

MOTHS IN PHEROMONE TRAPS FOR *CYDIA MOLESTA* BUSCK, *C. POMONELLA* L., *C. NIGRICANA* F. (TORTRICIDAE, LEPIDOPTERA) IN LITHUANIA

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Abstract. In the period 1998-2000, *Cydia molesta*, a quarantine pest, was not registered in Lithuania. In the current paper, the data on 64 moth species belonging to 11 families and caught in the pheromone traps for *Cydia molesta*, *C. pomonella* and *C. nigricana* are presented. *Argyresthia sorbiella*, *Pammene inquilina* are new species for Lithuania. Such rare species for Lithuania as *Pristerognatha fuligana*, *Pammene spiniana*, *Cydia gallicana*, *C. pallifrontana*, *Cnephasia interjectana* were also caught in the traps, and the data on their distribution was supplemented with new facts. The moths that were caught most frequently in the traps for *Grapholitha molesta*, *Cydia pomonella*, and *Cydia nigricana* are pointed out.

Key words: oriental fruit moth (*Cydia molesta*), codling moth (*Cydia pomonella*), pea moth (*Cydia nigricana*), pheromone traps, distribution, Lithuania

INTRODUCTION

Cydia molesta is included into the Quarantine Pest List (Valstybės žinios, 2000; Quarantine, 1997). *C. pomonella* and *C. nigricana* are the species used by the Lithuanian State Plant Protection Service for the monitoring of the garden and field pests in Lithuania. The purpose of this work was to search for *C. molesta* in Lithuania and to detect moths most frequently occurring in the pheromone traps for *C. molesta*, *C. pomonella* and *C. nigricana*.

MATERIAL AND METHODS

The pheromone dispensers (L034 for *C. molesta*, L021 for *C. pomonella*, and L020 for *C. nigricana*) and delta traps with sticky inserts (all the items produced by an American company, AgriSense) were used. The attractiveness of the pheromone was guaranteed for six weeks from the moment when the dispenser started to spread volatile components in the garden or in the field. One dispenser was used for one trap. Part of the traps for *C. molesta* was set in May-June 1998 and for *C. nigricana* during the same months of 2000. Other traps were set in July-August. The number of traps set in 1998, 1999 and 2000

for the oriental fruit moth was 114, 8 and 4 respectively. The number of traps set for the codling moth in 1998, 1999 and 2000 was 11, 7 and 9 respectively, whereas the number of traps set for the pea moth in 1999 and 2000 was 3 and 5 respectively. The traps for *C. molesta* were set in 52 localities of 27 administrative districts of Lithuania; the traps for *C. pomonella* were placed in 15 localities of 8 districts, whereas for *C. nigricana* they were set in 4 localities of 4 districts. *C. molesta* and *C. pomonella* were searched for both in orchards owned by companies and by individual owners. *C. nigricana* was searched for in pea fields of companies.

About 20 abdomens of moths similar in size were taken from each insert. The genitalia were prepared by a standard method (Komarova, 1983; Ivinskis, 1996). Special keys and illustrations were used to determine moth species (Guide book, 1978, 1981, 1986; Bradley, 1979; Razowski, 1990; Klucze, 1959, 1960, 1965, 1966, 1983; Calle, 1982; Merzhevskaya, 1971). The list of moth species is presented in the same order as in The Checklist of Lithuanian Lepidoptera (Ivinskis, 1993). The relative frequency for species (%) was counted as the ratio of the number of inserts, in which at least one specimen of the discussed species was found, and the total number of all the inserts used in the experiment.

ABBREVIATIONS

Species: (*Cm*) *Cydia molesta*, (*Cp*) *Cydia pomonella*, (*Cn*) *Cydia nigricana*.

Administrative districts: (Ak) Akmenė, (Alt) Alytus, (An) Anykščiai, (B) Biržai, (Ig) Ignalina, (J) Jonava, (Jn) Joniškis, (Jr) Jurbarkas, (K) Kaunas, (Kd) Kėdainiai, (Kl) Klaipėda, (Kp) Kupiškis, (Kr) Kretinga, (Kš) Kaišiadorys, (L) Lazdijai, (M) Marijampolė, (Ml) Molėtai, (Pl) Plungė, (Pn) Panevėžys, (Pr) Prienai, (Ps) Pasvalys, (Rd) Radviliškis, (Rk) Rokiškis, (Rs) Raseiniai, (Sk) Skuodas, (Š) Šakiai, (Šlč) Šalčininkai, (Šl) Šiauliai, (Šll) Šilalė, (Šlt) Šilutė, (Šr) Širvintos, (Šv)

Švenčionys, (Tl) Telšiai, (Tr) Trakai, (Trg) Tauragė, (Uk) Ukmergė, (Ut) Utena, (Vr) Varėna, (Vlk) Vilkaviškis, (V) Vilnius, (Z) Zarasai.

RESULTS AND DISCUSSION

No moths were caught only in two traps set for *C. pomonella*. The list of the species with the reference number of individuals, districts and localities, in which the moths were captured, dates of registration, the number of traps and the total number of traps in a concrete locality are presented below.

Table 1. The list of moth species caught in pheromone traps in Lithuania during 1998-2000

Family, species	Individuals	District	Locality	Date	Attractant for species	Number of traps with moths found	Total number of traps used
Tineidae							
<i>Nitidinea fuscipunctella</i> Hw.	1	Ml	Vilijočiai	30 07 1998	<i>Cm</i>	1	1
Gracillariidae							
<i>Caloptilia</i> sp.	1	Šlč	Jašiūnai	22 06 1998	<i>Cm</i>	1	2
<i>Caloptilia syringella</i> F.	1	Ut	Kačiūnai	01 09 1998	<i>Cm</i>	1	2
<i>Callisto denticulella</i> Thn.	1	V	Rastinėnai	06 13-07 08 1998	<i>Cp</i>	1	1
<i>Phyllonorycter blancardella</i> F.	1	Ps	Naradava	1998	<i>Cm</i>	1	4
	10	Ig	Dūkštas	1999	<i>Cp</i>	1	1
	10	Ig	Dūkštas	1999	<i>Cp</i>	1	1
Oecophoridae							
<i>Agonopterix arenella</i> DeS.	1	Ut	Radeikiai	02 07 1998	<i>Cm</i>	1	2
Elachistidae							
<i>Cosmiotes freyerella</i> Hb.	1	Pr	Pakuonis	05 13-06 12 1998	<i>Cm</i>	1	2
Coleophoridae							
<i>Coleophora artemisicolella</i> Br.	1	An	Ažuoežeriai	02 07 1998	<i>Cm</i>	1	3
Gelechiidae							
<i>Gelechia rhombella</i> DeS.	1	Ut	Kačiūnai	1998	<i>Cm</i>	1	2
<i>Aroga velocella</i> Zll.	1	Ut	Vyžuonos	20 07 2000	<i>Cn</i>	1	3
Yponomeutidae							
<i>Argyresthia sorbiella</i> Tr.	2	Ig	Dūkštas	21 08 2000	<i>Cp</i>	1	1
<i>Plutella xylostella</i> L.	1	Ut	Vyžuonos	20 07 2000	<i>Cn</i>	1	3
Tortricidae							
<i>Pandemis cerasana</i> Hb.	1	Pr	Pakuonis	05 13-06 12 1998	<i>Cm</i>	1	2
<i>Lozotaenia forsterana</i> F.	1	Šr	Ulšiškiei	1998	<i>Cm</i>	1	2
<i>Pseudargyrotoza conwagana</i> F.	1	Ps	Naradava	1998	<i>Cm</i>	1	4
<i>Cnephasia alticolana</i> H.-S.	1	Ig	Dūkštas	1999	<i>Cp</i>	1	1
<i>Cnephasia interjectana</i> Hw.	4	Ig	Dūkštas	1999	<i>Cp</i>	1	1
<i>Cnephasia stephensiana</i> Dbl.	8	An	Elmininkai	30 09 1998	<i>Cm</i>	1	1

	1	An	Ažuožeriai	02 07 1998	Cm	1	3
	1	Ig	Driškūnai	02 07 1998	Cm	1	1
	1	K	Narsiečiai	05 12-06 20 1998	Cm	1	1
	13	Kl	Gargždai	07 06-09 16 1998	Cm	2	2
	9	Kl	Gargždai	07 06-09 14 1998	Cm	2	2
	5	Kl	Maciuičiai	07 15-09 02 1998	Cm	2	2
	16	Kl	Maciuičiai	06 07-07 15 1998	Cm	2	2
	3	Kl	Gargždai	05 22-07 06 1998	Cm	2	2
	7	Kl	Gargždai	05 22-07 05 1998	Cm	2	2
	6	Kl	town	08-09 1998	Cm	2	2
	3	Kl	town	05-06 1998	Cm	2	2
	2	Kl	Šernai	05-06 1998	Cm	2	2
	1	Kp	Subačius	05 19-07 03 1998	Cm	1	2
	4	Kr	Kretingsodis	07 03-09 03 1998	Cm	2	2
	4	Kr	Kretingsodis	05 14-07 03 1998	Cm	2	2
	2	Ml	Juodiškiai	07 30 1998	Cm	1	2
	4	Pn	Karsakiškis	07 16-08 20 1998	Cm	1	1
	3	Pn	Mariežai	05 20-07 08 1998	Cm	2	3
	2	Pn	Molainiai	07 16-08 20 1998	Cm	1	4
	1	Pn	Kerava	05 20-07 03 1998	Cm	1	1
	1	Pr	Pakuonis	05 13-06 12 1998	Cm	1	2
	24	Ps	Aukštikalniai	05 20-07 08 1998	Cm	5	5
	5	Ps	Naradava	1998	Cm	3	4
	1	Rs	Gėluva	05 12-06 15 1998	Cm	1	1
	1	Šlč	Jašiūnai	22 06 1998	Cm	1	2
	4	Šlt	Kintai	05-06 1998	Cm	1	1
	21	Ut	Radeikiai	01 09 1998	Cm	2	2
	1	Ut	Narkūnai	01 09 1998	Cm	1	1
	31	Ut	Kačiūnai	01 09 1998	Cm	2	2
	2	Ut	Narkūnai	02 07 1998	Cm	1	1
	8	Ut	Užpaliai	01 09 1998	Cm	1	1
	6	V	Trakų Vokė	07 21-08 31 1998	Cm	2	2
	15	Tr	Pastrėvys	05 19-06 30 1998	Cm	2	2
	2	V	Pailgė	06 13-07 14 1998	Cm	1	1
	7	V	Antakalnis	07 13-08 18 1998	Cm	2	2
	5	V	Kryžiokai	0710-08 08 1998	Cm	2	2
	1	An	Ažuožeriai	14 07 1999	Cm	1	2
	4	An	Elmininkai	1999	Cm	1	1
	1	An	Vėjeliškiai	1999	Cm	1	1
	3	Ut	Užpaliai	1999	Cm	1	1
	3	Alt	Aleksandrava	05 05-06 15 2000	Cm	1	1
	3	Alt	Luksnėnai	05 04-06 15 2000	Cm	1	1
	5	Vr	Perloja	05 04-06 15 2000	Cm	1	1
<i>Celypha purpurana</i> Hw.	1	An	Ažuožeriai	02 07 1998	Cm	1	5
	1	Jr	Belvederis	05 11-06 15 1998	Cm	1	2
	2	Kl	Gargždai	05 22-07 06 1998	Cm	2	2
	1	Kl	Maciuičiai	06 07-07 15 1998	Cm	1	2
	1	Kp	Subačius	05 19-07 03 1998	Cm	1	2
	23	Pn	Mariežai	05 20-07 08 1998	Cm	3	3
	2	Pr	Pakuonis	05 13-06 12 1998	Cm	1	2
	1	Ps	Naradava	1998	Cm	1	4

	1	Ps	Aukštikalniai	05 20-07 08 1998	Cm	1	1
	1	Rk	Miegonys	05 21-07 07 1998	Cm	1	2
	2	Ut	Radeikiai	01 09 1998	Cm	1	2
	2	Tr	Pastrėvys	05 19-06 30 1998	Cm	1	2
	1	V	Pailgė	06 13-07 14 1998	Cm	1	1
	1	An	Vėjeliškiai	1999	Cm	1	1
	1	Ut	Narkūnai	1999	Cm	1	1
	2	Alt	Daugai	05 09-06 15 2000	Cm	1	1
	4	Alt	Luksnėnai	05 04-06 15 2000	Cm	1	1
	1	Ut	Vyžuonos	20 07 2000	Cn	1	3
<i>Celypha rufana</i> Sc.	1	Ps	Naradava	1998	Cm	1	4
<i>Celypha striana</i> DeS.	1	Ut	Kačiūnai	02 07 1998	Cm	1	2
<i>Syricoris rivulana</i> Sc.	1	Jr	Žindaičiai	06 28-07 23 1999	Cn	1	2
	3	Ut	Vyžuonos	20 07 2000	Cn	2	3
<i>Pristerognatha fuligana</i> DeS.	1	K	Ringaudai	12 05 1998	Cm	1	1
<i>Hedya salicella</i> L.	1	Alt	Aleksandrava	05 05-06 15 2000	Cm	1	1
<i>Apotomis betuletana</i> Hw.	1	Jr	Belvederis	05 11-06 15 1998	Cm	1	2
<i>Apotomis infida</i> Hnr.	1	Jr	Belvederis	05 11-06 15 1998	Cm	1	2
	1	Ml	Vilijočiai	30 07 1998	Cm	1	1
	1	Alt	Daugai	05 09-06 15 2000	Cm	1	1
<i>Ancylis badiana</i> DeS.	1	Ig	Beržininkai	1999	Cm	1	1
<i>Rhopobota naevana</i> Hb.	2	Ut	Kačiūnai	01 09 1998	Cm	1	2
	1	Šl	Daugėliai	1998	Cp	1	1
<i>Epiblema foenella</i> L.	1	An	Ažuožeriai	02 07 1998	Cm	1	5
	1	Pr	Pakuonis	05 13-06 12 1998	Cm	1	2
	1	Rs	Gėluva	05 12-06 15 1998	Cm	1	1
	2	Šr	Ulšiškiei	1998	Cm	1	2
	1	Tr	Pastrėvys	05 19-06 30 1998	Cm	1	2
	7	An	Ažuožeriai	14 07 1999	Cm	2	2
	2	An	Elmininkai	1999	Cm	1	1
	1	An	Vėjeliškiai	1999	Cm	1	1
	2	Ig	Beržininkai	1999	Cm	1	1
	2	Ut	Narkūnai	1999	Cm	1	1
	4	Ut	Užpaliai	1999	Cm	1	1
<i>Epiblema scutulana</i> DeS.	2	Kd	Pagiriai	05 10-06 12 1998	Cm	1	2
	4	Kš	Navapolis	05 14-06 11 1998	Cm	1	1
	1	Ml	Juodiškiai	30 07 1998	Cm	1	2
	3	Ml	Vilijočiai	30 07 1998	Cm	1	1
	3	Pn	Mariežai	05 20-07 08 1998	Cm	1	3
	2	Ps	Naradava	1998	Cm	2	4
	2	Rs	Gėluva	05 12-06 15 1998	Cm	1	1
	1	Z	town	30 09 1998	Cm	1	1
	8	Alt	Aleksandrava	05 05-06 15 2000	Cm	1	1
	3	Alt	Daugai	05 09-06 15 2000	Cm	1	1
	1	Alt	Luksnėnai	05 04-06 15 2000	Cm	1	1
	2	Vr	Perloja	05 04-06 15 2000	Cm	1	1
<i>Eucosma campoliliana</i> DeS.	2	Ig	Dūkštas	1998	Cp	1	1
	1	Ml	Vilijočiai	30 07 1998	Cp	1	1
	1	Ut	Užpaliai	02 07 1998	Cp	1	1
	2	An	Ažuožeriai	1999	Cp	1	2
	1	Ig	Čižiūnai	1999	Cp	1	1

<i>Eucosma cana</i> Hw.	3	Ut	town	1999	<i>Cp</i>	1	1	
	2	An	Ažuožeriai	17 08 2000	<i>Cp</i>	1	2	
	4	Ut	Užpaliai	30 08 2000	<i>Cp</i>	1	1	
	1	An	Elmininkai	30 09 1998	<i>Cm</i>	1	1	
	6	An	Ažuožeriai	02 07 1998	<i>Cm</i>	4	5	
	2	Ig	Čižiūnai	02 07 1998	<i>Cm</i>	1	1	
	6	Ig	Driškūnai	02 07 1998	<i>Cm</i>	1	1	
	1	J	Kuigaliai	05 13-06 12 1998	<i>Cm</i>	1	1	
	2	Jr	Belvederis	05 11-06 15 1998	<i>Cm</i>	1	2	
	1	Kd	Pagiriai	05 10-06 12 1998	<i>Cm</i>	1	2	
	1	Kl	Maciučiai	07 15-09 02 1998	<i>Cm</i>	1	2	
	2	Kl	Maciučiai	06 07-07 15 1998	<i>Cm</i>	2	2	
	1	Kl	Gargždai	05 22-07 06 1998	<i>Cm</i>	1	2	
	1	Kl	Šernai	05-06 1998	<i>Cm</i>	1	2	
	8	Kš	Navapolis	05 14-06 11 1998	<i>Cm</i>	1	1	
	1	Kp	Subačius	1998 0519-0703	<i>Cm</i>	1	1	
	1	Ml	Juodiškiai	30 07 1998	<i>Cm</i>	1	2	
	2	Ml	Viljočiai	30 07 1998	<i>Cm</i>	1	1	
	7	Pn	Mariežai	05 20-07 08 1998	<i>Cm</i>	3	3	
	4	Pn	Kerava	05 20-07 03 1998	<i>Cm</i>	1	1	
	3	Pr	Mozūriškės	05 13-06 10 1998	<i>Cm</i>	1	1	
	3	Pr	Pakuonis	05 13-06 12 1998	<i>Cm</i>	1	2	
	3	Ps	Aukštikalniai	05 20-07 08 1998	<i>Cm</i>	1	5	
	4	Ps	Naradava	1998	<i>Cm</i>	3	4	
	2	Rk	Miegonys	05 21-07 07 1998	<i>Cm</i>	2	2	
	2	Rs	Gėluva	05 12-06 15 1998	<i>Cm</i>	1	1	
	3	Šlč	Jašiūnai	22 06 1998	<i>Cm</i>	2	2	
	11	Šr	Ulšiškiei	1998	<i>Cm</i>	2	2	
	4	Šv	Cirkliškis	1998	<i>Cm</i>	2	2	
	1	Ut	Radeikiai	01 09 1998	<i>Cm</i>	1	2	
	8	Ut	Radeikiai	02 07 1998	<i>Cm</i>	2	2	
	1	Ut	Narkūnai	01 09 1998	<i>Cm</i>	1	1	
	2	Ut	Narkūnai	02 07 1998	<i>Cm</i>	1	1	
	2	Ut	Kačiūnai	02 07 1998	<i>Cm</i>	2	2	
	4	Ut	Užpaliai	02 07 1998	<i>Cm</i>	1	1	
	2	V	Pailgė	06 13-07 14 1998	<i>Cm</i>	1	1	
	1	Z	town	30 09 1998	<i>Cm</i>	1	1	
	1	Ig	Keižiai	1999	<i>Cm</i>	1	1	
	1	Alt	Luksnėnai	05 04-06 15 2000	<i>Cm</i>	1	1	
	1	Z	town	30 09 1998	<i>Cm</i>	1	1	
	<i>Pammene inquilina</i> Flt.	10	An	Ažuožeriai	02 07 1998	<i>Cm</i>	3	5
	<i>Pammene germmana</i> Hb.	1	Ig	Driškūnai	02 07 1998	<i>Cm</i>	1	1
		2	Jr	Belvederis	05 11-06 11 1998	<i>Cm</i>	1	2
		3	K	Narsiečiai	05 12-06 20 1998	<i>Cm</i>	1	1
		2	K	Ringaudai	05 12-06 15 1998	<i>Cm</i>	1	1
		13	Kd	Pagiriai	05 12-06 15 1998	<i>Cm</i>	2	2
		3	Kl	Dituva	05-06 1998	<i>Cm</i>	1	2
	1	Kl	Šernai	05-06 1998	<i>Cm</i>	1	2	
	10	Kp	Subačius	05 19-07 03 1998	<i>Cm</i>	2	2	
	1	Kr	Kretingsodis	05 14-07 03 1998	<i>Cm</i>	1	2	
	4	Kš	Navapolis	05 14-06 11 1998	<i>Cm</i>	1	1	

	5	Kš	Žiezmariai	05 14-06 10 1998	<i>Cm</i>	1	1
	10	MI	Juodiškiai	30 07 1998	<i>Cm</i>	2	2
	8	MI	Vilijočiai	30 07 1998	<i>Cm</i>	1	1
	7	Pn	Molainiai	07 16-08 20 1998	<i>Cm</i>	2	4
	2	Pn	Kerava	05 20-07 03 1998	<i>Cm</i>	1	1
	1	Pn	Mariežai	05 20-07 08 1998	<i>Cm</i>	1	3
	7	Pr	Pakuonis	05 13-06 12 1998	<i>Cm</i>	2	2
	2	Ps	Naradava	1998	<i>Cm</i>	1	4
	1	Ps	Aukštikalniai	05 20-07 08 1998	<i>Cm</i>	1	5
	15	Rk	Miegonys	05 21-07 07 1998	<i>Cm</i>	2	2
	16	Rs	Gėluva	05 12-06 15 1998	<i>Cm</i>	1	1
	1	Šlč	Jašiūnai	22 06 1998	<i>Cm</i>	1	2
	14	Šr	Ulšiškiei	1998	<i>Cm</i>	2	2
	1	Šv	Cirkliškis	1998	<i>Cm</i>	1	2
	6	Tr	Pastrėvys	05 19-06 30 1998	<i>Cm</i>	2	2
	3	Ut	Kačiūnai	02 07 1998	<i>Cm</i>	2	2
	6	Ut	Radeikiai	02 07 1998	<i>Cm</i>	2	2
	1	Ut	Užpaliai	02 07 1998	<i>Cm</i>	1	1
	2	V	Pailgė	06 13-07 14 1998	<i>Cm</i>	1	1
	1	V	Rastinėnai	05 14-06 29 1998	<i>Cm</i>	1	1
	4	V	Antakalnis	05 25-07 13 1998	<i>Cm</i>	2	2
	3	An	Vėjeliškiai	1999	<i>Cm</i>	1	1
	2	An	Ažuožeriai	1999	<i>Cm</i>	1	2
	1	Ut	Užpaliai	1999	<i>Cm</i>	1	1
	1	Jr	Žindaičiai	06 28-07 23 1999	<i>Cn</i>	1	2
	4	Alt	Aleksandrava	05 05-06 15 2000	<i>Cm</i>	1	1
	3	Alt	Daugai	05 09-06 15 2000	<i>Cm</i>	1	1
	1	Alt	Luksnėnai	05 04-06 15 2000	<i>Cm</i>	1	1
	7	Vr	Daugai	05 04-06 15 2000	<i>Cm</i>	1	1
<i>Pammene rhediella</i> Clr.	2	An	Ažuožeriai	07 20-08 16 1998	<i>Cp</i>	1	2
	4	Ig	Dūkštas	1998	<i>Cp</i>	1	1
	1	MI	Vilijočiai	30 07 1998	<i>Cp</i>	1	1
	1	Šl	Vijoliai	1998	<i>Cp</i>	1	1
	3	Ut	Užpaliai	02 07 1998	<i>Cp</i>	1	1
	7	V	Rastinėnai	06 13-07 08 1998	<i>Cp</i>	1	1
	1	Ut	Užpaliai	30 08 2000	<i>Cp</i>	1	1
<i>Pammene spiniana</i> Dp.	1	Tr	Pastrėvys	05 19-06 30 1998	<i>Cm</i>	1	2
<i>Pammene suspectana</i> LngeZll.	2	An	Ažuožeriai	02 07 1998	<i>Cm</i>	1	5
	1	Ig	Čižiūnai	02 07 1998	<i>Cm</i>	1	1
	4	Jr	Belvederis	05 11-06 15 1998	<i>Cm</i>	1	2
	2	K	Ringaudai	05 12-06 15 1998	<i>Cm</i>	1	1
	2	K	Narsiečiai	05 12-06 20 1998	<i>Cm</i>	1	1
	1	Kd	Pagiriai	05 10-06 12 1998	<i>Cm</i>	1	2
	6	Kl	Dituva	05-06 1998	<i>Cm</i>	2	2
	3	Kp	Subačius	05 19-07 03 1998	<i>Cm</i>	1	2
	3	Kš	Navapolis	05 14-06 11 1998	<i>Cm</i>	1	1
	1	Pn	Mariežai	05 20-07 08 1998	<i>Cm</i>	1	3
	1	Pn	Molainiai	07 16-08 20 1998	<i>Cm</i>	1	2
	1	Pr	Pakuonis	05 13-06 12 1998	<i>Cm</i>	1	2
	1	Pr	Mozūriškės	05 13-06 10 1998	<i>Cm</i>	1	1
	2	Šlč	Jašiūnai	22 06 1998	<i>Cm</i>	1	2

	8	Šr	Ulšiškieiai	1998	Cm	2	2
	1	Šv	Cirkliškis	1998	Cm	1	2
	2	Ut	Radeikiai	02 07 1998	Cm	1	2
	8	V	Pailgė	06 13-07 14 1998	Cm	1	1
	1	Ut	Užpaliai	1999	Cm	1	1
<i>Cydia gallicana</i> Gn.	1	Kl	Gargždai	07 06-09 14 1998	Cm	1	2
	1	Ut	Radeikiai	01 09 1998	Cm	1	2
	1	Ut	Narkūnai	01 09 1998	Cm	1	1
<i>Cydia nigricana</i> F.	26	Jr	Žindaičiai	06 28-07 23 1999	Cn	2	2
	13	M	Želsva	05 20-06 25 1999	Cn	1	1
	43	An	Elmininkai	20 07 2000	Cn	2	2
	80	Ut	Vyžuonos	20 07 2000	Cn	3	3
<i>Cydia pomonella</i> L.	1	Ut	Kačiūnai	02 07 1998	Cm	1	2
	1	Ut	Narkūnai	1999	Cm	1	1
	4	Ig	Dūkštas	1998	Cp	1	1
	5	Ml	Viljočiai	30 07 1998	Cp	1	1
	19	Pn	Mariezai	05 20-07 08 1998	Cp	1	1
	16	Rd	town	1998	Cp	1	1
	19	Šl	Vijoliai	1998	Cp	1	1
	33	Ut	Užpaliai	02 07 1998	Cp	2	2
	10	V	Rastinėnai	06 13-07 08 1998	Cp	1	1
	20	Z	town	1998	Cp	1	1
	28	An	Ažuožeriai	1999	Cp	2	2
	27	Ig	Čižiūnai	1999	Cp	1	1
	28	Ut	town	1999	Cp	1	1
	20	Ut	Užpaliai	1999	Cp	1	1
	33	An	Ažuožeriai	17 08 2000	Cp	2	2
	31	Ig	Čižiūnai	21 08 2000	Cp	1	1
	24	Ig	Dūkštas	21 08 2000	Cp	1	1
	26	Rd	Šniūraičiai	15 06 2000	Cp	1	1
	11	Šl	Daugėliai	15 06 2000	Cp	2	2
	35	Šl	Micaičiai	15 06 2000	Cp	1	1
	24	Ut	Užpaliai	30 08 2000	Cp	1	1
<i>Cydia compositella</i> F.	1	Ig	Dūkštas	1998	Cp	1	1
<i>Cydia funebrana</i> Tr.	89	An	Ažuožeriai	02 07 1998	Cm	5	5
	1	Ig	Driškūnai	02 07 1998	Cm	1	1
	2	Ig	Čižiūnai	02 07 1998	Cm	1	1
	3	Ig	Keižiai	02 07 1998	Cm	1	1
	28	Jr	Belvederis	05 11-06 15 1998	Cm	2	2
	9	K	Narsiečiai	05 12-06 20 1998	Cm	1	1
	20	K	Ringaudai	05 12-06 15 1998	Cm	1	1
	3	Kd	Pagiriai	05 10-06 12 1998	Cm	2	2
	46	Kl	Gargždai	05 22-07 06 1998	Cm	2	2
	47	Kl	Gargždai	05 22-07 05 1998	Cm	2	2
	36	Kl	Gargždai	07 06-09 16 1998	Cm	2	2
	39	Kl	Gargždai	07 06-09 14 1998	Cm	2	2
	39	Kl	Maciuičiai	07 15-09 02 1998	Cm	2	2
	5	Kl	Maciuičiai	06 07-07 15 1998	Cm	2	2
	32	Kl	Dituva	05-06 1998	Cm	2	2
	45	Kl	town	08-09 1998	Cm	2	2
	38	Kl	town	05-06 1998	Cm	2	2

	4	Kl	Šernai	08-09 1998	<i>Cm</i>	1	1
	38	Kl	Šernai	05-06 1998	<i>Cm</i>	2	2
	28	Kp	Subačius	05 19-07 03 1998	<i>Cm</i>	2	2
	45	Kr	Kretingsodis	07 03-09 03 1998	<i>Cm</i>	2	2
	16	Kr	Kretingsodis	05 14-07 03 1998	<i>Cm</i>	2	2
	2	Ml	Juodiškiai	30 07 1998	<i>Cm</i>	2	2
	74	Pn	Molainiai	07 16-08 20 1998	<i>Gm</i>	4	4
	24	Pn	Breiviai	07 16-08 20 1998	<i>Cm</i>	1	1
	35	Pn	Karsakiškis	07 16-08 20 1998	<i>Cm</i>	1	1
	11	Pn	Mariežai	05 20-07 08 1998	<i>Cm</i>	3	3
	12	Pn	Kerava	05 20-07 03 1998	<i>Cm</i>	1	1
	1	Pr	Mozūriškės	05 13-06 10 1998	<i>Cm</i>	1	1
	27	Pr	Pakuonis	05 13-06 12 1998	<i>Cm</i>	2	2
	86	Ps	Aukštikalniai	05 20-07 08 1998	<i>Cm</i>	5	5
	63	Ps	Naradava	1998	<i>Cm</i>	4	4
	8	Rk	Miegonys	05 21-07 07 1998	<i>Cm</i>	2	2
	14	Rs	Gėluva	05 12-06 15 1998	<i>Cm</i>	1	1
	2	Šlč	Jašiūnai	22 06 1998	<i>Cm</i>	1	2
	3	Šlt	Kintai	07-09 1998	<i>Cm</i>	1	1
	13	Šlt	Kintai	05-06 1998	<i>Cm</i>	1	1
	5	Šr	Ulšiškiei	1998	<i>Cm</i>	2	2
	3	Šv	Cirkliškis	1998	<i>Cm</i>	2	2
	22	Tr	Pastrėvys	05 19-06 30 1998	<i>Cm</i>	2	2
	1	Ut	Kačiūnai	02 07 1998	<i>Cm</i>	1	2
	25	Ut	Užpaliai	01 09 1998	<i>Cm</i>	1	1
	12	Ut	Užpaliai	02 07 1998	<i>Cm</i>	1	1
	11	Ut	Radeikiai	01 09 1998	<i>Cm</i>	2	2
	6	Ut	Radeikiai	02 07 1998	<i>Cm</i>	2	2
	16	Ut	Narkūnai	01 09 1998	<i>Cm</i>	1	1
	22	Ut	Narkūnai	02 07 1998	<i>Cm</i>	1	1
	22	V	Rastinėnai	05 14-06 29 1998	<i>Cm</i>	1	1
	53	V	Antakalnis	05 25-07 13 1998	<i>Cm</i>	2	2
	36	V	Antakalnis	07 13-08 18 1998	<i>Cm</i>	2	2
	2	V	Pailgė	06 13-07 14 1998	<i>Cm</i>	1	1
	46	V	Baltupiai	05 29-06 17 1998	<i>Cm</i>	2	2
	56	V	Kryžiokai	07 10-08 08 1998	<i>Cm</i>	2	2
	48	V	Trakų Vokė	07 21-08 31 1998	<i>Cm</i>	2	2
	18	Z	town	30 09 1998	<i>Cm</i>	1	1
	22	An	Elmininkai	1999	<i>Cm</i>	1	1
	27	An	Vėjeliškiai	1999	<i>Cm</i>	1	1
	27	An	Ažuožeriai	1999	<i>Cm</i>	2	2
	1	Ig	Beržininkai	1999	<i>Cm</i>	1	1
	17	Ut	Narkūnai	1999	<i>Cm</i>	1	1
	27	Ut	Užpaliai	1999	<i>Cm</i>	1	1
	2	Ut	Užpaliai	1998	<i>Cp</i>	1	1
	1	Ig	Dūkštas	1999	<i>Cp</i>	1	1
	9	Alt	Aleksandrava	05 05-06 15 2000	<i>Cm</i>	1	1
	26	Alt	Daugai	05 09-06 15 2000	<i>Cm</i>	1	1
	12	Alt	Luksnėnai	05 04-06 15 2000	<i>Cm</i>	1	1
	7	Vr	Perloja	05 04-06 15 2000	<i>Cm</i>	1	1
<i>Cydia pallifrontana</i> Lnge Zll.	5	An	Ažuožeriai	17 08 2000	<i>Cp</i>	2	2

<i>Cydia tenebrosana</i> Dp.	1	Jr	Belvederis	05 11-06 15 1998	<i>Cm</i>	1	2
	1	KŠ	Triliškės	05 14-06 10 1998	<i>Cm</i>	1	1
	1	Kl	Gargždai	05 22-07 05 1998	<i>Cm</i>	1	2
	1	Ps	Aukštikalniai	05 20-07 08 1998	<i>Cm</i>	1	5
	1	Ps	Naradava	1998	<i>Cm</i>	1	4
	1	Ut	Radeikiai	02 07 1998	<i>Cm</i>	1	2
	1	An	Ažuožeriai	14 07 1999	<i>Cm</i>	1	2
Pyralidae							
<i>Plodia interpunctella</i> Hb.	1	KŠ	Triliškės	05 14-06 10 1998	<i>Cm</i>	1	1
<i>Hypsopygia costalis</i> F.	1	Šv	Cirkliškis	1998	<i>Cm</i>	1	2
	1	Ut	Radeikiai	02 07 1998	<i>Cm</i>	1	2
	1	Ut	Užpaliai	1999	<i>Cm</i>	1	1
<i>Sitochroa verticalis</i> L.	1	Jr	Žindaičiai	06 28-07 23 1999	<i>Cn</i>	1	2
<i>Udea lutealis</i> Hb.	2	Rk	Miegonys	05 21-07 07 1998	<i>Cm</i>	1	2
<i>Udea olivalis</i> DeS.	1	Ut	Kačiūnai	01 09 1998	<i>Cm</i>	1	2
Geometridae							
<i>Eupithecia succenturiata</i> L.	1	Kl	town	05-06 1998	<i>Cm</i>	1	2
<i>Chloroclystis rectangulata</i> L.	1	Ml	Juodiškiai	30 07 1998	<i>Cm</i>	1	2
<i>Hydrelia flammeolaria</i> Hfn.	1	Šr	Ulšiškiei	1998	<i>Cm</i>	1	2
<i>Plagodis pulveraria</i> L.	1	Ig	Beržininkai	02 07 1998	<i>Cm</i>	1	1
<i>Lomographa bimaculata</i> F.	1	Ig	Keižiai	02 07 1998	<i>Cm</i>	1	1
	1	Šv	Cirkliškis	1998	<i>Cm</i>	1	2
Noctuidae							
<i>Agrotis exclamationis</i> L.	1	Tr	Pastrėvys	05 19-06 30 1998	<i>Cm</i>	1	2
<i>Agrotis vestigialis</i> Hfn.	1	Ut	Vyžuonos	20 07 2000	<i>Cn</i>	1	3
<i>Mamestra suasa</i> DeS.	1	Šv	Cirkliškis	1998	<i>Cm</i>	1	2
	1	M	Želsva	05 20-06 25 1999	<i>Cn</i>	1	1
	2	Ig	Beržininkai	02 07 1998	<i>Cm</i>	1	1
<i>Mamestra thalassina</i> Hfn.	1	Kd	Pagiriai	05 10-06 12 1998	<i>Cm</i>	1	2
	1	Ut	Kačiūnai	02 07 1998	<i>Cm</i>	1	2
	1	Tr	Pastrėvys	05 19-06 30 1998	<i>Cm</i>	1	2
<i>Mythimna obsoleta</i> Hb.	1	Tr	Pastrėvys	05 19-06 30 1998	<i>Cm</i>	1	2
<i>Dypterygia scabriuscula</i> L.	3	Rk	Miegonys	05 21-07 07 1998	<i>Cm</i>	1	2
<i>Apamea</i> sp.	1	Ig	Keižiai	02 07 1998	<i>Cm</i>	1	1
	4	Šv	Cirkliškis	1998	<i>Cm</i>	1	2
	1	Ml	Juodiškiai	30 07 1998	<i>Cm</i>	1	2
	1	V	Pailgė	06 13-07 14 1998	<i>Cm</i>	1	1
<i>Apamea lateritia</i> Hfn.	1	Ut	Vyžuonos	20 07 2000	<i>Cn</i>	1	3
	1	Ut	Radeikiai	02 07 1998	<i>Cm</i>	1	2
	1	Ut	Radeikiai	02 07 1998	<i>Cm</i>	1	2
<i>Apamea sordens</i> Hfn.	1	Ut	Radeikiai	02 07 1998	<i>Cm</i>	1	2
<i>Oligia</i> sp.	3	Ut	Kačiūnai	02 07 1998	<i>Cm</i>	1	2
<i>Oligia strigilis</i> L.	3	Šv	Cirkliškis	1998	<i>Cm</i>	2	2
	1	Ut	Radeikiai	02 07 1998	<i>Cm</i>	1	2
<i>Autographa gamma</i> L.	1	Pn	Mariežai	05 20-07 08 1998	<i>Cm</i>	1	3

In the period 1998-2000, *C. molesta* was not found in Lithuania. And there have been no data about this species in Lithuania since 1995 (Ostrauskas, 1999). The following species were most frequently caught in the pheromone traps for *C. molesta*: *C. funebrana* (86 percents in 1998, 88 in 1999, and 100 in 2000), *Epiblema foenella* (88 in 1999), *Cnephasia stephensiana*

(53 in 1998, 50 in 1999, 75 in 2000), *Pammene germana* (39 in 1998, 38 in 1999, 100 in 2000), *Celypha purpurana* (14 in 1998, 25 in 1999, 75 in 2000), *Eucosma cana* (44 in 1998, 25 in 2000), *Pammene suspectana* (18 in 1998) and *Epiblema scutulana* (8 in 1998, 100 in 2000). The relative frequency of other moths in the pheromone traps for the oriental fruit moth

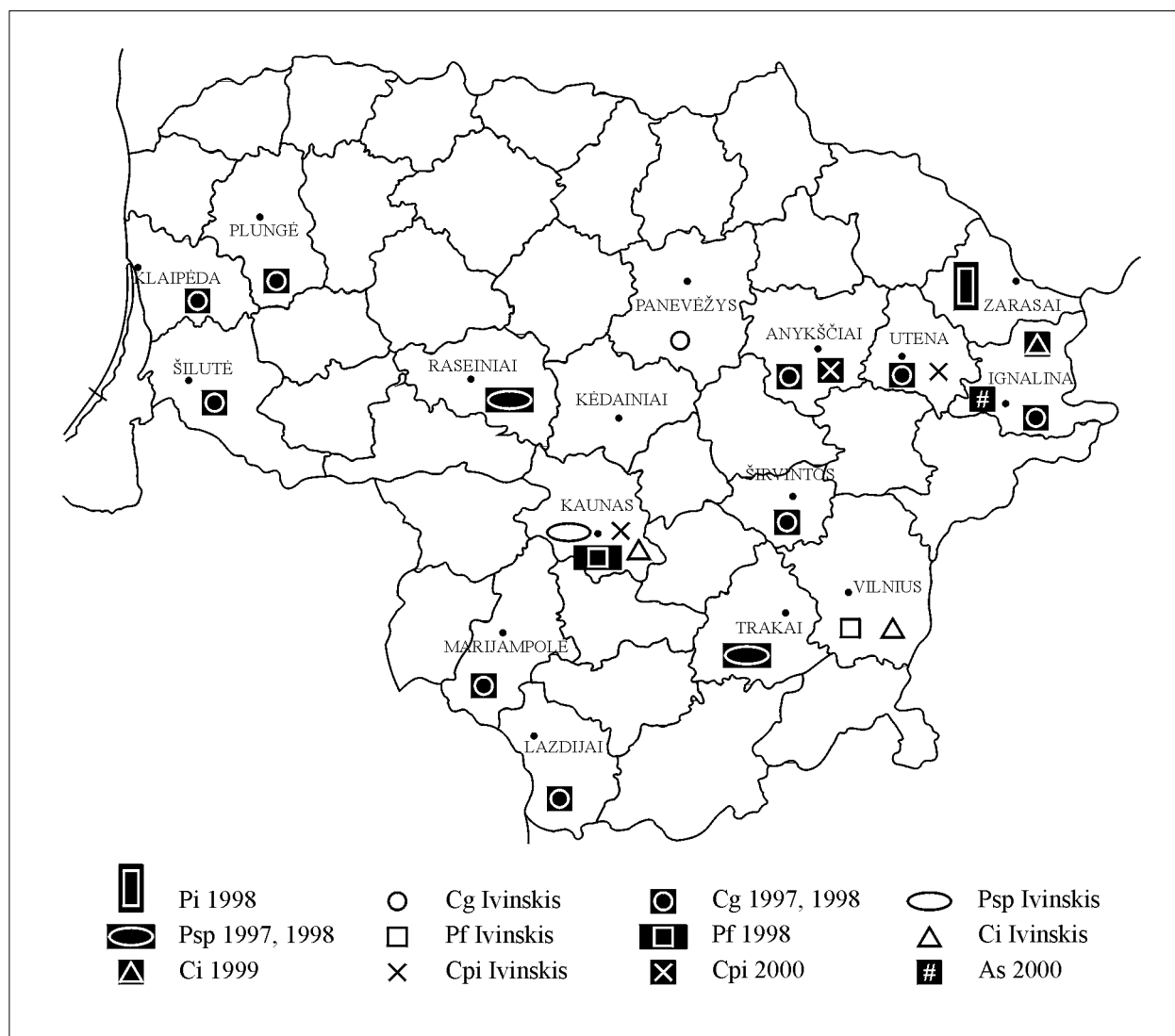


Figure 1. Distribution of *Argyresthia sorbiella* (As), *Pammene inquilina* (Pi), *Pammene spiniana* (Psp), *Cydia gallicana* (Cg), *Cydia pallifrontana* (Cpl), *Pristerognatha fuligana* (Pf), *Cnephasia interjectana* (Ci) in Lithuania till 1993 (Ivinskis data) and after 1993 (Ostrauskas data)

was low (from 1 to 3 percents in 1998, 12 in 1999, and 25 in 2000). Only *Eucosma cana* is not mentioned in the list of species caught in traps for the oriental fruit moth in other countries (Komarova, 1983). Instead, *Eucosma tundra* Kenn., belonging to the same genus, is included into that list. *Pammene inquilina* was registered as a new species for Lithuania. The following rare species for Lithuania were caught in the pheromone traps for the oriental fruit moth: *Pristerognatha fuligana*, *Pammene spiniana*, *C. gallicana*. Their distribution in Lithuania is illustrated in Fig. 1. *Pammene suspectana* was registered in Lithuania in 1997 (Ostrauskas, 1999), and now the distribution of this species is known better (Fig. 2).

The highest relative frequency of *C. pomonella* occurred in the pheromone traps for the codling moth (91 per-

cent in 1998, 71 in 1999, and 100 in 2000). The relative frequency of other species was lower: *Eucosma campoliliana* (27 percents in 1998, 43 in 1999, and 22 in 2000), *Phyllonorycter blancardella* (29 in 1999), *Pammene rhediella* (55 in 1998, 11 in 2000) and *C. pallifrontana* (33 in 2000); the relative frequency of the rest species was very low (9 in 1998, 14 in 1999 and 22 in 2000). The first three species are usual in the pheromone traps for *C. pomonella* in other countries (Būda, 1984). *Argyresthia sorbiella* was registered as a new species for Lithuania. The following rare species for Lithuania were caught in the pheromone traps for the codling moth: *C. pallifrontana* and *Cnephasia interjectana*. Their distribution is presented in Fig. 1. The highest relative frequency was registered for *C. nigricana* in the pheromone traps for the pea moth

(100 percents in 1999 and 100 in 2000); the relative frequency of *Syricoris rivulana* was lower (33 in 1999, 40 in 2000); the relative frequency of the remaining species was 33 percents in 1999 and 20 in 2000.

CONCLUSIONS

1. In the period 1998-2000, *Cydia molesta* was not found in Lithuania.
2. The following species of moths showed the highest relative frequency in the pheromone traps for *Grapholitha molesta* in Lithuania: *Cydia funebrana*, *Epiblema foenella*, *Epiblema scutulana*, *Cnephasia stephensiana*, *Celypha purpurana*, *Pammene germana*, *Pammene suspectana*; *Cydia pomonella*, *Eucosma campoliliana*, *Phyllonorycter blancardella* and *Pammene rhediella* showed the highest relative frequency in the traps for the codling moth, whereas *Cydia nigricana* and *Syricoris rivulana* most frequently occurred in the traps for the pea moth.

3. *Argyresthia sorbiella* and *Pammene inquilina* are new species registered in Lithuania.

4. New localities of the following species were found in Lithuania: *Pristerognatha fuligana* (1 new locality in 1 district), *Pammene spiniana* (1 new locality in 1 district), *Cydia gallicana* (3 new localities in 2 districts), *C. pallifrontana* (1 new locality in 1 district) and *Cnephasia interjectana* (1 new locality in 1 district).

5. *Pammene suspectana*, which was registered in Lithuania in 1997, is distributed most widely (19 new localities and 14 districts in addition to already known 2 localities and 2 districts).

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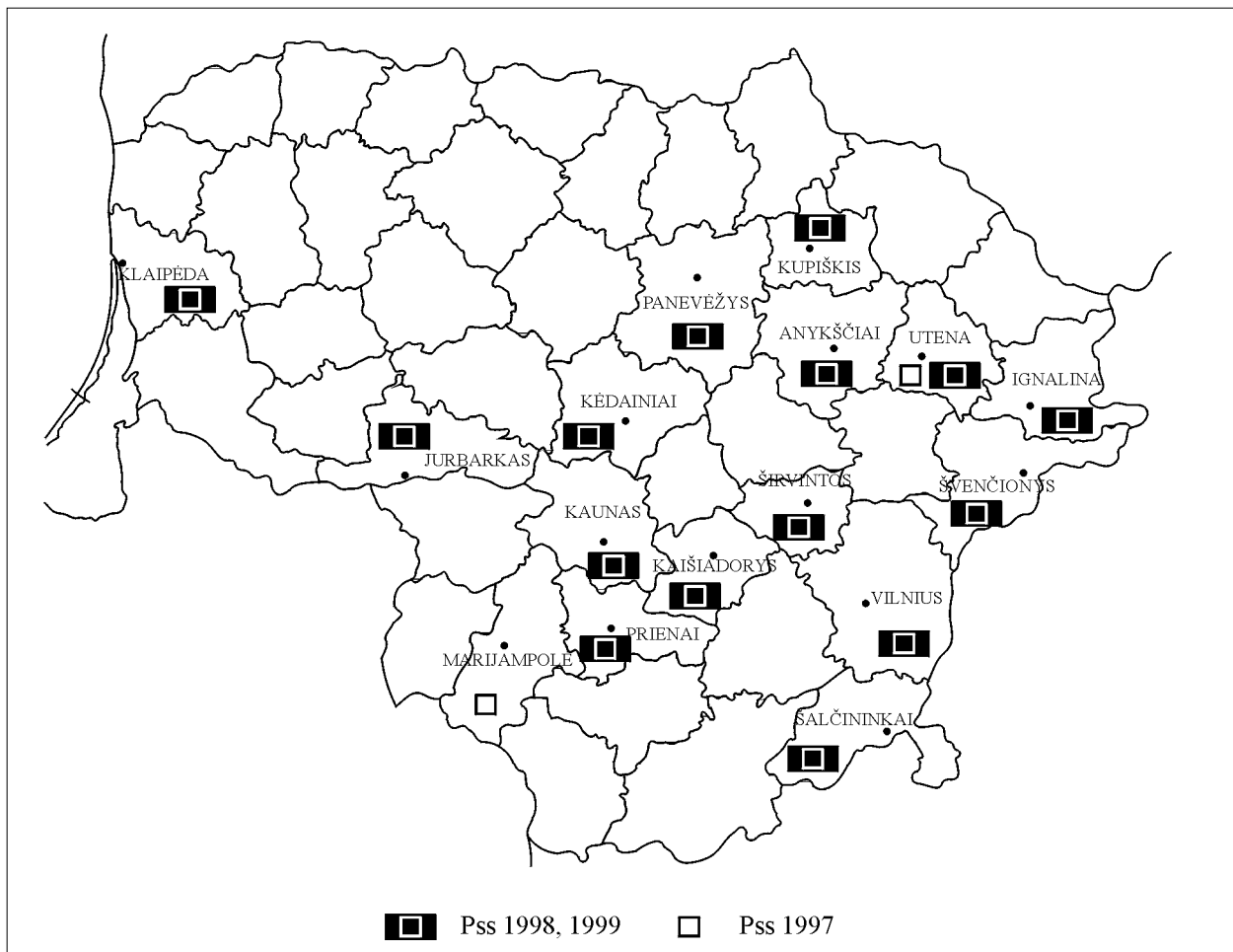


Figure 2. Distribution of *Pammene suspectana* (Pss) in Lithuania since registration year 1997

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- CYDIA MOLESTA BUSCK, C. POMONELLA L., C. NIGRICANA F. (TORTRICIDAE, GELECHIIDAE) FEROMONŲ GAUDYKLĖMIS SUGAUTI DRUGIAI LIETUVOJE**
- H. Ostrauskas*
- SANTRAUKA**
- Lietuvai karantininė drugių rūšis *Cydia molesta* 1998-2000 metais šalyje neužregistruota. Aptiktos *Argyresthia sorbiella*, *Pammene inquilina* – naujos Lietuvoje rūšys, sugautos kitos retos Lietuvoje drugių rūšys – *Priesterognatha fuligana*, *Pammene spiniana*, *Cydia gallicana*, *C. pallifrontana* *Cnephasia interjectana*, – pateiktas jų paplitimas. Dažniausios Lietuvoje pasitaikančios drugių rūšys *C. molesta* feromono gaudyklėse – *Cydia funebrana*, *Epiblema foenella*, *Epiblema scutulana*, *Cnephasia stephensiana*, *Celypha purpurana*, *Pammene germana*, *Pammene suspectana*; obuolinio vaisėdžio feromono gaudyklėse dažniausios – *Cydia pomonella*, *Eucosma campoliliana*, *Phyllonorycter blancardella*, *Pammene rhediella*; žirninio vaisėdžio feromono gaudyklėse – *Cydia nigricana*, *Syricoris rivulana*.

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