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MOTHS IN PHEROMONE TRAPS FOR *ANARSIA LINEATELLA* ZLL. AND *PHTHORIMAEA OPERCULELLA* ZLL. (GELECHIIDAE, LEPIDOPTERA) IN LITHUANIA

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Abstract. During the 1997–2000 investigations the quarantine pest *Phthorimaea operculella* was not registered in Lithuania. During the studies undertaken in 1998–2000 *Anarsia lineatella* was caught in four new localities of two new districts – Utena and Panevėžys. Moths belonging to 94 species from 17 families were caught with pheromone traps for *P. operculella* and *A. lineatella*, with species rare for Lithuania among them (*Calybites phasianipennella*, *Phyllonorycter corylifoliella*, *Coleophora ibipennella*, *Scrobipalpa acuminatella*, *Scrobipalpa artemisiella*, *Ypsolopha horridella*, *Synanthedon myopaeformis*, *Pammene spiniana*, *Cydia lunulana*, *Cydia orobana*, *Mesapamea secalella*, *Hypena rostralis*). As a result of the above studies the names of moths most frequently caught with *A. lineatella* and *P. operculella* pheromone traps have been elucidated. Also some new localities for the other nine moth species in Lithuania have been additionally distinguished and adduced in the present study.
Key words: peach twig borer, *Anarsia lineatella*, potato tuber moth, *Phthorimaea operculella*, pheromone traps, distribution, Lithuania

Introduction

Anarsia lineatella is a rare for Lithuania moth species which was entered into the European quarantine pest list (Quarantine, 1997) and in the Checklist of Lithuanian Lepidoptera (Ivinskis, 1993). However, the State Plant Protection Service has some data proving that one individual of *Anarsia lineatella* moth was caught in Šiauliai district (West Lithuania) in 1997. *Phthorimaea operculella* was also included in Lithuanian quarantine pest lists (SN, 1998; SN, 2000).

The present study aimed at searching for *P. operculella* and *A. lineatella* with pheromone traps, at making the data on the distribution of *A. lineatella* in Lithuania more exact and at determining all moth species that were caught with pheromone traps.

Material and methods

The following devices produced by AgriSense company (USA) were used in trapping *P. operculella* during the 1997–2000 investigations and *A. lineatella* during the 1998–1999 research: a) dispensers (L006) containing pheromones for *A. lineatella*; b) dispensers (L053) containing pheromones for *P. operculella*, c) Delta traps with sticky inserts for *A. lineatella* and for *P. operculella*; d) Funnel traps with moth killing strips for the potato tuber moth. In 2000 dispensers (ANLI) and Delta traps with sticky inserts produced by Pherobank firm (Netherlands) were used for *A. lineatella* trapping. The pheromone attractivity was guaranteed for six weeks after the placement of dispensers in a garden or in a field. One dispenser was used for one trap. The majority of traps were functioning during July–August, some – during August–September. For peach twig borer 35 traps were used in 1998, 68 – in 1999 and 62 – in 2000; for potato tuber moth 64 Funnel traps were set in 1997, 43 Delta and 32 Funnel traps – in 1998, ten Delta and five Funnel traps in 1999, four Delta traps in 2000. The traps for *A. lineatella* were set in 98 localities of 40 districts and those for *P. operculella* – in 93 localities of 36 districts. The search places of *A. lineatella* were gardens of fruit trees whereas *P. operculella* was trapped in potato fields. About 20 abdomens of every similar size moth group were taken from each insert, if the quantity was sufficient. Genitalia were prepared by the standard method (Komarova, 1983; Ivinskis, 1996). Special keys and illustrations were used to determine moth species (Key to insects, 1978, 1981, 1986; Bradley, 1979; Razowski, 1990; Klucze, 1959, 1960, 1965, 1966, 1983; Calle, 1982; Merzheevskaya, 1971). The list of moth species is adduced in the same

order as in the Checklist of European Lepidoptera (The Lepidoptera, 1996). Relative frequency of the species (%) was calculated as the ratio of inserts containing the species to all the investigated inserts from traps with the pheromone attracting one moth species in the period of one season. The statistical analysis was made using Student (Ženauskas, 1989) and similarity criteria (Odum, 1975).

Abbreviations

The traps for: *Anarsia lineatella – Al*, *Phthorimaea operculella – Po*.

Administrative districts of Lithuania: Akmenė – Ak, Alytus – Alt, Anykščiai – An, Biržai – B, Ignalina – Ig, Jonava – J, Joniškis – Jn, Jurbarkas – Jr, Kaunas – K, Kėdainiai – Kd, Klaipėda – Kl, Kelmė – Klm, Kupiškis – Kp, Kretinga – Kr, Kaišiadorys – Kš, Lazdijai – L, Marijampolė – M, Molėtai – Ml, Mažeikiai – Mž, Pakruojis – Pk, Plungė – Pl, Panevėžys – Pn, Prienai – Pr, Pasvalys – Ps, Radviliškis – Rd, Rokiškis – Rk, Raseiniai – Rs, Skuodas – Sk, Šakiai – Š, Šalčininkai – Šlč, Šilalė – Šll, Šilutė – Šlt, Širvintos – Šr, Švenčionys – Šv, Telšiai – Tl, Trakai – Tr, Tauragė – Trg, Ukmergė – Uk, Utena – Ut, Vilnius – V, Vilkaviškis – Vlk, Varėna – Vr, Zarasai – Z.

Results and Discussion

There were not any moths caught in 22 Delta and 68 Funnel traps for *P. operculella* and in ten Delta traps for *A. lineatella*. The list of species with indicated reference numbers of individuals, districts, localities and dates of capturing, the number of traps and the total number of certain pheromone traps used in a definite locality are presented below (Table 1).

Table 1. The list of moth species caught with pheromone traps during 1997–2000 in Lithuania.

Family, species	Individuals	District	Locality	Date	Attractant for species	Number of traps in which moths were found	Total number of traps used
Hepialidae							
Trioda sylvina L.	1	M	Trakėnai	1997	*Po*	1	1
Gracillariidae							
Caloptilia syringella F.	1	Ut	Radeikiai	1998	*Po*	1	1
Calybites phasianipennella Hb.	1	Vlk	Daržininkai	20 07–16 08 1998	*Po*	1	1
Phyllonorycter sp.	1	M	Naujoji Valia	1997	*Po*	1	1
Phyllonorycter blancardella F.	1	Ml	Apankiškiai	1999	*Po*	1	3
	1	An	Ažuožeriai	2000	*Al*	1	2
Phyllonorycter corylifoliella Hb.	1	Pn	Krekenava	1997	*Po*	1	1
	1	B	Kirdonys	1998	*Po*	1	2
	15	Ml	Apankiškiai	01 09 1998	*Po*	1	2
	9	Pn	Breiviai	1998	*Po*	2	2
	2	Šll	Šiauduva	24 06–31 08 1998	*Po*	1	2
	5	Ut	Radeikiai	1998	*Po*	1	1
	1	Vlk	Paraižniai	20 07–16 08 1998	*Po*	1	3
	5	Ml	Apankiškiai	1999	*Po*	1	3
	1	Ut	Užpaliai	1999	*Po*	1	2
Yponomeutidae							
Argyresthia sorbiella Tr.	2	Kd	Beržai	18 07–21 08 2000	*Al*	1	1
Argyresthia retinella Zll.	1	Ml	Vilijočiai	1997	*Po*	1	1
Ypsolophidae							
Ypsolopha horridella Tr.	1	J	Kuigaliai	20 07–30 08 1998	*Al*	1	3
Plutellidae							
Plutella xylostella L.	1	Al	Daugai	20 08 2000	*Po*	1	2
Depressariidae							
Exaeretia allisella St.	1	Ml	Apankiškiai	1999	*Po*	1	3
Agonopterix heracliana L.	2	Ml	Radžiūnai	1999	*Po*	1	2
	4	Ml	Apankiškiai	1999	*Al*	1	1

Table 1 continued

Family, species	Individuals	District	Locality	Date	Attractant for species	Number of traps in which moths were found	Total number of traps used
Agonopterix heracliana L.	1	Šlt	Uogaliai	1999	*Al*	1	2
Depressaria pimpinellae Zll.	1	M	Trakėnai	1997	*Po*	1	1
	1	Ig	Dūkštas	1998	*Al*	1	1
	1	Uk	Laibiškiai	20 07–21 08 2000	*Al*	1	2
Coleophoridae							
Coleophora prunifoliae Dts.	1	Ml	Apankiškiai	1999	*Al*	1	1
Coleophora anatipenella Hb.	4	Ut	Užpaliai	01 09 1998	*Al*	1	1
	2	Vlk	Gudkaimis	20 07–16 08 1998	*Al*	1	1
Coleophora ibipennella Zll.	2	Kd	Pagiriai	15 07–08 24 1998	*Al*	2	2
	1	Jn	Žagarė	19 07–31 08 1999	*Al*	1	8
Coleophora obscenella H.–S.	19	Ig	Dūkštas	1998	*Al*	1	1
	18	Ig	Kaniūkai	1998	*Al*	1	1
	33	J	Kuigaliai	1998	*Al*	2	2
	25	Jr	Belvederis	1998	*Al*	2	2
	29	K	Babtai	15 07–18 08 1998	*Al*	3	3
	6	K	town	1998	*Al*	1	1
	14	K	town	08 06 1998	*Al*	1	1
	23	Kd	Pagiriai	15 07–24 08 1998	*Al*	2	2
	12	Kš	Navapolis	21 07–09 08 1998	*Al*	1	1
	15	Ml	Apankiškiai	1998	*Al*	1	1
	11	Pr	Pakuonis	15 07–21 08 1998	*Al*	1	2
	12	Rs	Gėluva	23 07–31 08 1998	*Al*	1	2
	28	Šv	Juzina	13 07–17 08 1998	*Al*	2	2
	21	Šv	Naujadvaris	13 07–17 08 1998	*Al*	2	2
	20	Šv	Zalavas	13 07–17 08 1998	*Al*	2	2
	9	Ut	Užpaliai	01 09 1998	*Al*	1	1
	40	V	Juodšiliai	30 07–06 09 1998	*Al*	2	2
	16	V	Rastinėnai	20 07–31 08 1998	*Al*	1	1
	40	V	Baltupiai	1998	*Al*	2	2
	5	Vlk	Gudkaimis	20 07–16 08 1998	*Al*	1	1
	20	J	Kuigaliai	20 07–30 08 1999	*Al*	1	1
	10	J	town	20 07–30 08 1999	*Al*	1	1
	14	Jn	Kalviai	1999	*Al*	1	1
	18	Jn	Plikiškiai	19 07 1999	*Al*	1	1
	83	Jn	Žagarė	19 07–31 08 1999	*Al*	8	8
	40	Jr	Belvederis	19 07–02 09 1999	*Al*	2	2
	19	Kš	Triliškės	23 07–07 09 1999	*Al*	1	1
	14	K	town	17 07–05 09 1999	*Al*	1	1
	10	K	town	22 07–25 08 1999	*Al*	1	1
	27	Kl	Maciuičiai	18 07–22 08 1999	*Al*	1	1
	18	Kl	Vėžaičiai	19 07–22 08 1999	*Al*	1	1
	21	Kp	Skverbai	15 07–14 09 1999	*Al*	2	2
	19	Ml	Apankiškiai	1999	*Al*	1	1
	24	Mž	town	20 08–05 09 1999	*Al*	1	2
	3	Pn	Naujikai	24 07–05 09 1999	*Al*	1	1
	19	Pr	Pakuonis	19 07–30 08 1999	*Al*	1	1
	21	Ps	Krinčinas	21 07–05 09 1999	*Al*	1	1
	1	Ps	Narteikiai	30 07–08 09 1999	*Al*	1	1
	27	Ps	Saločiai	21 07–05 09 1999	*Al*	1	1
	4	Ps	Sindriūnai	30 07–08 09 1999	*Al*	1	1
	31	Rd	Aukštelkai	20 08–10 09 1999	*Al*	2	2
	20	Rd	Kauliniai	19 07–31 08 1999	*Al*	1	1

Table 1 continued

Family, species	Individuals	District	Locality	Date	Attractant for species	Number of traps in which moths were found	Total number of traps used
Coleophora obscenella H.–S.	26	Rs	Papušynys	24 07–24 08 1999	*Al*	1	1
	14	Rs	Gintaučiai	24 07–24 08 1999	*Al*	1	1
	22	Sk	Aleksandrija	27 07–15 08 1999	*Al*	1	1
	38	Šl	Daugėliai	19 07–31 08 1999	*Al*	3	3
	17	Šl	town	19 07–31 08 1999	*Al*	1	1
	17	Šl	Vijoliai	19 07–31 08 1999	*Al*	1	1
	6	Šl	Kuršėnai	19 07–31 08 1999	*Al*	1	1
	20	Šll	Kvėdarna	19 07–03 09 1999	*Al*	1	2
	19	Šlt	Panemunė	01 08–05 09 1999	*Al*	2	2
	45	Šr	Družai	13 07–16 08 1999	*Al*	2	2
	19	Šv	Adutiškis	20 07–05 09 1999	*Al*	1	1
	22	Šv	Svirkos	20 07–05 09 1999	*Al*	1	1
	16	Trg	Trepai	20 07–02 09 1999	*Al*	2	2
	18	Tl	town	20 08–05 09 1999	*Al*	2	2
	22	Tl	town	15 08–30 09 1999	*Al*	1	1
	22	Ut	Medišionys	1999	*Al*	1	1
	21	Ut	Narkūnai	1999	*Al*	1	1
	11	Ut	Radeikiai	1999	*Al*	1	1
	19	Ut	Užpaliai	1999	*Al*	1	1
	2	Al	Daugai	31 08 2000	*Al*	1	1
	26	Al	Luksnėnai	01 09 2000	*Al*	1	1
	22	Al	Panemuninkai	01 09 2000	*Al*	1	1
	8	An	Ažuožeriai	2000	*Al*	2	2
	5	J	Batėgala	18 07–22 08 2000	*Al*	1	1
	23	Jn	Stungiai	25 07 2000	*Al*	1	2
	20	K	town	17 07–29 08 2000	*Al*	1	1
	12	K	town	18 07–23 08 2000	*Al*	1	1
	6	K	Babtai	17 07–21 08 2000	*Al*	1	1
	5	K	Ringaudai	17 07–29 08 2000	*Al*	1	1
	1	Kd	Beržai	18 07–21 08 2000	*Al*	1	1
	4	Kd	Nociūnai	28 07–25 09 2000	*Al*	1	1
	12	Kš	Žiežmariai	18 07–01 09 2000	*Al*	1	1
	14	L	Leipalingis	2000	*Al*	1	1
	12	L	Leipalingis	2000	*Al*	1	1
	17	M	Būdbaliai	20 07–30 08 2000	*Al*	2	2
	32	Ml	Apankiškiai	2000	*Al*	3	3
	17	Pl	Vatušiai	20 07–04 09 2000	*Al*	1	2
	31	Pn	Dembava	21 07–30 08 2000	*Al*	2	2
	44	Pn	Kibiškis	20 07–10 09 2000	*Al*	2	3
	19	Pn	Naujamiestis	16 07–30 08 2000	*Al*	1	1
	23	Pn	Naujikai	19 07–10 09 2000	*Al*	1	1
	21	Pn	Naujikai	19 07–04 09 2000	*Al*	1	1
	22	Pn	Puodžiūnai	20 07–01 09 2000	*Al*	1	1
	4	Pn	Ragainė	16 07–30 08 2000	*Al*	1	1
	1	Pr	Pakuonis	07 18–08 30 2000	*Al*	1	1
	8	Rs	Gėluva	07 17–08 21 2000	*Al*	1	1
	10	Š	Aržuolupiai	16 09 2000	*Al*	1	1
	5	Š	Kudirkos Naumiestis	30 08 2000	*Al*	1	1
	23	Šl	Daugėliai	26 08 2000	*Al*	3	3
	24	Šlč	Jašiūnai	20 07–21 08 2000	*Al*	1	1
	12	Šlč	Papiškės	20 07–21 08 2000	*Al*	1	1

Table 1 continued

Family, species	Indivi-duals	District	Locality	Date	Attractant for species	Number of traps in which moths were found	Total number of traps used
Coleophora obscenella H.–S.	36	Šv	Cirkliškis	2000	*Al*	2	2
	47	Tr	Alešiškės	29 07–26 08 2000	*Al*	2	2
	1	Uk	Laibiškiai	20 07–21 08 2000	*Al*	1	2
	73	Ut	Užpaliai	2000	*Al*	8	8
	25	Vr	Kaniavėlė	31 08 2000	*Al*	1	1
Coleophora artemisicolella Br.	2	J	Kuigaliai	1998	*Al*	1	2
	22	K	Babtai	15 07–18 08 1998	*Al*	3	3
	14	K	town	1998	*Al*	1	1
	1	Kd	Pagiriai	15 07–24 08 1998	*Al*	1	2
	5	Kš	Navapolis	21 07–09 08 1998	*Al*	1	1
	3	Ml	Apankiškiai	1998	*Al*	1	1
	2	Rs	Gėluva	23 07–31 08 1998	*Al*	1	2
	7	Šv	Juzina	13 07–17 08 1998	*Al*	2	2
	2	Šv	Zalavas	13 07–17 08 1998	*Al*	1	2
	21	Tl	Degučiai	20 07–14 08 1998	*Al*	1	1
	3	Ut	Užpaliai	01 09 1998	*Al*	1	1
	2	V	Rastinėnai	20 07–31 08 1998	*Al*	1	1
	2	Vlk	Gudkaimis	20 07–16 08 1998	*Al*	1	1
	1	J	Kuigaliai	20 07–30 08 1999	*Al*	1	1
	3	J	town	20 07–30 08 1999	*Al*	1	1
	2	Jn	Kalviai	1999	*Al*	1	1
	1	Jn	Plikiškiai	19 07 1999	*Al*	1	1
	31	Jn	Žagarė	19 07–31 08 1999	*Al*	7	8
	1	Jr	Belvederis	19 07–02 09 1999	*Al*	1	2
	2	K	town	17 07–05 09 1999	*Al*	1	1
	2	Kl	Maciuičiai	18 07–22 08 1999	*Al*	1	1
	1	Ml	Apankiškiai	1999	*Al*	1	1
	3	Rd	Aukštelkai	20 08–10 09 1999	*Al*	1	2
	1	Šl	Vijoliai	19 07–31 08 1999	*Al*	1	1
	1	Šr	Družai	13 07–16 08 1999	*Al*	1	2
	6	Ut	Užpaliai	09 01 1998	*Po*	1	2
	1	Al	Luksnėnai	01 09 2000	*Al*	1	1
	3	Al	Panemuninkai	01 09 2000	*Al*	1	1
	3	An	Ažuožeriai	2000	*Al*	1	2
	3	J	Batėgala	18 07–22 08 2000	*Al*	1	1
	20	Jn	Stungiai	25 07 2000	*Al*	2	2
	4	K	town	17 07–29 08 2000	*Al*	1	1
	8	K	town	18 07–23 08 2000	*Al*	1	1
	6	K	Babtai	17 07–21 08 2000	*Al*	1	1
	2	K	Ringaudai	17 07–29 08 2000	*Al*	1	1
	7	Kd	Beržai	18 07 –21 08 2000	*Al*	1	1
	1	Kd	Nociūnai	28 07–25 09 2000	*Al*	1	1
	1	Ml	Būdbaliai	28 07–25 09 2000	*Al*	1	1
	7	Kš	Žiežmariai	18 07–01 09 2000	*Al*	1	1
	1	M	Būdbaliai	20 07–30 08 2000	*Al*	1	2
	5	Ml	Apankiškiai	2000	*Al*	2	3
	1	Pl	Vatušiai	20 07–04 09 2000	*Al*	1	2
	2	Pn	Dembava	21 07–30 08 2000	*Al*	1	2
	1	Pn	Kibiškis	20 07–10 09 2000	*Al*	1	3
	6	Pn	Naujamiestis	16 07–30 08 2000	*Al*	1	1
	1	Pn	Naujikai	19 07–04 09 2000	*Al*	1	1
	1	Pn	Ragainė	16 07–30 08 2000	*Al*	1	1

Table 1 continued

Family, species	Individuals	District	Locality	Date	Attractant for species	Number of traps in which moths were found	Total number of traps used
Coleophora artemisicolella Br.	3	Pn	Puodžiūnai	20 07–01 09 2000	*Al*	1	1
	1	Pr	Pakuonis	18 07–30 08 2000	*Al*	1	1
	9	Rs	Gėluva	17 07–21 08 2000	*Al*	1	1
	2	Š	Aržuolupiai	16 09 2000	*Al*	1	1
	25	Šl	Daugėliai	08 26 2000	*Al*	3	3
	1	Šv	Cirkliškis	2000	*Al*	1	2
	1	Uk	Laibiškiai	20 07–21 08 2000	*Al*	1	2
	11	Ut	Užpaliai	2000	*Al*	5	8
	1	Al	Daugai	20 08 2000	*Po*	1	2
Coleophora granulatella Zll.	1	Al	Luksnėnai	01 09 2000	*Al*	1	1
	1	L	Leipalingis	2000	*Al*	1	1
	9	Šlč	Papiškės	20 07–21 08 2000	*Al*	1	1
	1	Šv	Cirkliškis	2000	*Al*	1	2
	1	Ut	Užpaliai	2000	*Al*	1	8
	1	Vr	Kaniavėlė	31 08 2000	*Al*	1	1
Gelechiidae							
Gelechia rhombella D. et S.	1	Kr	Traidžiai	08 07 1998	*Po*	1	1
	1	Šv	Cirkliškis	2000	*Al*	1	2
	1	Ut	Užpaliai	2000	*Al*	1	8
Chionodes continuella Zll.	1	Ml	Apankiškiai	1999	*Po*	1	3
Scrobipalpa acuminatella Src.	1	Šr	Družai	07 07–18 08 1998	*Po*	1	2
Scrobipalpa artemisiella Tr.	2	Ut	Užpaliai	2000	*Al*	1	8
Bryotropha sp.	1	Tl	Patausalė	01 07–20 08 1998	*Po*	1	2
Bryotropha terrella D. et S.	1	V	Trakų Vokė	08 07–14 08 1998	*Po*	1	2
Anacampsis blattariella Hb.	1	Šv	Naujadvaris	13 07–17 08 1998	*Al*	1	2
	2	Vlk	Gudkaimis	20 07–16 08 1998	*Al*	1	1
Anacampsis populella Cl.	1	J	town	20 07–08 30 1998	*Al*	1	1
	1	Jn	Žagarė	19 07–08 31 1999	*Al*	1	8
	1	K	Naugardiškė	03 08–03 09 1999	*Al*	1	1
	1	Pn	Puodžiūnai	29 07–04 09 1999	*Al*	1	1
	1	Ps	Narteikiai	30 07–08 09 1999	*Al*	1	1
	2	Rd	Aukštelkai	20 08–10 09 1999	*Al*	2	2
	1	Šlt	Uogaliai	12 08–20 09 1999	*Al*	1	2
	1	Ml	Anomislis	1997	*Po*	1	1
	1	An	Ažuožeriai	2000	*Al*	1	2
	1	Kd	Beržai	18 07–21 08 2000	*Al*	1	1
	1	Kr	Kluonaliai	01 08–29 08 2000	*Al*	1	1
Anarsia lineatella Zll.	1	K	town	1998	*Al*	1	1
	2	Ut	Užpaliai	01 09 1998	*Al*	1	1
	1	Pn	Naujikai	24 07–05 09 1999	*Al*	1	1
	1	Ut	Užpaliai	1999	*Al*	1	1
	1	K	town	17 07–29 08 2000	*Al*	1	1
	1	Pn	Dembava	21 07–30 08 2000	*Al*	1	2
	2	Pn	Puodžiūnai	20 07–01 09 2000	*Al*	1	1
Sesiidae							
Synanthedon myopaeformis Brk.	1	Tr	Alešiškės	29 07–26 08 2000	*Al*	1	2
Tortricidae							
Pandemis heparana D. et S.	1	Tr	town	11 07–23 08 1998	*Po*	1	1
	1	An	Ažuožeriai	2000	*Al*	1	2
	4	K	town	18 07–23 08 2000	*Al*	1	1

Table 1 continued

Family, species	Individuals	District	Locality	Date	Attractant for species	Number of traps in which moths were found	Total number of traps used
Pandemis heparana D. et S.	1	Kd	Nociūnai	28 07–25 09 2000	*Al*	1	1
	3	Pn	Dembava	21 07–30 08 2000	*Al*	1	2
	1	Pn	Kibiškis	20 07–10 09 2000	*Al*	1	3
	4	Pn	Naujamiestis	16 07–30 08 2000	*Al*	1	1
	1	Pn	Naujikai	19 07–10 09 2000	*Al*	1	1
	1	Pn	Puodžiūnai	20 07–01 09 2000	*Al*	1	1
	1	Rs	Gėluva	17 07–21 08 2000	*Al*	1	1
	4	Ut	Užpaliai	2000	*Al*	3	8
Celypha rosaceana Sch.	1	Ig	Jankiškė	1999	*Po*	1	2
Ancylis apicella D. et S.	1	Šl	Daugėliai	19 07–31 08 1999	*Al*	1	3
Ancylis badiana D. et S.	1	Kd	Pagiriai	15 07–24 08 1998	*Al*	1	2
Epinotia caprana F.	1	Ml	Anomislis	1997	*Po*	1	1
Rhopobota naevana Hb.	1	Kl	Vėžaičiai	19 07–22 08 1999	*Al*	1	1
	1	Šlt	Panemunė	01 08–05 09 1999	*Al*	1	2
	1	An	Ažuožeriai	2000	*Al*	1	2
	1	K	town	17 07–29 08 2000	*Al*	1	1
	1	Pn	Dembava	21 07–30 08 2000	*Al*	1	2
Gypsonoma sp.	1	Ml	Vilijočiai	1997	*Po*	1	1
Epiblema foenella L.	1	Šlč	Jašiūnai	1997	*Po*	1	1
Cydia compositella F.	1	Ml	Radžiūnai	1999	*Po*	1	1
Cydia lunulana D. et S.	2	J	Kuigaliai	1998	*Al*	1	2
	9	K	Babtai	15 07–18 08 1998	*Al*	2	2
	1	Kd	Pagiriai	15 07–24 08 1998	*Al*	1	2
	2	Kš	Triliškės	21 07–26 08 1998	*Al*	1	1
	14	Pr	Pakuonis	15 07–21 08 1998	*Al*	2	2
	23	Rs	Gėluva	23 07–31 08 1998	*Al*	2	2
	2	Šv	Zalavas	13 07–17 08 1998	*Al*	1	2
	1	J	town	20 07–30 08 1999	*Al*	1	1
	1	Jn	Žagarė	19 07–31 08 1999	*Al*	1	8
	1	Jr	Belvederis	19 07–02 09 1999	*Al*	1	2
	1	Rs	Papušynys	24 07–24 08 1999	*Al*	1	1
	8	Šr	Družai	13 07–16 08 1999	*Al*	2	2
	13	Trg	Trepai	20 07–02 09 1999	*Al*	2	2
	7	Al	Luksnėnai	01 09 2000	*Al*	1	1
	25	K	Babtai	17 07–21 08 2000	*Al*	1	1
	1	Pn	Dembava	21 07–30 08 2000	*Al*	1	2
	1	Pn	Puodžiūnai	20 07–01 09 2000	*Al*	1	1
	11	Rs	Gėluva	17 07–21 08 2000	*Al*	1	1
Cydia orobana Tr.	8	Vlk	Gudkaimis	20 07–16 08 1998	*Al*	1	1
Cydia funebrana Tr.	1	Jn	Stungiai	25 07 2000	*Al*	1	2
	1	Pn	Dembava	21 07–30 08 2000	*Al*	1	2
	2	Šl	Daugėliai	26 08 2000	*Al*	1	3
Cydia pomonella L.	2	Šv	Juzina	13 07–17 08 1998	*Al*	1	2
	1	Šl	town	19 07–31 08 1999	*Al*	1	1
	3	Ut	Užpaliai	2000	*Al*	1	8
Pammene spiniana Dp.	1	K	town	17 07–29 08 2000	*Al*	1	1
	2	K	town	18 07–23 08 2000	*Al*	1	1
	1	Š	Kudirkos Naumiestis	30 08 2000	*Al*	1	1
Dichrorampha petiverella L.	1	Šll	Šiauduva	24 06–31 08 1998	*Po*	1	2
Dichrorampha simpliciana Hw.	1	An	Vėjeliškiai	1997	*Po*	1	1
	1	Al	Daugai	20 08 2000	*Po*	1	2

Table 1 continued

Family, species	Individuals	District	Locality	Date	Attractant for species	Number of traps in which moths were found	Total number of traps used
Pterophoridae							
Emmelina monodactyla L.	1	J	Kuigaliai	1998	*Al*	1	2
	1	Pn	Linkė	1997	*Po*	1	1
	1	Trg	Dauglaukis	1998	*Po*	1	2
	1	Ut	Užpaliai	01 09 1998	*Po*	1	2
	1	Ml	Apankiškiai	1999	*Po*	1	3
	1	Ut	Užpaliai	1999	*Po*	1	2
Pyralidae							
Hypsopygia costalis F.	1	Šv	Juzina	13 07–17 08 1998	*Al*	1	2
	1	Rd	Aukštelkai	20 08–10 09 1999	*Al*	1	2
	1	Šv	Cirkliškis	2000	*Al*	1	2
	1	Ig	Kazitiškis environs	01 09 1998	*Po*	1	2
Myelois circumvoluta Frc.	1	Uk	Laibiškiai	13 07–25 08 1998	*Po*	1	1
Plodia interpunctella Hb.	1	Ml	Apankiškiai	1999	*Po*	1	3
Scoparia ambigualis Tr.	1	Kd	Beržai	18 07–21 08 2000	*Al*	1	1
Agriphila selasella Hb.	1	Ml	Apankiškiai	1999	*Po*	1	2
Agriphila straminella D. et S.	1	Ml	Apankiškiai	1999	*Po*	1	2
Evergestis pallidata Hfn.	1	J	town	1999	*Al*	1	1
Udea lutealis Hb.	1	Šlč	Jašiūnai	09 07–03 08 1998	*Po*	1	2
	2	Ut	Radeikiai	1998	*Po*	1	1
	1	An	Elmininkai	1999	*Po*	1	2
Udea prunalis D. et S.	1	Šr	Šešuolėliai	1997	*Po*	1	2
Pieridae							
Pieris brassicae L.	1	Alt	Daugai	08 07–11 08 1998	*Po*	1	2
	1	Kp	Skverbai	1998	*Po*	1	2
	1	M	Guobai	20 07–16 08 1998	*Po*	1	1
Pieris napi L.	1	Šr	Družai	07 07–18 08 1998	*Po*	1	2
Nymphalidae							
Inachis io L.	1	Vr	Pavarėnis	08 07–10 08 1998	*Po*	1	3
Aglais urticae L.	1	Alt	Daugai	08 07–11 08 1998	*Po*	1	2
	1	Vr	Pavarėnis	09 07–10 08 1998	*Po*	1	3
Limenitis camilla L.	1	Vr	Pavarėnis	09 07–10 08 1998	*Po*	1	3
Geometridae							
Timandra comae Sch.	1	Šv	Juzina	13 07–17 08 1998	*Al*	1	2
Scopula immutata L.	1	Šr	Šešuolėliai	1997	*Po*	1	2
Idaea biselata Hfn.	2	Vr	Pavarėnis	09 07–10 08 1998	*Po*	1	3
Epirrita dilutata D. et S.	1	Šlt	Uogaliai	12 08–20 09 1999	*Al*	1	2
Eupithecia tripunctaria H.–S.	1	Ml	Anomislis	1997	*Po*	1	1
Colotois pennaria L.	1	Vr	Pavarėnis	09 07–10 08 1998	*Po*	1	3
Cabera pusaria L.	1	Ml	Apankiškiai	1999	*Po*	1	3
Noctuidae							
Acronicta rumicis L.	1	M	Trakėnai	1997	*Po*	1	3
Hypena rostralis L.	1	Pn	Puodžiūnai	20 07–01 09 2000	*Al*	1	1
Diachrysia chrysitis L.	1	Ps	Narteikiai	30 07–08 09 1999	*Al*	1	1

Table 1 continued

Family, species	Indivi-duals	District	Locality	Date	Attractant for species	Number of traps in which moths were found	Total number of traps used
Diachrysia chrysitis L.	1	Vr	Pavarėnis	09 07–10 08 1998	*Po*	1	3
	1	Ml	Radžiūnai	1999	*Po*	1	2
Macdunnoughia confusa Stph.	1	Kd	Pagiriai	15 07–24 08 1998	*Al*	1	2
Amphipyra livida D. et S.	1	K	town	17 07–29 08 2000	*Al*	1	1
Amphipyra tragopoginis Clr.	1	Kš	Navapolis	21 07–09 08 1998	*Al*	1	1
	2	Vr	Pavarėnis	09 07–10 08 1998	*Po*	2	3
Hoplodrina octogenaria Gz.	1	Jr	Žindaičiai	24 06–11 08 1998	*Po*	1	2
	3	Ml	Apankiškiai	1999	*Po*	1	3
	2	Šv	Cirkliškis	2000	*Al*	1	2
Hoplodrina blanda D. et S.	3	Ml	Apankiškiai	1999	*Po*	1	3
	3	Šv	Cirkliškis	2000	*Al*	1	2
Actinotia polyodon Clr.	1	Kd	Pagiriai	15 07–24 08 1998	*Al*	1	2
Xanthia togata Esp.	1	Pn	Kibiškis	20 07–10 09 2000	*Al*	1	3
Xanthia icteritia Hfn.	1	Šl	Daugėliai	19 07–31 08 1999	*Al*	1	3
	1	Ml	Apankiškiai	1999	*Po*	1	3
	1	Pn	Kibiškis	20 07–10 09 2000	*Al*	1	3
	1	Pn	Puodžiūnai	20 07–01 09 2000	*Al*	1	1
Agrochola circellaris Hfn.	1	Pn	Dembava	21 07–30 08 2000	*Al*	1	2
Apamea monoglypha Hfn.	1	Šr	Šešuolėliai	1997	*Po*	1	2
Apamea lateritia Hfn.	2	Trg	Dauglaukis	24 06–18 08 1998	*Po*	2	2
	1	V	Kiemeliai	07 07–18 08 1998	*Po*	1	2
Apamea ophiogramma Esp.	1	Ut	Užpaliai	2000	*Al*	1	8
Mesapamea secalella Rm.	1	Rs	Gintaučiai	24 07–24 08 1999	*Al*	1	1
Mesapamea secalis L.	1	Šv	Zalavas	13 07–17 08 1998	*Al*	1	2
	2	Uk	Laibiškiai	20 07–21 08 2000	*Al*	1	2
	1	M	Naujoji Valia	1997	*Po*	1	1
	1	Ml	Vilijočiai	1997	*Po*	1	1
	1	Pn	Linkė	1997	*Po*	1	1
	1	Šv	Naujadvaris	07 07–28 08 1998	*Po*	1	2
	1	Ut	Radeikiai	09 011998	*Po*	1	1
Hydraecia micacea Esp.	1	Ml	Apankiškiai	1999	*Po*	1	3
Chortodes fluxa Hb.	1	M	Trakėnai	1997	*Po*	1	3
Lacanobia oleracea L.	1	Rs	Plikiai	09 07–21 08 1998	*Po*	1	1
Lacanobia suasa D. et S.	1	Al	Punia	20 08 2000	*Po*	1	1
Mythimna conigera D. et S.	6	Kd	Beržai	18 07–21 08 2000	*Al*	1	1
Mythimna pallens L.	1	Šr	Družai	13 07–16 08 1999	*Al*	1	2
Tholera decimalis Pd.	1	Vr	Pavarėnis	09 07–10 08 1998	*Po*	1	3
Noctua pronuba L.	1	Šll	Kvėdarna	19 07–03 09 1999	*Al*	1	2
	1	Šv	Cirkliškis	2000	*Al*	1	2
Xestia c-nigrum L.	1	Al	Daugai	20 08 2000	*Po*	1	2
	1	Šl	Daugėliai	26 08 2000	*Al*	1	3
Xestia xanthographa D. et S.	1	Sk	Aleksandrija	27 07–15 08 1999	*Al*	1	1
Agrotis segetum D. et S.	1	V	Rastinėnai	20 07–31 08 1998	*Al*	1	1
Lymantriidae							
Lymantria monacha L.	1	Ig	E. Milašius farm	1997	*Po*	1	1
Lymantria dispar L.	4	M	Trakėnai	1997	*Po*	2	3
	4	M	Smilgiai	1997	*Po*	1	1
	10	Šlt	town	09 07 1997	*Po*	1	1

A. lineatella was caught with pheromone traps designated for the same species. Besides, four new localities of this moth species in two new districts were established in Lithuania (Fig. 1). The relative frequency of the following species was high in peach twig borer pheromone traps: *Coleophora obscenella* (91% in 1998, 84% in 1999, 85% in 2000), *Coleophora artemisicolella* (51% in 1998, 28% in 1999, 58% in 2000), *Cydia lunulana* (26% in 1998, 13% in 1999, 8% in 2000), *Anacampsis populella* (12% in 1999), *Pandemis heparana* (19% in 2000) and *Coleophora granulatella* (10% in 2000). The relative frequency of other moth species in peach twig borer traps was low (2–3% in 1998, 3–6% in 1999, 2–5% in 2000). *Pandemis heparana* is the species caught with pheromone traps for *Cydia pomonella* and *C. molesta* in fruit tree gardens (Būda, 1984; Komarova, 1983). There have been no data about *Cydia lunulana* (Ivinskis, 1993) in Lithuania for a number of years until the current study. However, it was known from earlier sources (Prüffer, 1947). The distribution of this moth species in Lithuania is presented in Fig. 3. Other rare for Lithuania trapped species were: *Coleophora ibipennella*, *Scrobipalpa artemisiella*, *Argyresthia sorbiella*, *Ypsolopha horridella*, *Synanthedon myopaeformis*, *Pammene spiniana*, *Cydia orobana*, *Mesapamea secalella*, *Hypena rostralis* (distribution in Figs. 1–2). The distribution of *Scoparia ambigualis* (1 locality of 1 district), *Epirrhita dilutata* (1 and 1), *Actinotia polyodon* (1 and 1), *Xestia xanthographa* (1 and 1) was supplemented with some new localities.

P. operculella was not caught with the pheromone traps for potato tuber moth. The documents of State Plant Protection Service contain no data on the entrance (interception) of potato tuber moth to Lithuania since 1992. In 1995 in potato fields of Lithuania 33 traps were set in 20 localities of 13 districts in search of *P. operculella*, and in 1997 there were six Funnel traps placed in five localities of one district (these traps were analysed by L. Stankevičienė). The result was negative in both cases (State Plant Protection Service data). To sum it up, there were 109 places of 37 districts in Lithuania checked during 1995 and 1997–2000 altogether. This species was not registered in Checklist of Lithuanian Lepidoptera (Ivinskis, 1993) either. There was no statistical difference (t = 0.29) between the quantity of moths trapped with Delta and Funnel traps (n = 29, p = 23% traps of both types were set in the same field simultaneously). On the other hand, the samples had no similarity in species composition (similarity index S = 0.4). As far as the higher systematical rank – families – is concerned, the quantity in both groups was the same –

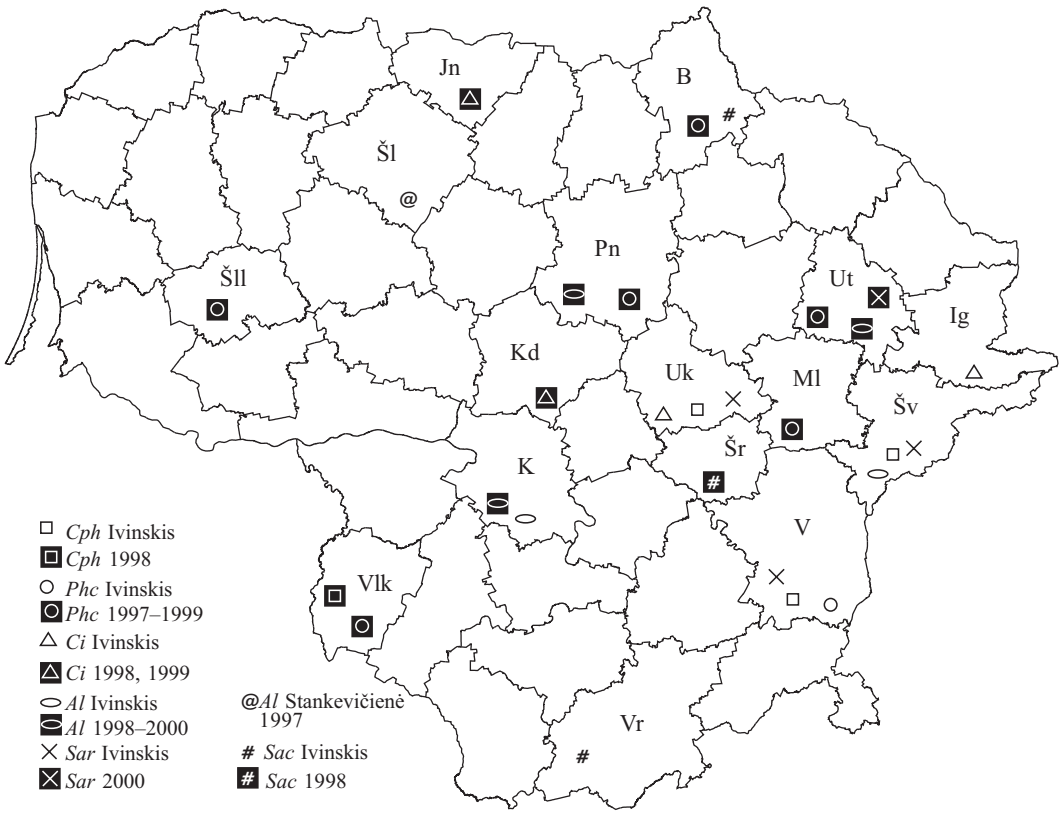

Figure 1. Distribution of *Calybites phasianipennella* (*Cph*), *Phyllonorycter corylifoliella* (*Phc*), *Coleophora ibipennella* (*Ci*), *Anarsia lineatella* (*Al*), *Scrobipalpa acuminatella* (*Sac*), *Scrobipalpa artemisiella* (*Sar*) till 1993 (data provided by Ivinskis) and after 1993 (data of the author except one data point – data contributed by Stankevičienė).

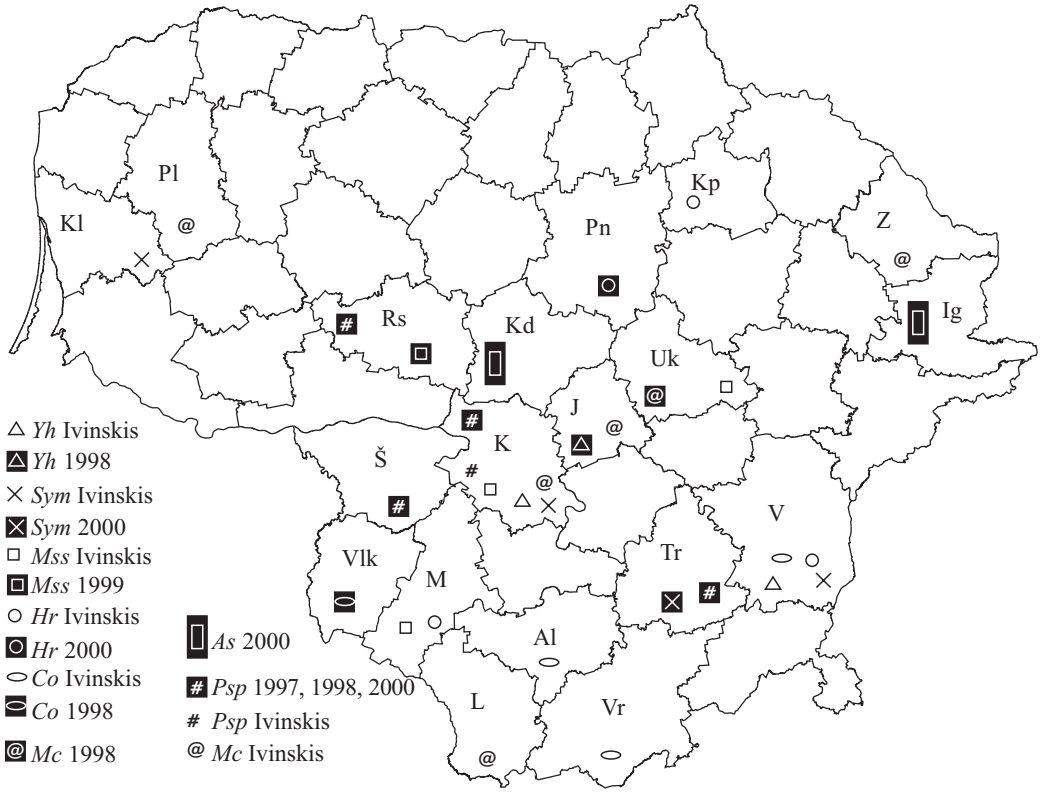

Figure 2. Distribution of *Ypsolopha horridella* (*Yh*), *Synanthedon myopaeformis* (*Sym*), *Mesapamea secalella* (*Mss*), *Hypena rostralis* (*Hr*), *Cydia orobana* (*Co*), *Argyresthia sorbiella* (*As*), *Pammene spiniana* (*Psp*), *Myelois circumvoluta* (*Mc*) till 1993 (data provided by Ivinskis) and after 1993 (data of the author; the *Pammene spiniana* research findings and the earlier results added together in the data of the author, 1999).

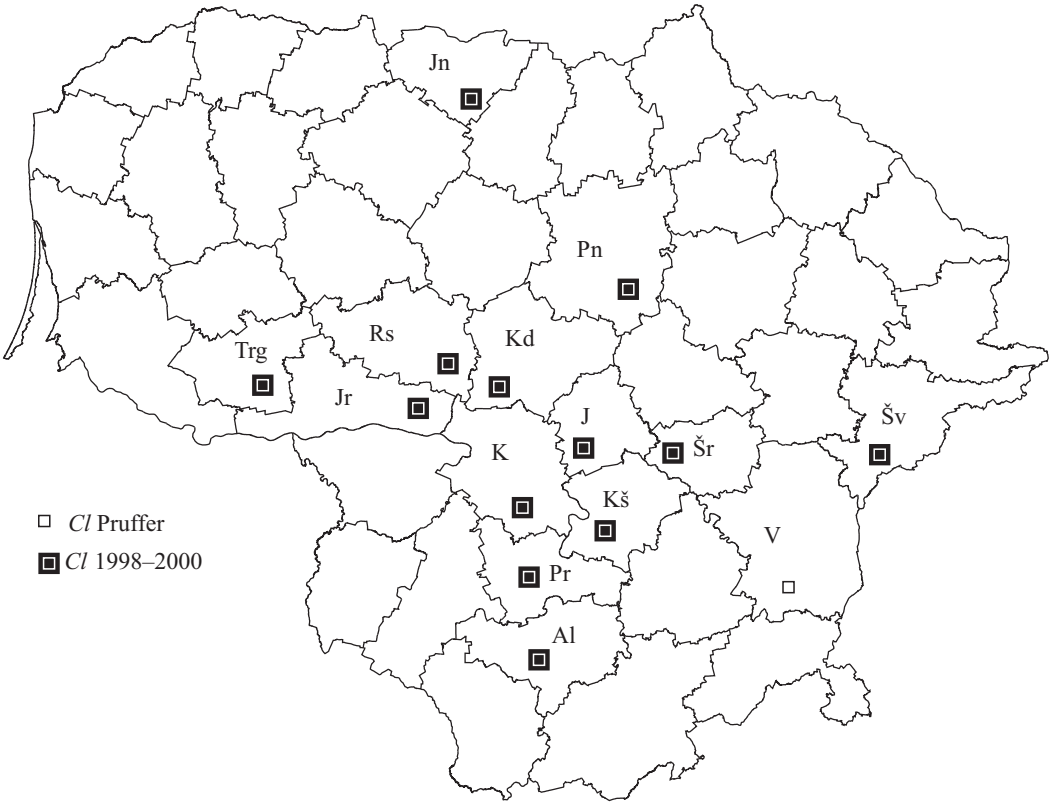

Figure 3. Distribution of *Cydia lunulana* (*Cl*; data from Prüffer, 1947 and by Ostrauskas 1988–2000).

nine. The difference established between trap types was as follows: Funnel trapped Geometridae and Depressariidae moths, Delta – Coleophoridae and Gelechiidae moths. Other Lepidoptera families caught with traps of both types were the same. Indeed, the company AgriSense recommends Funnel traps, when the quantity of potato tube moths is high. The relative frequency of moths in *P. operculella* pheromone traps is as follows: *Phyllonorycter corylifoliella* (11% in 1998, 13% in 1999), *Agonopteryx heracliana* (13% in 1999), *Lymantria dispar* (6% in 1997), *Mesapamea secalis* (6% in 1997), others (2% in 1997, 1% in 1998, 7% in 1999, 25% in 2000). The trapped rare for Lithuania species included: *Calybites phasianipennella, Phyllonorycter corylifoliella, Scrobipalpa acuminatella* (distribution in Fig. 1). Some new localities were added to the distribution of *Epinotia caprana* (1 place of 1 district), *Dichrorampha simpliciana* (2 and 2), *Myelois circumvoluta* (1 and 1), *Udea lutealis* (2 and 2), *Eupithecia tripunctaria* (1 and 1).

Conclusions

1. *Phthorimaea operculella* moths were not found in Lithuania during the 1997–2000 investigations.
2. During the 1998–2000 investigations *Anarsia lineatella* was trapped in four new localities of two new administrative districts (Utena and Panevėžys).
3. The relative frequency of the following moths species caught with pheromone traps for *Anarsia lineatella* was the highest in Lithuania: *Coleophora obscenella*, *Coleophora artemisicolella*, *Cydia lunulana*, *Anacampsis populella*, *Pandemis heparana*, *Coleophora granulatella*. In Lithuania pheromone traps for *Phthorimaea operculella* most often captured moths of the following species: *Phyllonorycter corylifoliella*, *Agonopteryx heracliana*, *Limantria dispar* and *Mesapamea secalis*.
4. The following rare species were trapped during 1997–2000 in Lithuania: *Calybites phasianipennella*, *Phyllonorycter corylifoliella*, *Coleophora ibipennella*, *Scrobipalpa acuminatella*, *Scrobipalpa artemisiella*, *Argyresthia sorbiella, Ypsolopha horridella*, *Synanthedon myopaeformis*, *Pammene spiniana*, *Cydia lunulana*, *Cydia orobana*, *Mesapamea secalella*, *Hypena rostralis*. Their distribution was supplemented with: 1 new locality in 1 new district, 8 in 7, 2 in 2, 1 in 1, 1 in 1, 1 in 1, 1 in 1, 1 in 1, 16 in 13, 1 in 1, 1 in 1, 1 in 1 for each species correspondingly.
5. The data on occurrence of *Epinotia caprana*, *Dichrorampha simpliciana*, *Myelois circumvoluta*, *Scoparia ambigualis*, *Udea lutealis*, *Epirrhita dilutata*, *Eupithecia tripunctaria, Actinotia polyodon*, *Xestia xanthographa* were supplemented with: 1 new locality in 1 new district, 2 in 2, 1 in 1, 1 in 1, 2 in 2, 1 in 1, 1 in 1, 1 in 1, 1 in 1 for each species correspondingly.

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References

Bradley J.D., Tremewan W.G., Smith A. 1979. *British Tortricoid Moths: Tortricidae; Olethreutinae*. London: The Ray Society c/o British Museum (Natural History).

Būda V.G. 1984. *On specificity of the pheromone of codling moths. Orientation of insects and mites.* Tomsk: Tomsk University Press (in Russian).

Calle J.A. 1982. Boletin del Servicio contra Plagas e Inspeccion Fitopatologica: Noctuidos Espanoles. *Fuera de Serie* 1: 17–430.

European and Mediterranean Plant Protection Organization. 1997. *Quarantine Pests for Europe*. Data sheets on quarantine pests for the European Union and for the European and for the Mediterranean Plant Protection Organization. Paris: CAB International, European and Mediterranean Plant Protection Organization.

State News [SN]. 1998. Order of the Minister of Agriculture of the Republic of Lithuania No. 321, dated 28 December 1998: On Confirmation of the Lists of Quarantine Organisms and on Recognition of the Order No. 631, dated 8 August 1993, as void. *State news* 1998 115 (1): 3–13. [Lietuvos Respublikos žemės ūkio ministro įsakymas 1998 12 28 Nr. 321: Dėl karantininių organizmų sąrašų patvirtinimo ir 1993 08 08 įsakymo Nr. 631 pripažinimo netekusiu galios]. *Valstybės žinios* 1998 115 (1): 3–13.

State News [SN]. 2000. Order of the Minister of Agriculture of the Republic of Lithuania No. 315, dated 20 November 2000: On Confirmation of the Lists of Quarantine Organisms, Plants, Vegetable Products and other Objects and on Recognition of the Order No. 321, dated 28 December 1998, as void. *State news* 2000 102: 59. [Lietuvos Respublikos žemės ūkio ministro įsakymas 2000 11 20 Nr. 315: Dėl karantininių organizmų, augalų, augalinių produktų ir kitų objektų sąrašų patvirtinimo ir 1998 12 28 įsakymo Nr. 321 pripažinimo netekusiu galios]. *Valstybės žinios* 2000 102: 59.

Ivinskis P. 1993. *Checklist of Lithuanian Lepidoptera*. Vilnius: Institute of Ecology.

Ivinskis P. 1996. Genitalia of butterflies, their preparation and collection. *Proceedings of Lithuanian entomologists: To the 30-th anniversary of the Entomologists' Society of Lithuania.* Vilnius (in Lithuanian).

Key to insects of the European part of the USSR. 1978, 1981, 1986. Lepidopterans 44: 1–3. Leningrad: Nauka (in Russian).

Klucze do oznaczania owadów Polski. 1959. *Polski Związek Entomologiczny*. Cz. 27: Motyle – Lepidoptera, zesz. 53b. Warszawa: Państwowe Wydawnictwo Naukowe.

Klucze do oznaczania owadów Polski. 1960. *Polski Związek Entomologiczny*. Cz. 27: Motyle – Lepidoptera, zesz. 46a. Warszawa: Państwowe Wydawnictwo Naukowe.

Klucze do oznaczania owadów Polski. 1965. *Polski Związek Entomologiczny*. Cz. 27: Motyle – Lepidoptera, zesz. 46b. Warszawa: Państwowe Wydawnictwo Naukowe.

Klucze do oznaczania owadów Polski. 1966. *Polski Związek Entomologiczny*. Cz. 27: Motyle – Lepidoptera, zesz. 46c. Warszawa: Państwowe Wydawnictwo Naukowe.

Klucze do oznaczania owadów Polski. 1983. *Polski Związek Entomologiczny*. Cz. 27: Motyle – Lepidoptera, zesz. 53c. Warszawa–Wrocław: Państwowe Wydawnictwo Naukowe.

Komarova S., Gavrilova T., Kudina Zh. 1983. *Methodic instructions for determining male individuals of the leaf-rolling moth species, caught by means of traps, containing sticky inserts and the pheromone of oriental fruit moth, according to their genitalia.* Moscow: Ministry of Agriculture of the USSR (in Russian).

Merzheevskaya O.I. 1971. *Cutworms (Noctuidae).* Minsk: Nauka i technika (in Russian).

Odum Yu. 1975. *Fundamentals of ecology*. Moscow: Mir (in Russian).

Ostrauskas H. 1999. The search of oriental fruit moth (*Grapholitha molesta*) with pheromone traps. *Pheromones* 6: 57–60.

Prüffer J. 1947. *Studia nad motylami Wileńsczyzny*. Torún: Ministerstwo Nauki Oswiaty.

Razowski J. 1990. *Monografie Fauny Polski.* t. 18 *Motyle* (*Lepidoptera) Polski* cz. 16. Warszawa-Krakow: Państwowe Wydawnictwo Naukowe.

The Lepidoptera of Europe. 1996. *A Distributional Checklist*. Stenstrup: Apollo Books.

Ženauskas K., Songailienė A. 1989. *Biometric data estimation*. Vilnius: Mokslas (in Lithuanian).

Anarsia lineatella ir *Phthorimaea operculella* (Gelechiidae, Lepidoptera) feromonų gaudyklėmis sugauti drugiai Lietuvoje

H. Ostrauskas

Santrauka

Karantininė drugių rūšis *Phthorimaea operculella* 1997–2000 metais Lietuvoje nesugauta. *Anarsia lineatella* 1998–2000 metais aptikta 4 naujose Panevėžio ir Utenos rajonų vietose. Kitos retos rūšys: *Calybites phasianipennella, Phyllonorycter corylifoliella*, *Coleophora ibipennella*, *Scrobipalpa acuminatella*, *Scrobipalpa artemisiella*, *Argyresthia sorbiella*, *Ypsolopha horridella, Synanthedon myopaeformis*, *Pammene spiniana*, *Cydia lunulana*, *Cydia orobana*, *Mesapamea secalella, Hypena rostralis* – šalyje jau buvo aptiktos. Nurodytos dažniausiai feromonų gaudyklėse pasitaikančios drugių rūšys

Papildytas kitų 9 Lietuvos rūšių paplitimas.

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