles of 5 species were caught; they represent a small number (7.8% of species) of the Scolytinae fauna known in Lithuania (Gaidienė, 1993; Silfverberg, 2004). *D. rufipennis* was not trapped. Also, a small number of entomophagi feeding on bark beetles were present. No *Rhizophagus*, especially *R. grandis* which feed on *Dendroctonus micans* larvae, were trapped. On the other hand, none of the European *D. micans* specimen was caught during the study. The latter is a rare species in Lithuania (Pileckis, Monsevičius, 1997), and the time used to trap adults was favourable.

In total, there were detected 8 trophic groups which comprised 111 beetle species and 6 genera (Table). The largest number (38.7% of species detected and 28.5% of beetle specimens) represented a decaying wood and mycetobiont beetle group. Among all trapped beetles, 2 new and 54 species rare for the Lithuanian fauna (the category after Pileckis, Monsevičius, 1995, 1997) were detected. The list of that with specified records (family, species, locality, date, number of trapped specimens) follows below (new species for Lithuanian fauna are marked with\*).

### CARABIDAE

*Dromius agilis* (F.); Šilai forest, block No 18, lot No 7, July 01–31, 2000; 1 sp.

*Dromius quadraticollis* Moraw.: Žalioji forest, block No 227, lot No 5, July 01–31, 2000; 2 sp.

### LEIODIDAE

*Anisotoma castanea* (Hbst.): Arvydai forest, block No 4, June 26 – July 24, 2000, 1 sp.; Eičiai forest, block No 56, June 20 – July 29, 2000, 1 sp.

*Agathidium seminulum* (L.): Eičiai forest, block No 56, June 20 – July 29, 2000, 1 sp.

*Ptomaphagus sericatus* (Chaud.): Vaidotai railway station; June 15 – July 17, 2000, 1 sp.

*Catops coracinus* Kelln.: Sakalinė forest, block No 51, June 19 – July 28, 2000, 1 sp.

*Catops morio* (F.): Žalioji forest, block No 6, June 16 – July 24, 2000, 2 sp.; Žalioji forest, block No 227, lot No 5, July 01–31, 2000, 2 sp.; Šilai forest, block No 18, lot No 7, July 01–31, 2000, 2 sp.

### STAPHYLINIDAE

*Haploglossa gentilis* (Märk): Bubiai forest, June 25 – July 30, 2000, 1 sp.

### SCIRTIDAE

*Prionocyphon serricornis* (Müll.): Eičiai forest, block No 56, June 20 – July 29, 2000, 1 sp.

### EUCNEMIDAE

*Microrhagus pygmaeus* (F.): Aukštelkai forest, June 25 – July 30, 2000, 1 sp.

\**Rhacopus sahlbergi* (Mannh.): Aukštelkai forest, June 25 – July 30, 2000, 1 sp.

*Hylis procerulus* (Mannh.): Arvydai forest, block No 4, June 26 – July 24, 2000, 1 sp.; Aukštelkai forest: June 25 – July 30, 2000, 1 sp.

### ELATERIDAE

*Ampedus erythrogonus* (Müll.): Gražiškiai forest, block No 116, June 16 – July 24, 2000, 1 sp.; Sakalinė forest, block No 51, July 1–31, 2000, 1 sp.

*Ampedus nigrinus* (Hbst.): Žalioji forest, block No 227, lot No 5, July 01–31, 2000, 1 sp.

### LYCIDAE

*Pyropterus nigroruber* (Deg.): Eičiai forest, block No 71, June 20 – July 29, 2000, 1 sp.

### CANTHARIDAE

*Cantharis nigra* (Deg.): Žalioji forest, block No 6, June 16 – July 24, 2000, 2 sp.

*Cantharis nigricans* (Müll.): Žalioji forest, block No 5, June 16 – July 24, 2000, 3 sp.

*Malthinus biguttatus* (L.): Gražiškiai forest, block No 116, June 16 – July 24, 2000, 4 sp.; Aukštelkai forest, June 25 – July 30, 2000, 1 sp.

### DERMESTIDAE

*Anthrenus museorum* (L.): Daugai forest, June 19 – July 17, 2000, 1 sp.

### ANOBIIDAE

*Ptinus clavipes* Panz.: Aukštelkai forest, June 25 – July 30, 2000, 1 sp.

*Dryophilus pusillus* (Gyll.): Gražiškiai forest, block No 116, June 16 – July 24, 2000, 1 sp.

\**Anobium nitidum* F.: Aukštelkai forest, June 25 – July 30, 2000, 2 sp.

*Microbregma emarginata* (Duft.): Vievis forest, block No 15, June 18 – July 23, 2000, 1 sp.

*Dorcatoma dresdensis* Hbst.: Vievis forest, block No 15, June 18 – July 23, 2000, 1 sp.

*Dorcatoma lomnickii* Reitt.: Žalioji forest, block No 227, lot No 5, July 01–31, 2000, 1 sp.

## CLERIDAE

*Thanasimus femoralis* (Zett.): Bubiai forest, June 25 – July 30, 2000, 1 sp.; Rokiškis forest, July 01–31, 2000; 1 sp.

*Korynetes caeruleus* (Degeer): Rokiškis forest, July 01–31, 2000, 1 sp.

## DASYTIDAE

*Aplocnemus nigricornis* (F.): Žalioji forest, block No 227, lot No 5, July 01–31, 2000, 1 sp.

*Dasytes cayneus* (F.): Gražiškiai forest, block No 116, June 16 – July 24, 2000, 1 sp.; Aukštelkai forest: June 25 – July 30, 2000, 1 sp.

*Dasytes plumbeus* (Müll.): Gražiškiai forest, block No 116, June 16 – July 24, 2000, 15 sp.; Bubiai forest, June 25 – July 30, 2000, 1 sp.; Vievis forest, block No 15, June 18 – July 23, 2000, 22 sp.; Vaidotai railway station, June 15 – July 17, 2000, 8 sp.; Arvydai forest, block No 4, June 26 – July 24, 2000, 8 sp.; Aukštelkai forest, June 25 – July 30, 2000, 10 sp.; Žalioji forest, block No 227, lot No 5, July 01–31, 2000, 19 sp.; Rokiškis forest, July 01–31, 2000, 1 sp.; Šilai forest, block No 18, lot No 7, July 01–31, 2000, 1 sp.; Daugai forest, June 19 – July 17, 2000, 1 sp.; Eičiai forest, block No 56, June 20 – July 29, 2000, 2 sp.; Eičiai forest, block No 71, June 20 – July 29, 2000, 1 sp.; Klaipėda port, June 20 – July 20, 2000, 1 sp.

## MALACHIIDAE

*Axinotarsus pulicarius* (F.): Gražiškiai forest, block No 116, June 16 – July 24, 2000, 1 sp.

## NITIDULIDAE

*Meligethes denticulatus* (Heer): Bubiai forest, June 25 – July 30, 2000, 1 sp.; Eičiai forest, block No 56, June 20 – July 29, 2000, 5 sp.

*Meligethes coracinus* Sturm: Aukštelkai forest, June 25 – July 30, 2000, 4 sp.

*Meligethes pedicularius* (Gyll.): Žalioji forest, block No 6, June 16 – July 24, 2000, 4 sp.

## CRYPTOPHAGIDAE

*Cryptophagus dentatus* (Hbst.): Gražiškiai forest, block No 116, June 16 – July 24, 2000, 1 sp.

*Antherophagus pallens* (L.): Arvydai forest, block No 4, June 26 – July 24, 2000, 1 sp.

## CERYLONIDAE

*Cerylon impressum* Er.: Bubiai forest, June 25 – July 30, 2000, 1 sp.

## ENDOMYCHIDAE

*Mycetina cruciata* (Schall): Eičiai forest, block No 56, June 20 – July 29, 2000, 1 sp.

## COCCINELLIDAE

*Scymnus haemorrhoidalis* (Hbst.): Žalioji forest, block No 6, June 16 – July 24, 2000, 1 sp.

## LATRIDIIDAE

*Enicmus rugosus* (Hbst.): Eičiai forest, block No 56, June 20 – July 29, 2000, 1 sp.; Aukštelkai forest, June 25 – July 30, 2000, 1 sp.

*Enicmus transversus* (Ol.): Rokiškis forest, July 01–31, 2000, 1 sp.

*Corticaria gibbosa* (Hbst.): Žalioji forest, block No 6, June 16 – July 24, 2000, 3 sp.

## CIIDAE

*Ennearthron laricinum* (Mell.): Aukštelkai forest, June 25 – July 30, 2000, 1 sp.

## MELANDRYIDAE

*Orchesia micans* (Panz.): Eičiai forest, block No 56, June 20 – July 29, 2000, 2 sp.

*Orchesia minor* Walk.: Žalioji forest, block No 6, June 16 – July 24, 2000, 2 sp.; Žalioji forest, block No 227, lot No 5, July 01–31, 2000, 1 sp.

## ZOPHERIDAE

*Synchita humeralis* (F.): Eičiai forest, block No 71, June 20 – July 29, 2000, 1 sp.

## OEDEMERIDAE

*Oedemera femorata* (Scop.): Žalioji forest, block No 6, June 16 – July 24, 2000, 2 sp.

## SCRAPTIIDAE

*Anaspis frontalis* (L.): Bubiai forest, June 25 – July 30, 2000, 1 sp.

*Anaspis rufilabris* (Gyll.): Vievis forest, block No 15, June 18 – July 23, 2000, 2 sp.

## CERAMBYCIDAE

*Leiopus nebulosus* (L.): Gražiškiai forest, block No 116, June 16 – July 24, 2000, 1 sp.

## CHRYSOMELIDAE

*Cassida stigmatica* Suffr.: Vievis forest, block No 15, June 18 – July 23, 2000, 1 sp.

## ANTHRIBIDAE

*Gonotropis dorsalis* (Thunb.): Žalioji forest, block No 227, lot No 5, July 01–31, 2000, 1 sp.

## CURCULIONIDAE

*Acalyptus carpini* (F.): Daugai forest, June 19 – July 17, 2000, 1 sp.

*Rhamphus pulicarius* (Hbst.): Žalioji forest, block No 227, lot No 5, July 01–31, 2000, 1 sp.

*Magdalis linearis* (Gyll.): Bubiai forest, June 25 – July 30, 2000, 1 sp.

*Scolytus rugulosus* (Müll.): Žalioji forest, block No 227, lot No 5, July 01–31, 2000, 1 sp.

In total, we extended knowledge on the distribution of rare (54 species, 71 new localities) beetle species in Lithuania as compared to data known earlier (Pileckis, Monsevičius, 1995, 1997; Barševskis, 2001; Tamutis, Zolubas, 2001; Ferencs et al., 2002, 2006; Šablevičius, 2003, 2004; Tamutis, 2003; Ferencs, 2004; Inokaitis, 2004; Butvila et al., 2007; Ivinskis et al., 2009). To sum up the published (Pileckis, Monsevičius, 1995, 1997; Ferencs et al., 2002, 2006; Tamutis, 2003; Silfverberg, 2004; Ferencs, Tamutis, 2009) and our data, Lithuanian Anobiidae now comprise 33 species and Eucnemidae 8.

Table. The list of beetles caught in Cross-vane traps baited with pheromone for *Dendroctonus rufipennis* (Coleoptera: Curculionidae: Scolytinae) during June 16 – July 31, 2000 with class of dominance and frequency indexes

Trophic group, beetle species (genus)	Species dominance class	Species frequency (%)	Trophic group, beetle species (genus)	Species dominance class	Species frequency (%)
<b>Xylophagous</b>			<i>Atomaria</i> sp.***		
<i>Anthaxia quadripunctata</i> (L.)	Accessory	14.3	<i>Triplax aenea</i> (Schall.)	Accessory	4.8
<i>Agrilus viridis</i> (L.)	Accessory	4.8	<i>Cerylon impressum</i> Er.	Accessory	4.8
<i>Polygraphus polygraphus</i> (L.)	Dominant	33.3	<i>Cerylon</i> sp.	1**	
<i>Scolytus rugulosus</i> (Müll.)	Accessory	4.8	<i>Endomychus coccineus</i> (L.)	Accessory	4.8
<i>Ips typographus</i> (L.)	Accessory	4.8	<i>Mycetina cruciata</i> (Schall.)	Accessory	4.8
<i>Dryocoetes autographus</i> (Ratz.)	Accessory	4.8	<i>Enicmus rugosus</i> (Hbst.)	Accessory	9.5
<i>Trypodendron lineatus</i> (Ol.)	Accessory	4.8	<i>Enicmus transversus</i> (Ol.)	Accessory	4.8
<b>Phytophagous (trees – buds, buttons, leaves or roots)</b>			<i>Corticaria gibbosa</i> (Hbst.)	Accessory	4.8
<i>Trixagus dermestoides</i> (L.)	Subdominant	14.3	<i>Typhaea stercorea</i> (L.)	Accessory	9.5
<i>Gonioctena pallida</i> (L.)	Accessory	4.8	<i>Ennearthron laricinum</i> (Mell.)	Accessory	4.8
<i>Crepidodera aurata</i> (Marsh.)	Accessory	4.8	<i>Orchesia micans</i> (Panz.)	Accessory	4.8
<i>Crepidodera nitidula</i> (L.)	Accessory	4.8	<i>Orchesia minor</i> Walk.	Accessory	9.5
<i>Phyllobius arborator</i> (Hbst.)	Accessory	14.3	<i>Variimorda villosa</i> (Schrank)	Accessory	4.8
<i>Phyllobius maculicornis</i> Germ.	Accessory	4.8	<i>Mordellistena</i> sp.	2**	
<i>Ellescus scanicus</i> (Payk.)	Accessory	4.8	<i>Synchita humeralis</i> (F.)	Accessory	4.8
<i>Acalyptus carpini</i> (F.)	Accessory	4.8	<i>Lagria hirta</i> (L.)	Subdominant	23.8
<i>Anthonomus pomorum</i> (L.)	Accessory	4.8	<i>Chrysanthia geniculata</i> Heyd	Accessory	4.8
<i>Rhamphus pulicarius</i> (Hbst.)	Accessory	9.5	<i>Oedemera femorata</i> (Scop.)	Accessory	4.8
<b>Drying or dead wood</b>			<i>Notoxus monoceros</i> (L.)	Subdominant	19.0
<i>Magdalis carbonaria</i> (L.)	Accessory	4.8	<i>Anaspis frontalis</i> (L.)	Accessory	19.0
<i>Magdalis linearis</i> (Gyll.)	Accessory	4.8	<i>Anaspis rufilabris</i> (Gyll.)	Accessory	4.8
<i>Anthrenus museorum</i> (L.)	Accessory	4.8	<i>Anaspis</i> sp.	2**	9.5
<i>Dryophilus pusillus</i> (Gyll.)	Accessory	4.8	<i>Acanthocinus griseus</i> (F.)	Accessory	4.8
<i>Ernobius mollis</i> (L.)	Accessory	14.3	<i>Phratora laticollis</i> (Suffr.)	Accessory	4.8
<i>Anobium nitidum</i> F.	Accessory	4.8	<i>Phyllotreta vittula</i> (Redt.)	Accessory	4.8
<i>Microbregma emarginata</i> Duft.	Accessory	4.8	<i>Gonotropis dorsalis</i> (Thunb.)	Accessory	4.8
<i>Leptura melanura</i> (L.)	Accessory	9.5	<b>Forest floor, plants decay remains, soil</b>		
<i>Leptura bifasciata</i> (Müll.)	Accessory	4.8	<i>Ptomaphagus sericatus</i> (Chaud.)	Accessory	4.8
<i>Leiopus nebulosus</i> (L.)	Accessory	4.8	<i>Sciodreporides watsoni</i> (Spence)	Dominant	38.1
<b>Decaying wood and mycetobiont</b>			<i>Serica brunnea</i> (L.)	Accessory	14.3
<i>Anisotoma humeralis</i> (F.)	Accessory	4.8	<i>Cyphon ochraceus</i> Steph.	Dominant	4.8
<i>Anisotoma castanea</i> (Hbst.)	Accessory	9.5	<i>Cyphon variabilis</i> (Thunb.)	Accessory	4.8
<i>Agathidium seminulum</i> (L.)	Accessory	4.8	<i>Cyphon</i> sp.	3**	
<i>Catops coracinus</i> Kelln.	Accessory	4.8	<i>Prionocyphon serricornis</i> (Müll.)	Accessory	4.8
<i>Catops morio</i> (F.)	Subdominant	14.3	<i>Hemicrepidius niger</i> (L.)	Accessory	4.8
<i>Catops fuscus</i> (Panz.)	Accessory	4.8	<i>Athous subfuscus</i> (Müll.)	Accessory	4.8
<i>Catops</i> sp.	7**		<i>Denticollis linearis</i> (L.)	Accessory	4.8
<i>Scaphisoma agaricinum</i> (L.)	Subdominant	4.8	<i>Latridius</i> sp.***	Accessory	4.8
<i>Microcara testacea</i> (L.)	Subdominant	4.8	<i>Corticarina</i> sp.***	Accessory	4.8
<i>Microrhagus pygmaeus</i> (F.)	Accessory	4.8	<i>Longitarsus</i> sp.***	Accessory	4.8
<i>Rhacopus sahlbergi</i> (Mannh.)	Accessory	4.8	<i>Brachysomus echinatus</i> (Bonsd.)	Accessory	4.8
<i>Hylis procerulus</i> (Mannh.)	Accessory	9.5	<b>Phytophagous (herbivorous plants)</b>		
<i>Ampedus erythrogonus</i> (Müll.)	Accessory	9.5	<i>Meligethes denticulatus</i> (Heer)	Subdominant	9.5
<i>Ampedus nigrinus</i> (Hbst.)	Accessory	4.8	<i>Meligethes coracinus</i> Sturm	Accessory	4.8
<i>Dalopius marginatus</i> (L.)	Subdominant	23.8	<i>Meligethes viridescens</i> (F.)	Subdominant	9.5
<i>Pyropterus nigroruber</i> (Deg.)	Accessory	4.8	<i>Meligethes persicus</i> (Fald.)	Accessory	4.8
<i>Ptinus clavipes</i> Panz.	Accessory	4.8	<i>Meligethes</i> sp.	22**	
<i>Dorcatoma dresdensis</i> Hbst.	Accessory	4.8	<i>Phyllotreta armoraciae</i> (Koch)	Accessory	4.8
<i>Dorcatoma lomnickii</i> Reitt.	Accessory	4.8	<i>Phyllotreta undulata</i> (Kutsch.)	Accessory	4.8
<i>Cychramus luteus</i> (F.)	Dominant	14.3	<i>Phyllotreta striolata</i> (F.)	Accessory	4.8
<i>Cryptophagus dentatus</i> (Hbst.)	Accessory	4.8	<i>Phyllotreta atra</i> (F.)	Accessory	9.5
<i>Cryptophagus</i> sp.	5**		<i>Neocrepidodera ferruginea</i> (Scop.)	Accessory	4.8
			<i>Psylliodes cucullatus</i> (Ill.)	Accessory	9.5



Table (continued)

Trophic group, beetle species (genus)	Species dominance class	Species frequency (%)
<i>Cassida stigmatica</i> Suffr.	Accessory	4.8
<i>Apion simile</i> Kirby	Accessory	4.8
<i>Apion fulvipes</i> (Fourcr.)	Accessory	4.8
<b>Nidicol (bumble-bee nests, birds' nests)</b>		
<i>Haploglossa gentilis</i> (Märk)	Accessory	4.8
<i>Antherophagus pallens</i> (L.)	Accessory	4.8
<b>Entomophagous</b>		
<i>Trechus quadristriatus</i> (Schrk.)	Accessory	4.8
<i>Dromius agilis</i> (F.)	Accessory	4.8
<i>Dromius quadraticollis</i> Moraw.	Accessory	4.8
<i>Cantharis nigra</i> (Deg.)	Accessory	4.8
<i>Cantharis nigricans</i> (Müll.)	Accessory	4.8
<i>Malthinus biguttatus</i> (L.)	Accessory	9.5
<i>Malthodes</i> sp.***	Accessory	4.8
<i>Thanasimus femoralis</i> (Zett)	Accessory	9.5
<i>Korynetes caeruleus</i> (Deg.)	Accessory	4.8
<i>Aplocnemus nigricornis</i> (F.)	Accessory	4.8
<i>Dasytes niger</i> (L.)	Accessory	4.8
<i>Dasytes cayneus</i> (F.)	Accessory	9.5
<i>Dasytes plumbeus</i> (Müll.)	Eudominant	61.9
<i>Axinotarsus pulicarius</i> (F.)	Accessory	4.8
<i>Scymnus haemorrhoidalis</i> (Hbst.)	Accessory	4.8
<i>Aphidecta oblitterata</i> (L.)	Accessory	4.8
<i>Adalia bipunctata</i> (L.)	Accessory	4.8

\*\* Number of specimens, data not used to detect the class and frequency.

\*\*\* One specimen was trapped, and as it represent one species, data were used to detect the class and frequency.

Most frequent beetles were *Dasytes plumbeus* (Dasytidae), *Sciodreporides watsoni* (Leiodidae) and *Polygraphus poligraphus* (Curculionidae). This corresponds with the species classes – eudominant and dominants – detected during our investigation (two more dominants – *Cychramus luteus*, *Cyphon ochraceus*). There were no control (traps with no pheromone bait), so it is impossible to confirm the attractivity of traps with baits for beetles. On the other hand, a very important point is the quantity of pheromone components or the ratio of a few components, which are usually distinct for different species (Jakaitis, 1988). Thus, all beetles caught during our investigation were ascertained as non-target.

A similar investigation in Lithuania, using cross-barrier traps baited with pheromone for *Ips typographus*, was made by other authors (Tamutis, Zolubas, 2001) during April–June of 1999. There were trapped 187 non-target beetle species belonging to 44 families. In comparison, our study indicates 1.7 times less non-target bark beetle species and 1.4 times specimens. Here differed investigation time and sites, better to test possibility of trapping when several type traps are disposed in a rank. It seems reasonable to catch a few trophic group representatives at the same time and to present a good part of decaying wood and mycetobiont beetle group when sticky (Cross-vane) traps are applied. A drawback of Cross-vane traps is that beetles stick to the glue, and it takes a longer time to mount them.



Figure. AgriSense-BCS Limited Cross-vane trap (consists of 2 interlocking plastic panels coated on both sides with non-drying glue)

## CONCLUSIONS

1. In Lithuania, in 2000, using pheromone baits and traps for *Dendroctonus rufipennis*, no beetles of this species were recorded. Beetles of 111 species and 6 genera were trapped. Scolytinae were represented by 5 species and 83 specimens. Most frequent beetles were *Dasytes plumbeus* (Dasytidae), *Sciodreporides watsoni* (Leiodidae) and *Polygraphus poligraphus* (Curculionidae).

2. Eight trophic groups of beetles were identified from sticky (Cross-vane) traps, among them the largest number (38.7% of species and 28.5% of specimens) represented the decaying wood and mycetobiont beetle group.

3. *Rhacopus sahlbergi* (Eucnemidae) and *Anobium nitidum* (Anobiidae) beetles were caught in two localities, and these species are new for Lithuanian fauna. There were revealed 71 new localities of the occurrence of 54 beetle species rare for Lithuania.

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- Henrikas Ostrauskas, Romas Ferencas**
- VABALAI (COLEOPTERA), PAKLIUVĘ Į GAUDYKLES SU DENDROCTONUS RUFIPENNIS (KIRBY) (CURCULIONIDAE: SCOLYTINAE) FEROMONU, LIETUVOJE**
- Santrauka*
- Klijų (Cross-vane) gaudyklės su *Dendroctonus rufipennis* feromonais buvo pakabintos Klaipėdos uoste ir Vaidotų geležinkelio stotyje prie laikinai sandėliuojamų rąstų bei miškuose prie kelių (visoje Lietuvoje 21 vietovė) 2000 metų birželį–liepą. Aptikta 111 rūšių ir 6 genčių vabalai. Nustatytos 8 trofinės sugautų vabalų grupės. Trūnijančios medienos ir micetobiontų grupės vabalai (38,7 % visų identifikuotų rūšių ir 28,5 % vabalų individų) sudarė didžiausią trofinę grupę. Dažniausi vabalai buvo *Dasytes plumbeus* (Dasytidae), *Sciodrepsoides watsoni* (Leiodidae) ir *Polygraphus poligraphus* (Curculionidae). Gaudyklėse nustatyti 5 rūšių 83 vabalai, priklausantys Scolytinae pošeimiui, bet *D. rufipennis* vabalų neaptikta. *Rhacopus sahlbergi* (Eucnemidae) ir *Anobium nitidum* (Anobiidae) vabalai sugauti 2 vietovėse, ir šios rūšys papildė Lietuvos fauną. Žinias apie 54 retų Lietuvoje vabalų rūšių paplitimą papildė nauja 71 radavietė.
- Raktažodžiai:** kinivarpos, klijų gaudyklės, retosios Lietuvos rūšys, faunos naujos rūšys