

SEARCH FOR AMERICAN BOLLWORM (*HELIOTHIS ARMIGERA* HB.) (NOCTUIDAE, LEPIDOPTERA) WITH PHEROMONE AND LIGHT TRAPS AND ANALYSIS OF PHEROMONE CATCHES IN LITHUANIA

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Abstract. During 1995 and 1999–2001 investigations the quarantine pest *Heliothis armigera* was registered in two new sites of two Lithuanian districts. Moths of 75 species belonging to 14 families were caught with pheromone traps for *H. armigera* during 1999–2001 with species rare for Lithuania (*Agonopterix liturosa*, *Anarsia lineatella*, *Argyresthia sorbiella*, *A. curvella*, *A. albistria*, *Calybites phasianipennella*, *Coleophora graminicolella*, *Cydia lunulana*, *Heliothela wulfeniana*, *Pammene spiniana*, *Platyptilia calodactyla*) among them. Moths most frequently caught with *H. armigera* pheromone traps were elucidated. New localities of *Simyra albovenosa* and *Xanthia gilvago* were ascertained, one for each of the species.

Key words: quarantine species, American bollworm (*Heliothis armigera*), distribution, fields, species status, registration

INTRODUCTION

American bollworm (*Heliothis armigera*) is a well-known pest in some countries. This noctuid species is included in the European (CAB 1997) and Lithuanian quarantine pest lists (GoL 2000). *H. armigera* which has the status of an immigrant and very seldom reaches Lithuania was caught by B. Houwalt near the locality Giedraičiai (Molėtai district) on 7 September 1938 (Kazlauskas 1984).

The present study aimed at searching for *H. armigera* with pheromone and light traps, and at the identification of moths caught with pheromone traps.

MATERIAL AND METHODS

Forty nine Delta traps with pheromones for *H. armigera* produced by AgriSense company (USA) were used in 1999, 60 traps manufactured by Pherobank company (Netherlands) were used in 2000 and 55 traps produced by Trifolio company (Germany) were employed in 2001. In total 164 traps were used during 1999–2001. The traps were set on farmland and small garden plots of the following crops: alfalfa, beans, cabbage, clover, flax, maize, potato, tomato. The attraction of the pheromone was guaranteed for six weeks from the beginning of its emission from the dispenser in the field. One dispenser was used for each trap.

The majority of traps were placed during August–September, some during July–August. These were hung 0.5–1 m above the soil, on the crop level. The traps were operated by inspectors of the Lithuanian State Plant Protection Service in 34 localities of 22 administrative districts in 1999, in 50 localities of 34 districts in 2000, in 36 localities of 27 districts in 2001, in total in 103 localities of 40 administrative districts during 1999–2001. These are abbreviated as follows: Akmenė – Ak, Alytus – Alt, Ignalina – Ig, Jonava – J, Kaišiadorys – Kš, Kaunas – K, Kelmė – Klm, Kėdainiai – Kd, Klaipėda – Kl, Kretinga – Kr, Kupiškis – Kp, Lazdijai – L, Marijampolė – M, Molėtai – Ml, Pakruojis – Pk, Pasvalys – Ps, Plungė – Pl, Radviliškis – Rd, Raseiniai – Rs, Rokiškis – Rk, Skuodas – Sk, Šakiai – Š, Šalčininkai – Šlč, Šiauliai – Šl, Šilutė – Šlt, Širvintos – Šr, Švenčionys – Šv, Tauragė – Trg, Telšiai – Tl, Trakai – Tr, Ukmergė – Uk, Utena – Ut, Varėna – Vr, Vilkaviškis – Vlk, Vilnius – V, Zarasai – Z. In addition, three pheromone traps of the Jalas automatic light trap model were used in Rūgšteliškis (Utena) from April till November in 1995, near Palanga airport (Kretinga) from May till November in 2001, in Verkiai (Vilnius) from May till November in 2001.

About 20 abdomens of each similar in size moth group were taken from the insert, if the amount was high. Genitalia were prepared by the standard method (Komarova *et al.* 1983; Ivinskis 1996). Moth species were identified in accordance with special keys (Bradley *et al.* 1979;

Błaszyński 1960, 1965, 1966; Calle 1982; Kostrowicki 1956, 1959, 1983; Medvedev 1978, 1981, 1986; Merzheyevskaya 1971; Razowski 1990). The list of species is added in the same order as in the Checklist of European Lepidoptera (Karsholt & Razowski 1996).

The relative species frequency (%) was calculated as the ratio of the number of localities where a particular species was registered to the number of all the localities investigated.

RESULTS AND DISCUSSION

There were no moths caught in 12 Delta traps in 1999, in 14 – in 2000, in 21 – in 2001, in total in 47 during 1999–2001. Four traps disappeared from the fields. Moths were trapped in 25 localities of 15 administrative districts in 1999, in 43 localities of 32 districts in 2000, in 22 localities of 21 district in 2001, in total in 79 localities of 36 administrative districts. The list of moth species with in-

dicated reference numbers of individuals, districts, localities and dates of capturing, the number of traps and the total number of pheromone traps used in a definite locality in the same crops are presented below (Table 1).

The relative species frequency was high for *Coleophora obscenella* (25.2%), *C. artemisicolella* (19.4%), *Scoparia pyralella* (9.7%), *Crambus perlella* (8.7%), *Gortyna flavago* (21.3%), *Mythimna conigera* (11.6%), *Xestia c-nigrum* (9.7%). Other species relative frequency fluctuated within the range of 1.0 to 6.8%.

Some rare for Lithuania species were trapped and their distribution was supplemented with some new localities (Ivinskis 1993; Ostrauskas 2001a, b): *Agonopterix liturosa* (1 locality in 1 new district), *Anarsia lineatella* (1 in 1), *Argyresthia sorbiella* (2 in 2), *A. curvella* (2 in 2), *A. albistria* (3 in 3), *Calybites phasianipennella* (5 in 5), *Coleophora graminicolella* (2 in 2), *Cydia lunulana* (2 in 2), *Heliothela wulfeniana* (2 in 1), *Pammene spiniana* (3 in 2), *Platyptilia calodactyla* (1 in 1). Their distribution is presented in Figs 1–3. The

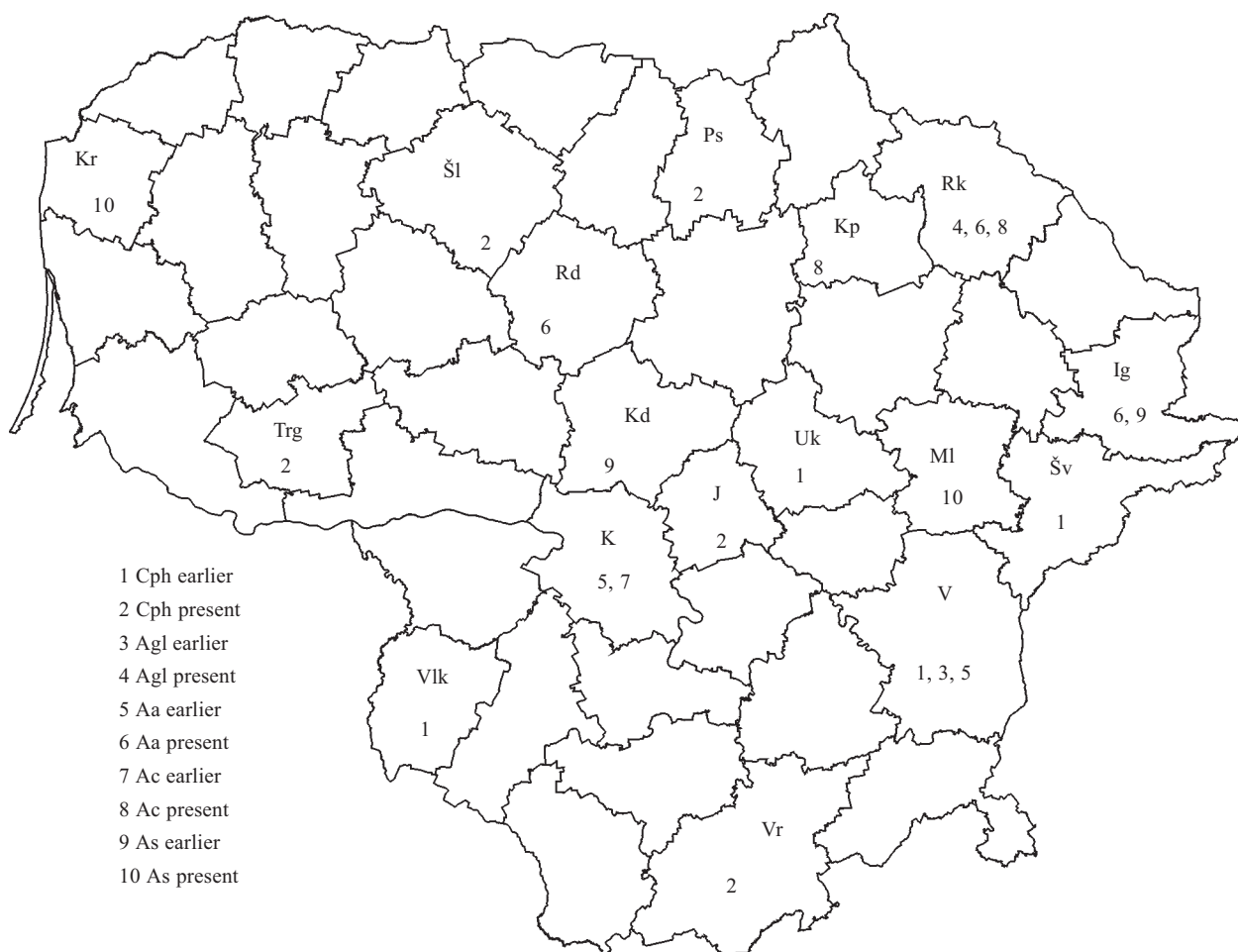


Figure 1. Distribution of *Calybites phasianipennella* (Cph), *Agonopterix liturosa* (Agl), *Argyresthia albistria* (Aa), *Argyresthia curvella* (Ac), *Argyresthia sorbiella* (As) in Lithuania. The presented information comprises data published earlier (Ivinskis 1993; Ostrauskas 2001a, b) and those obtained in the present study.

Table 1. The list of moth species caught with *Heliothis armigera* pheromone traps during 1999–2001 in Lithuania.

Family, species	Number of specimens	District	Locality	Year	Number of traps in which moths were found	Total number of traps in the same crop
Tineidae						
<i>Nemapogon clematella</i> F.	3	Tr	Varliškės	2000	1	1
Gracillariidae						
<i>Caloptilia stigmatella</i> F.	1	Rs	Norgėlai	2001	1	1
<i>Calybites phasianipennella</i> Hb.	1	Šl	Kušleikiai	2000	1	1
	1	Trg	Lauksargiai	2000	1	2
	1	J	Liepos	2001	1	1
	1	Ps	Narteikiai	2001	1	1
	1	Vr	Vazgirdonys	2001	1	1
Yponomeutidae						
<i>Argyresthia sorbiella</i> Tr.	1	Ig	Dūkštas	2000	1	1
	3	Kr	Tinteliai	2000	1	1
	1	MI	Svistapolis	2000	1	1
<i>Argyresthia curvella</i> L.	2	Kp	Sverbai	2001	1	1
	10	Rk	Miegonys	2001	1	1
<i>Argyresthia pruniella</i> Cl.	3	Šv	Medišionys	2000	1	1
<i>Argyresthia albistria</i> Hw.	1	Rd	Šniūraičiai	2000	1	2
	2	Ig	Dūkštas	2001	1	1
	1	Rk	Bajorai	2001	1	1
Plutellidae						
<i>Plutella xylostella</i> L.	1	Ig	Kuzmiškė	2000	1	1
	1	Kd	Dotnuva	2000	1	1
	2	Rs	Gintaučiai	2000	1	1
	1	Trg	Lauksargiai	2000	1	2
	1	J	Liepos	2001	1	1
	2	Pl	Vatušiai	2001	1	2
	1	Rs	Norgėlai	2001	1	1
Depressariidae						
<i>Agonopterix heracliana</i> L.	1	MI	Apankiškiai	2000	1	1
	1	Rk	Miegonys	2001	1	1
<i>Agonopterix liturosa</i> Hw.	1	Rk	Miegonys	2001	1	1
Coleophoridae						
<i>Coleophora obscenella</i> H.-S.	7	Kl	Klaipėda	2000	1	1
	19	Klm	Kukečiai	2000	2	2
	5	Kp	Noriūnai	2000	1	1
	1	Kp	Skverbai	2000	1	1
	7	Kr	Tinteliai	2000	1	1
	5	MI	Apankiškiai	2000	1	1
	1	MI	Svistapolis	2000	1	1
	3	Pk	Medikoniai	2000	2	2
	1	Pl	Plungė	2000	1	2
	28	Rd	Šniūraičiai	2000	2	2
	7	Rk	Bajorai	2000	1	1

Table 1 continued

Family, species	Number of specimens	District	Locality	Year	Number of traps in which moths were found	Total number of traps in the same crop
<i>Coleophora obscenella</i> H.-S.	20	Rk	Rokiškis	2000	1	1
	2	Sk	Narvydžiai	2000	1	1
	2	Š	Advernai	2000	1	1
	1	Š	Girėnai	2000	1	1
	25	Šl	Kušeikiai	2000	2	2
	18	Šlč	Jašiūnai	2000	1	1
	5	Šlč	Papiškės	2000	1	1
	3	Šlt	Laučiai	2000	1	1
	2	Šr	Družai	2000	1	1
	12	Šv	Medišionys	2000	1	1
	1	Tl	Patausalė	2000	1	2
	2	Uk	Gailiūnai	2000	1	1
	4	Uk	Krikštėnai	2000	1	1
	9	Ut	Utena	2000	1	1
	1	Vlk	Giedriai	2000	1	1
<i>Coleophora versurella</i> Zll.	1	Kš	Šakniai	2000	1	1
<i>Coleophora artemisicolella</i> Br.	1	Ak	Viekšniai	2000	1	1
	14	J	Batėgala	2000	1	1
	5	Kd	Dotnuva	2000	1	1
	9	Klm	Kukečiai	2000	2	2
	1	Kp	Noriūnai	2000	1	1
	4	Kš	Šakniai	2000	1	1
	4	Ml	Svistapolis	2000	1	1
	1	Pk	Medikoniai	2000	1	2
	11	Rd	Šniūraičiai	2000	2	2
	23	Rs	Papušynys	2000	1	1
	3	Rs	Gintaučiai	2000	1	1
	2	Š	Advernai	2000	1	1
	7	Šl	Kušeikiai	2000	1	2
	2	Šlč	Jašiūnai	2000	1	1
	5	Šlč	Papiškės	2000	1	1
	8	Šr	Družai	2000	1	1
	8	Šv	Medišionys	2000	1	1
	1	Uk	Gailiūnai	2000	1	1
4	Uk	Krikštėnai	2000	1	1	
18	Ut	Utena	2000	1	1	
<i>Coleophora striatipennella</i> Nl.	1	Kd	Dotnuva	2000	1	1
<i>Coleophora granulata</i> Zll.	1	Ak	Viekšniai	2000	1	1
	1	Kd	Dotnuva	2000	1	1
	1	Klm	Kukečiai	2000	1	2
	2	Šlč	Papiškės	2000	1	1
	1	Šr	Družai	2000	1	1
<i>Coleophora graminicolella</i> Hn.	1	J	Kulva	2000	1	1
	2	Kš	Šakniai	2000	1	1
Gelechiidae						
<i>Mentzneria lappella</i> L.	3	Pk	Medikoniai	2000	2	2

Table 1 continued

Family, species	Number of specimens	District	Locality	Year	Number of traps in which moths were found	Total number of traps in the same crop
<i>Mentzneria lappella</i> L.	3	Rd	Šniūraičiai	2000	1	2
	3	Ut	Radeikiai	2000	1	1
<i>Scrobipalpa atriplicella</i> F.v. Rsl.	1	Alt	Gluosinkai	2000	1	2
	1	Ig	Kuzmiškė	2000	1	1
	1	J	Batėgala	2000	1	1
	1	Vr	Puodžiai	2000	1	1
	1	J	Užusaliai	2001	1	1
<i>Anarsia lineatella</i> Zll.	1	Kd	Dotnuva	2000	1	1
Sesiidae						
<i>Pennisetia hylaeiformes</i> Lsp.	5	Tr	Varliškės	2000	1	1
Tortricidae						
<i>Agapata hamana</i> L.	1	M	Lygumai	2001	1	2
<i>Aethes smeathmanniana</i> F.	1	Vr	Perloja	2001	1	2
<i>Pandemis heparana</i> D. et S.	1	Ml	Apankiškiai	2000	1	1
<i>Rhopobota naevana</i> Hb.	1	Ut	Utena	2000	1	1
<i>Eucosma campoliliana</i> D. et S.	1	V	Vaidotai	1999	1	1
<i>Cydia lunulana</i> D. et S.	2	Ak	Viekšniai	2000	1	1
	1	Šl	Kušleikiai	2000	1	1
<i>Cydia funebrana</i> Tr.	1	Ak	Viekšniai	2000	1	1
	1	Alt	Gluosinkai	2000	1	2
<i>Cydia pomonella</i> L.	2	Ig	Dūkštas	2001	1	1
<i>Pammene spiniana</i> Dp.	1	V	Vaidotai	1999	1	1
	1	Vr	Neravai	1999	1	1
	1	Tr	Varliškės	2000	1	1
<i>Dichrorampha simpliciana</i> Hw.	1	J	Užusaliai	2001	1	1
Pterophoridae						
<i>Platyptilia calodactyla</i> D. et S.	1	Pl	Plungė	2000	1	2
<i>Emmelina monodactyla</i> L.	1	Pk	Medikoniai	2000	1	2
	1	Rd	Šniūraičiai	2000	1	2
Pyralidae						
<i>Hypsopygia costalis</i> F.	1	Ml	Apankiškiai	2000	1	1
<i>Plodia interpunctella</i> Hb.	1	K	Babtai	1999	1	1
<i>Scoparia ambigualis</i> Tr.	1	Vr	Puodžiai	2000	1	1
<i>Scoparia pyralella</i> D. et S.	1	L	Lazdijai	1999	1	1
	1	Ig	Dūkštas	2000	1	1
	4	Rs	Gintaučiai	2000	1	1
	1	Šv	Medišionys	2000	1	1
	3	Ut	Radeikiai	2000	1	1
	2	Ut	Utena	2000	1	1
	4	J	Liepos	2001	1	1
	3	K	Muniškiai	2001	1	1
	1	Alt	Gluosinkai	2000	1	2
	3	Rs	Papušynys	2000	1	1

Table 1 continued

Family, species	Number of specimens	District	Locality	Year	Number of traps in which moths were found	Total number of traps in the same crop
<i>Heliothela wulfeniana</i> Sc.	17	Vr	Vazgirdonys	2001	1	1
	4	Vr	Perloja	2001	2	2
<i>Chrysoteuchia culmella</i> L.	1	Alt	Gluosninkai	2000	1	2
	4	Ig	Dūkštas	2000	1	1
	2	Rs	Gintaučiai	2000	1	1
	1	Šv	Medišionys	2000	1	1
	1	Ut	Radeikiai	2000	1	1
	10	K	Muniškiai	2001	1	1
<i>Crambus perlella</i> Sc.	1	Alt	Gluosninkai	2000	1	1
	2	Ig	Dūkštas	2000	1	1
	1	Ig	Kuzmiškė	2000		
	1	Kš	Šakniai	2000	1	1
	1	Rs	Gintaučiai	2000	1	1
	2	Vr	Puodžiai	2000	1	1
	2	Z	Degučiai	2000	1	1
	1	K	Muniškiai	2001	1	1
	1	Rd	Šniūraičiai	2001	1	2
<i>Agriphila tristella</i> D. et S.	1	Trg	Griežpelkiai	2001	1	2
<i>Agriphila selasella</i> Hb.	1	J	Liepos	2001	1	1
	1	Rd	Šniūraičiai	2001	1	2
<i>Agriphila straminella</i> D. et S.	1	Kš	Šakniai	2000	1	1
<i>Catoptria permutatellus</i> H.-S.	1	J	Liepos	2001	1	1
	1	Ak	Viekšniai	2000	1	1
<i>Catoptria margaritella</i> D. et S.	1	L	Lazdijai	1999	1	1
<i>Parapoynx stratiotata</i> L.	1	L	Lazdijai	1999	1	1
	1	V	Trakų Vokė	1999	1	1
	1	Rd	Šniūraičiai	2000	1	2
	1	Rd	Alksniupiai	2001	1	1
	1	Tr	Varliškės	2001	1	1
<i>Evergestis pallidata</i> Hfn.	1	Kd	Dotnuva	2000	1	1
<i>Udea lutealis</i> Hb.	1	Kš	Šakniai	2000	1	1
	1	Ut	Radeikiai	2000	1	1
<i>Pleuroptya ruralis</i> Sc.	1	L	Lazdijai	1999	1	1
	2	Tr	Šulininkai	1999	1	1
Pieridae						
<i>Pieris brassicae</i> L.	1	Šl	Daugėliai	1999	1	1
Drepanidae						
<i>Tethea ocularis</i> L.	1	Tr	Varliškės	2001	1	1
Geometridae						
<i>Timandra griseata</i> W. Pt.	1	K	Babtai	1999	1	1
<i>Epirrhoe alternata</i> Mill.	1	Alt	Gluosninkai	2000	1	2
Noctuidae						
<i>Simyra albovenosa</i> Gz.	1	J	Kulva	2000	1	1

Table 1 continued

Family, species	Number of specimens	District	Locality	Year	Number of traps in which moths were found	Total number of traps in the same crop
<i>Rivula sericealis</i> Sc.	1	J	Užusaliai	2001	1	1
	1	L	Lazdijai	1999	1	2
<i>Autographa gamma</i> L.	2	J	Kulva	2000	1	1
	1	Š	Girėnai	2000	1	1
	1	Rs	Norgėlai	2001	1	1
<i>Deltote banksiana</i> F.	1	M	Lygumai	2001	1	2
<i>Pseudeustrotia candidula</i> D. et S.	1	L	Babrai	2001	1	2
	1	Vr	Vazgirdonys	2001	1	1
	1	Vr	Perloja	2001	1	2
<i>Cucullia umbratica</i> L.	1	Šr	Družai	2000	1	1
	2	Rs	Norgėlai	2001	1	1
<i>Heliothis virescens</i> Hfn.	1	Šlt	Piktupėnai	2001	1	1
<i>Pyrrhia umbra</i> Hfn.	1	Kp	Skverbai	2000	1	1
<i>Hoplodrina octogenaria</i> Gz.	1	M	Marijampolė	1999	1	1
	1	Šl	Daugėliai	1999	1	1
	2	Ak	Vieksniai	2000	1	1
	1	Alt	Gluosinkai	2000	1	2
	1	J	Kulva	2000	1	1
	2	Rs	Papušynys	2000	1	1
	1	Rs	Gintaučiai	2000	1	1
	1	L	Lazdijai	1999	1	2
<i>Parastichtis ypsilon</i> D. et S.	2	Šv	Medišionys	2000	1	1
	1	Ut	Radeikiai	2000	1	1
	1	J	Liepos	2001	1	1
<i>Xanthia icteritia</i> Hfn.	1	K	Babtai	1999	1	1
	1	Šv	Adutiškis	1999	1	2
	1	V	Vaidotai	1999	1	1
	1	MI	Apankiškiai	2000	1	1
<i>Xanthia gilvago</i> D. et S.	1	Rd	Šniūraičiai	2000	1	2
<i>Mesapamea secalis</i> L.	1	Kl	Maciuičiai	2001	1	1
<i>Gortyna flavago</i> D. et S.	5	Ig	Dūkštas	1999	2	2
	4	Ig	Dūkštas	1999	2	2
	1	K	Babtai	1999	1	1
	10	L	Lazdijai	1999	2	2
	2	Ps	Narteikiai	1999	1	1
	1	Rd	Radviliškis	1999	1	1
	3	Šlč	Šalčininkai	1999	1	1
	3	Šlč	Pabarė	1999	1	1
	9	Šr	Družai	1999	2	2
	6	Šv	Adutiškis	1999	2	2
	2	Šv	Medišionys	1999	1	1
	6	Tr	Alešiškės	1999	1	1
	4	Tr	Varliškės	1999	1	1
	15	Tr	Šulininkai	1999	2	2
	1	Trg	Trepai	1999	1	2
2	Ut	Radeikiai	1999	1	1	
5	V	Trakų Vokė	1999	1	1	

Table 1 continued

Family, species	Number of specimens	District	Locality	Year	Number of traps in which moths were found	Total number of traps in the same crop	
<i>Gortyna flavago</i> D. et S.	1	V	Riešė	1999	1	1	
	6	V	Medininkai	1999	1	1	
	4	V	Uosininkai	1999	1	1	
	1	V	Lavoriškės	1999	1	1	
	1	V	Vaidotai	1999	1	1	
<i>Chortodes fluxa</i> Hb.	2	Alt	Gluosninkai	2000	2	2	
	1	Ig	Dūkštas	2000	1	1	
<i>Mythimna turca</i> L.	1	Ut	Radeikiai	2000	1	1	
<i>Mythimna conigera</i> D. et S.	1	Ig	Dūkštas	1999	1	2	
	2	Ak	Viekšniai	2000	1	1	
	7	J	Kulva	2000	1	1	
	8	Kd	Dotnuva	2000	1	1	
	4	Klm	Kukečiai	2000	1	2	
	1	Ml	Svistapolis	2000	1	1	
	1	Rd	Šniūraičiai	2000	1	2	
	2	Rs	Papušynys	2000	1	1	
	1	Rs	Gintaučiai	2000	1	1	
	1	Šr	Družai	2000	1	1	
	1	Ut	Utena	2000	1	1	
	1	Rd	Šniūraičiai	2001	1	2	
	<i>Mithymna pallens</i> L.	1	M	Trakėnai	1999	1	1
		2	Rs	Gintaučiai	2000	1	1
<i>Tholera cespitis</i> D. et S.	1	L	Babrai	2001	1	2	
	1	M	Lygumai	2001	1	2	
	1	Tl	Nevarėnai	2001	1	1	
<i>Noctua pronuba</i> L.	1	Klm	Kukečiai	2000	1	2	
	1	Pl	Vatušiai	2001	1	2	
	1	Rs	Norgėlai	2001	1	1	
<i>Xestia c-nigrum</i> L.	3	Alt	Gluosninkai	2000	1	2	
	4	Klm	Kukečiai	2000	2	2	
	1	M	Tursučiai	2000	1	1	
	1	Ml	Apankiškiai	2000	1	1	
	3	Vr	Puodžiai	2000	1	1	
	1	J	Užusaliai	2001	1	1	
	4	M	Lygumai	2001	2	2	
	1	Rk	Miegonys	2001	1	2	
	1	Tl	Patausalė	2001	1	2	
	1	Vlk	Putinai	2001	1	2	
	<i>Xestia baja</i> D. et S.	6	Kl	Klaipėda	2000	1	1
1		Klm	Kukečiai	2000	1	2	
1		Pk	Medikoniai	2000	1	2	
1		Šr	Družai	2000	1	1	
<i>Xestia sexstrigata</i> Hw.	1	Vr	Perloja	2001	1	2	

Simyra albovenosa distribution was supplemented with one new locality in one new district, that of *Xanthia gilvago* – with 1 in 1. *Heliothis armigera* moths were not captured in pheromone traps, but one specimen was

trapped in the J alas automatic light trap in Rūgšteliškis (Utena) in 1995 and one specimen – near Palanga (Kretinga) in 2001 (Fig. 3). According to the data obtained in the present study, the status of *H. armigera* in

Lithuania remains unchanged: very rare species, migrant.

One specimen of the rare species *Anarsia lineatella* was caught with the Jalas automatic light trap in Verkiai (Vilnius) during 2001. So the distribution of the above-mentioned species was supplemented with one new locality in one new district (Fig. 2).

CONCLUSIONS

1. In Lithuania the quarantine pest American bollworm (*Heliothis armigera*) was found in two new localities of two administrative districts in 1995 and 2001. The status of *H. armigera* remains unchanged, i.e. it is a very rare migrant species in Lithuania.

2. The relative frequency was the highest in the following moth species caught with pheromone traps for *Heliothis armigera* in Lithuania: *Coleophora obsce-nella*, *C. artemisicolella*, *Scoparia pyralella*, *Crambus*

perlella, *Gortyna flavago*, *Mythimna conigera*, *Xestia c-nigrum*.

3. The following rare species were trapped during 1999–2001 in Lithuania: *Agonopterix liturosa* (distribution was supplemented with 1 new locality of 1 new district), *Anarsia lineatella* (2 and 2), *Argyresthia sorbiella* (2 and 2), *A. curvella* (2 and 2), *A. albistria* (3 and 3), *Calybitis phasianipennella* (5 and 5), *Coleophora graminicolella* (2 and 2), *Cydia lunulana* (2 and 2), *Heliothela wulfeniana* (2 and 1), *Pammene spiniana* (3 and 2), *Platyptilia calodactyla* (1 and 1).

4. The data on the occurrence of *Simyra albovenosa* and *Xanthia gilvago* were supplemented with one new locality in one new administrative district for each species.

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Figure 2. Distribution of *Anarsia lineatella* (Al), *Pammene spiniana* (Psp), *Coleophora graminicolella* (Cg), *Platyptilia calodactyla* (Pc), *Heliothela wulfeniana* (Hw). The presented information comprises data published earlier (Ivinskis 1993; Ostrauskas 2001a, b) and those obtained in the present study.

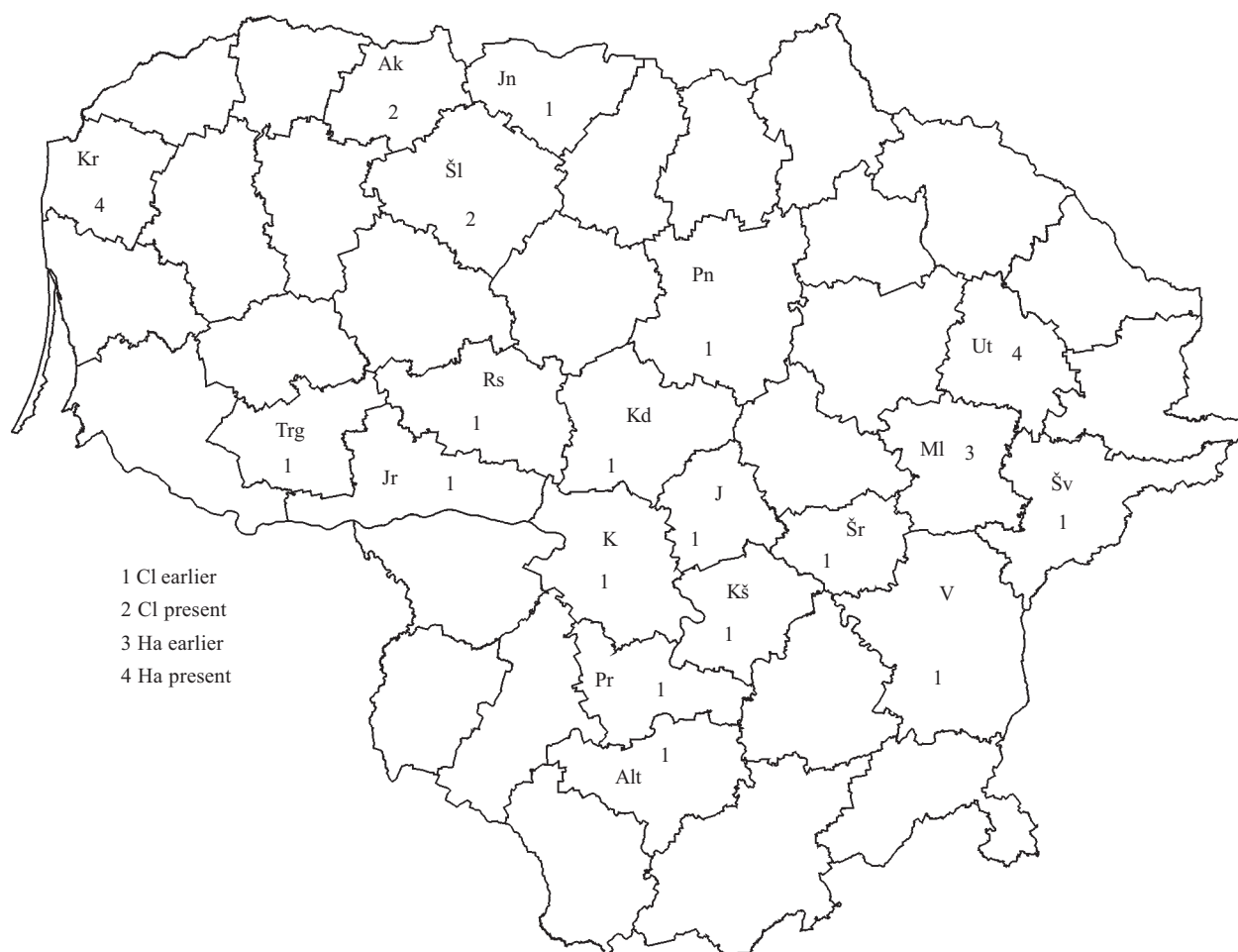


Figure 3. Distribution of *Cydia lunulana* (Cl; data from earlier publications – Ostrauskas 2001b and the present study) and *Heliothis armigera* (Ha; data from Kazlauskas 1984 and the present study).

preparing the manuscript; to inspectors from the Lithuanian State Plant Protection Service for setting traps in fields.

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HELIOTHIS ARMIGERA Hb. (NOCTUIDAE, LEPIDOPTERA) PAIEŠKA FEROMONŲ IR ŠVIESOS GAUDYKLĖMS BEI FEROMONINIŲ SUGAVIMŲ LIETUVOJE ANALIZĖ

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SANTRAUKA

Gelsvapilkis saulinukas (*Heliothis armigera* Hb.) – karantininė drugių rūšis, aptikta 1995 ir 2001 metais 2 Lietuvos rajonų 2 naujose vietose. Šios rūšies statusas Lietuvoje nepakito. Ji lig šiol labai reta rūšis, migrantas. 1999–2001 metais sugautos kitos retos Lietuvoje rūšys: *Agonopterix liturosa* (1 nauja radavietė), *Anarsia lineatella* (2), *Argyresthia sorbiella* (2), *A. curvella* (2), *A. albistria* (3), *Calybites phasianipennella* (5), *Coleophora graminicolella* (2), *Cydia lunulana* (2), *Heliothela wulfeniana* (2), *Pammene spiniana* (3), *Platyptilia calodactyla* (1). Nustatytos dažniausiai gelsvapilkio saulinuko feromonų gaudyklėse pasitaikančios drugių rūšys. Papildytas Lietuvos drugių rūšių – *Simyra albovenosa* ir *Xanthia gilvago* – paplitimas.

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