OPOLE SCIENTIFIC SOCIETY
Nature Journal
Nr 37-2004

MACROLEPIDOPTERA (LASIOCAMPOIDEA, BOMBYCOIDEA, DREPANOIDEA, GEOMETROIDEA, NOCTUOIDEA) OF RÓWNINA OPOLSKA AND CHEŁM

Motyle większe (Lasiocampoidea, Bombycoidea, Drepanoidea, Geometroidea, Noctuoidea) Równiny Opolskiej i Chełmu

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ABSTRACT: The paper presents the results of entomological research carried out in the area of Równina Opolska and Chełm in Opole Province. In the years 1996-2004, 552 species of Macrolepidoptera from the area of Równina Opolska and 515 species from the massif of Chełm have been recorded. The phenological data and local distribution of all 592 species collected in the central-eastern part of Opole Province were given.

KEY WORDS: Lepidoptera, moths, Poland, Silesia, Opole Province, faunistics.

Introduction

Opole Province belongs to fairly-well surveyed regions of Poland as concerns Macrolepidoptera moths (Buszko & Nowacki 2000). Most of the data, however show at present just historic value and are the result of local or selectively done research in the past.

The beginnings of the research on Lepidoptera of Równina Opolska date back on the turn of the 19th century. The results from several localities, being the effect of activity mostly of German entomologists, were published in summary works concerned fauna of Macrolepidoptera of Silesia (Wolf 1927-1944, Raebel & Toll 1962). The research on the area of Chełm focused in the Massif of Góra Świętej Anny, particularly in the small xerothermic area of Kamienna Góra in Ligota Dolna nearby Gogolin in the years 1922-1963, besides; in the period 1961-1963 the research was a methodical in its nature (Bielewicz 1966). The complete faunistic work on the group of Macrolepidoptera that was published in the result of the research is, so far, the only one of this kind for the whole area of Opole Province.

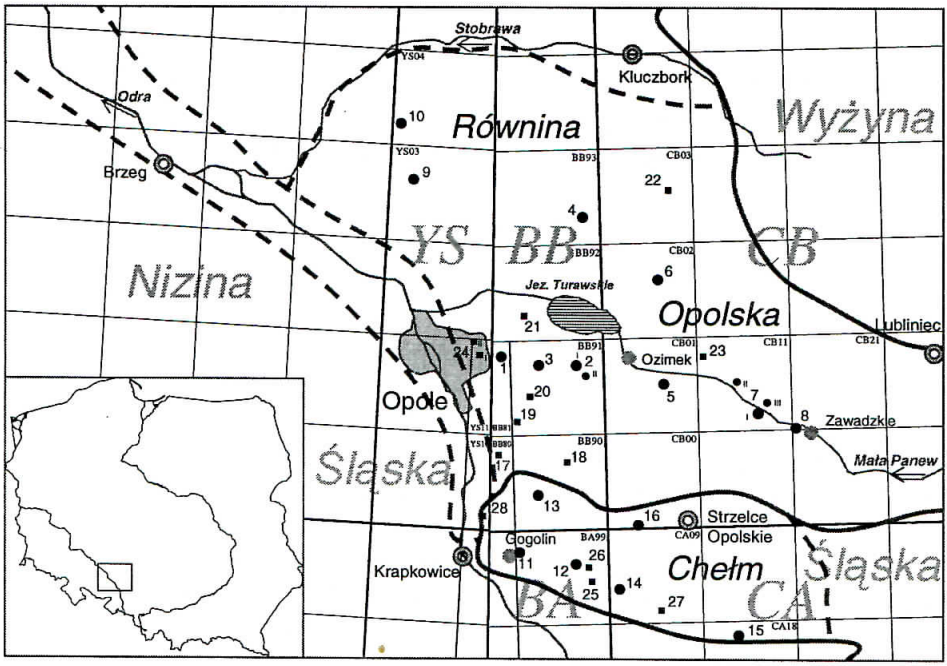

Fig. 1. The research area in the background of UTM net

- the border line between Nizina Śląska and Wyżyna Śląska
- - border lines between mesoregions
- • - the main localities: 1 – Lędziny, 2 – Dębska Kuźnia (I, II), 3 – Chrząstowice, 4 - Bierdzany, 5 – Krasiejów, 6 - Knieja, 7 – Kolonowskie (I-III), 8 – Zawadzkie, 9 – Ładza, 10 - Winna Góra near Pokój, 11 - Gogolin, 12 - Ligota Dolna, 13 - Kamień Śląski, 14 - Poręba, 15 – Jaryszów, 16 – Szymiszów
- ▪ - the supplementary localities: 17 – Miedziana, 18 – Nakło, 19 - Falmirowice, 20 - Suchy Bór, 21 – Niwki, 22 – Szumirad, 23 – Mnichus, 24 – Opole (I, II), 25 - Góra Św. Anny, 26 – Ligota Górna, 27 – Czarnocin, 28 – Chorula

In the last years, there appeared a work concerning the occurrence of 72 species of butterflies in typical plant communities of Równina Opolska (Blaik 1999) and initial papers presenting faunistic data concernig selected, rarely found in Silesia and Poland species of Macrolepidoptera (Geometridae, Noctuidae) recorded in the area of Równina Opolska and Chełm (Blaik & Majer 2000, 2002).

Site and methods

Równina Opolska is a vast area of lowland type of landscape, composed of sandy deposits, featured by rich net of rivers and high forestage. Pine forests and mixed oak-pine forests predominate in the area. In the places of high-level ground water there occur vast areas of meadows of varied humidity, and more rarely small, inner-forest peat-bogs.

The upland massif of Chełm with the summit of Góra Świętej Anny (400 m a.s.l.) is covered in clay and loess sediments. The hydrography of the mesoregion is extremely poor. The present forest stand consists mainly of anthropogenic pine and semi-natural beech forests. Characteristic features in the landscape of Chełm are ravines, limestone outcrops and stonepits covered in stenothermal shrubs and xerothermic grass communities.

Równina Opolska and Chełm belong to the warmest parts of Poland featured by the occurrence of early spring. This important feature of the local climat exerts an influence on distinctly earlier, in comparison with the average, appearance of some Lepidoptera species and it is also conducive to occurrence of extra-seasonal generations.

The research area embraces the western and central part of Równina Opolska and the south-western and northern area of Chełm. Althogether 28 localities: 16 main and 12 supplementary ones, containing typical habitats and plant communities of both mesoregions, were selected to be explored (Równina Opolska – 10/8, Chełm – 6/4, respectively). According to the cartographic system, based on the UTM net, the explored area lies within large squares CA and CB and wedge-shaped squares BA, BB and YS (Fig. 1).

The faunistic research was done in the years 1996-2004, in the altogether period from the beginning of March to the early part of November. Frequency of exploration was very different so that some localities were regularly and often surveyed over a few years, however, the other localities were explored very rarely or even once in respect of particular species.

The main method of collecting of material was night-catch with use of portable sources of light and lamp-traps with mercury bulbs of 160 and 250W. Moreover, two following supplementary methods were applied: catch on wine-and-sugar baits, and a day-search of larval stages and adults of some species that reluctantly come to the light.

Nomenclature and systematic order followed the distributional checklist of Polish Lepidoptera (Buszko & Nowacki 2000). In the work the data on the following families were not taken into account: *Hepialidae, Psychidae, Limacodidae, Zygaenidae, Sesiidae, Cossidae* and *Thyrididae* which in older literature as a Macrolepidoptera were

treated. However, at present, they happen to be excluded from this group due to a further systematic position (Buszko 1997, Buszko & Nowacki 2000, Fajčik & Slamka 1996), on the other hand, for above mentioned families, often very specific and different methods are necessary to use in order to attain of representative data.

Below, there is presented the list of research localities with their short description, phytosociological profile (except supplementary localities), methods of collecting of material and period of the research. Determination of plant communities was done with the use of the guide by Matuszkiewicz (2001). For description of types of methods, the following abbreviations were used: Lt – light trap, L - portable source of light, B – wine-and-sugar bait, D – day-search. Two groups of localities are set by mesoregional membership and the alphabetical order of UTM codes.

Main localities:

Równina Opolska

1. Lędziny [BB81] – alder-ash carrs, oak-hornbeam and mixed forests west of the place. *Calystegio-Eupatorietum, Rhamno-Cornetum sanguinei, Fraxino-Alnetum, Ficario-Ulmetum minoris, Galio sylvatici-Carpinetum betuli*; L, B, D; 3/III-2/XI, 1997-2003.

2. Dębska Kuźnia [BB91] – I – anthropogenic and stenothermal edge habitats on the border of pine and acidophilous oak forests along the Opole-Częstochowa railway line; sandy areas in northern part of the place; II – alder-ash carrs and oak-hornbeam forests south-east of the place. *Geranion sanguinei, Trifolion medii, Quercetea robori-petraeae, Leucobryo-Pinetum, Galio sylvatici-Carpinetum betuli, Fraxino-Alnetum*; L, B, D; 1/IV-3/IX, 1997-2003.

3. Chrząstowice [BB91] – anthropogenic and meadow open habitats, rushes and willow thickets in the River Jemielnica Valley nearby the railway station. *Calystegio-Eupatorietum, Phragmition, Molinietalia caeruleae*; L, D; 1/VI-1/IX 2003.

4. Bierdzany [BB93] – mixed and oak-hornbeam forests, meadow and rushes habitats nearby the forester's lodge south-west of the place. *Phragmition, Magnocaricion, Molinietalia caeruleae, Geranion sanguinei, Galio sylvatici-Carpinetum betuli*; Lt, D; 2/III-2/X 2000.

5. Krasiejów [CB01] – mixed, pine, oak - hornbeam forests and meadow nearby the forester's lodge; rushes, anthropogenic areas in loam excavation east of the place. *Typhetum latifoliae, Magnocaricion, Molinietalia caeruleae, Leucobryo-Pinetum, Galio sylvatici-Carpinetum betuli*; Lt, L, D; 2/IV-2/X, 1999, 2004.

6. Knieja [CB02] – the inner-pine forest peat-bog formed in place of an small overgrowing pond west of the place. *Filipendulion ulmariae, Calthion palustris,*

Rhynchosporion albae, Caricion lasiocarpae, Leucobryo-Pinetum, Fraxino-Alnetum; L, D; 2/IV-3/IX, 1999-2002.

7. Kolonowskie [CB11] – I – meadows, rushes, mixed and oak-hornbeam forests nearby the forester's lodge in settlement of Grabina, between Kolonowskie and Zawadzkie; II – pine forest north of the town; sandy areas, anthropogenic mixed forest, willow thickets on the bank of the River Mała Panew in the district of Fosowskie; III – pine forest along the Opole-Częstochowa railway line towards Zawadzkie. *Phragmition, Magnocaricion, Diantho-Armerietum elongatae, Molinietalia caeruleae, Rhamno-Cornetum sanguinei, Leucobryo-Pinetum, Fraxino-Alnetum, Galio sylvatici-Carpinetum betuli*; Lt, L, D; 3/III-1/XI, 1999-2000, 2003.

8. Zawadzkie [CB21] – mixed and pine forests and alder carrs north-west of the town in the neighborhood of Kocia Góra (218 m a.s.l.) and the Mała Panew river-bad. *Leucobryo-Pinetum, Fraxino-Alnetum*; Lt, L, D; 1/III-1/XI, 2001-2003.

9. Ładza [YS03] – pine forest, sandy grasses, synanthropic and garden areas in the place. *Corynephorion canescentis, Leucobryo-Pinetum*; Lt, L; 1/VI-3/X 2004.

10. Winna Góra near Pokój [YS04] – the fishpond-complex, mixed and oak-hornbeam forests south-east of the place. *Phragmitetea, Molinietalia caeruleae, Galio sylvatici-Carpinetum betuli*; Lt; 2/III-2/X, 2001-2002, 2004.

Chełm

11. Gogolin [BA99] – the limestone stonepit, anthropogenic open habitats and the allotments north-east of the place. *Adonido-Brachypodietum pinnati, Koelerio-Festucetum rupicolae, Pruno-Ligustretum*; L, D; 1/VI-3/VIII, 2000-2001.

12. Ligota Dolna [BA99] – the hill of Kamienna Góra (321 m a.s.l.) includes the area of the floristic Reserve (of the same name) and the abandoned limestone stonepit south-east of the place. *Adonido-Brachypodietum pinnati, Koelerio-Festucetum rupicolae, Pruno-Ligustretum, Luzulo pilosae–Fagetum*; L, B, D; 3/III-3/IX, 1997-2002.

13. Kamień Śląski [BB90] – the abandoned limestone stonepit north-west of the place. *Festuco-Brometea*, thickets of *Clematis vitalba*; L, D; 2/VI-3/VIII, 1999, 2002, 2004.

14. Poręba [CA09] – the orchard, synanthropic habitats and a fragment an afforested, dry valley in the place. *Molinion caeruleae, Tilio cordatae-Carpinetum betuli*; Lt; 2/IV-1/X 1999.

15. Jaryszów [CA18] – meadow and rushes surrounded by alder-carrs, mixed and oak-hornbeam forests nearby the former forester's lodge south-east of the place. *Typhetum latifoliae, Magnocaricion, Molinietalia caeruleae, Fraxino-Alnetum, Tilio cordatae-Carpinetum betuli*; Lt; 1/III-3/X, 2000-2002.

16. Szymiszów [CB00] – the meadow, gardens, stenothermal shrubs, pine and beech forests south of the railway station. *Arrhenatherion elatioris, Pruno-Ligustretum, Galio odorati-Fagetum*; Lt, D; 2/III-3/X, 1998-2002.

Supplementary localities:

Równina Opolska

17. Miedziana [BB80] – wet meadow on range of mixed and oak-hornbeam forests north of the place towards Opole-Malina. L; 2-3/V 1999.

18. Nakło [BB90] – synanthropic open habitats and local roads sides. D; 2/IX 2003.

19. Falmirowice [BB91] – inner-pine forest, wet meadows south-west of the place and the Opole-Strzelce Opolskie high road. D; 3/V 1997.

20. Suchy Bór [BB91] – anthropogenic mixed forest, synanthropic and garden areas in the neighbourhood of the place. L; 2/VI-3/VIII 2003.

21. Niwki [BB92] – pine forest north-west of the place towards Kotórz Mały. L; 2-3/VI 2000.

22. Szumirad [CB03] – rushes, alder-carrs and pine forest nearby the pond in the Smolnik Reserve. L; 2/VII, 2/VIII 2000.

23. Mnichus [CB11] – the inner-pine forest clearing embraces sandy and wet meadow habitats along the Ozimek-Kolonowskie high road south-east of the place. L; 1/VII 2000.

24. Opole [YS11] – anthropogenic areas, gardens and development on the outskirts of the city: I - Opole-Kolonia Gosławicka, II - Opole-ZWM. L, D; 3/IV-2/X, 1996-2004.

Chełm

25. Góra Świętej Anny [BA99] – inner-beech forest meadows west of the place; carst caves where wintering moths were found. L, D; 3/III, 1/VI 2000, 3/I 2001.

26. Ligota Górna [BA99] – synanthropic, agricultural and garden areas on the age of mixed and beech forests south of the place. Lt; 3/III-3/VII 2000.

27. Czarnocin [CA09] – beech forest in the Boże Oko Reserve. L; 3/V-2/IX, 1999, 2001.

28. Chorula [YS11] – stenothermal shrubs and xerothermic grasses on the edge of anthropogenic pine forest east of the place, next to the cement plant. L, D; 2/VI-2/VIII 2004.

Results

In the result of the research (1996-2004), the occurrence of 552 species in the area of Równina Opolska and 515 in the area of Chełm, representing 12 families of Macrolepidoptera, has been recorded. The systematic list of the present occurring fauna of Macrolepidoptera in the area of central-eastern part of Opole Province, embracing the both researched mesoregions, contains 592 species (Tab. 1, 2).

Tab. 1. Number of species of *Macrolepidoptera* of Równina Opolska and Chełm, recorded in the years 1996-2004, according to family order

Family	Równina Opolska	Chełm	The area of the both mesoregions
Lasiocampidae	10	10	12
Endromididae	1	1	1
Saturniidae	2	1	2
Sphingidae	11	11	12
Drepanidae	13	14	14
Geometridae	215	200	229
Notodontidae	27	25	27
Noctuidae	229	215	250
Pantheidae	2	2	2
Lymantriidae	8	7	8
Nolidae	9	7	9
Arctiidae	25	22	26
Total:	552	515	592

The best part of the species (578 – over 97%) was collected in result of catch on light. The occurrence of 14 remaining species was recorded, exclusively with the use of following methods: collecting of adults only in the daytime – 11 following species: *M. stellatarum, A. parthenias, A. notha, A. aceraria, I. inquinata, E. pygmaeata, C. mi, E. glyphica, P. tenebrata, A. phegea* and *S. striata*; collecting of larval stages only - 3 following species: *P. proserpina* (on *Oenothera biennis* L.), *C. absinthii* (on *Artemisia vulgaris* L.) and *Sh. lychnitis* (on *Verbascum lychnitis* L.).

The occurrence of the characteristic group of xerophilous species in Chełm is especially worth noticing because they often find, in the area, the only required habitats to exist in the whole area of Opole Province. The fauna of xerothermic grass communities consists among others: *M. castrensis, H. glarearia, S. bipunctaria, C. rubidata, E. galiata, T. luctuosa, N. interposita, A. crassa, A. cinerea* or *S. irrorella* and of stenothermal shrubs communities: *C. glaucata, T. rupicapraria, A. badiata, C. fulvata, H. corticata, H. tersata* or *E. haworthiata.*

Tab. 2. Systematic list of Macrolepidoptera recorded in Równina Opolska and Chełm in the period 1996-2004

Family, species	Równina Opolska											Chełm							Period of occurrence
	Lędziny	Dębska Kuźnia	Chrząstowice	Bierdzany	Krasiejów	Knieja	Kolonowskie	Zawadzkie	Ładza	Winna Góra	Supplementary localities	Gogolin	Ligota Dolna	Kamień Śląski	Poręba	Jaryszów	Szymiszów	Supplementary localities	
.	1	2	3	4	5	6	7	8	9	10	..	11	12	13	14	15	16	...	....
Lasiocampidae																			
Poecilocampa populi (L.)	+				+			+	+	+						+	+		2/X-1/XI
Trichiura crataegi (L.)		+			+	+	+	+											3/VIII-1/IX
Malacosoma neustria (L.)	+	+		+	+		+	+	+	+			+			+	+		1/VI-2/VIII
Malacosoma castrensis (L.)														+				28	2/VII
Lasiocampa trifolii (Den. et Schiff.)		+		+	+	+	+		+			+	+	+		+	+		1/VIII-3/VIII
Lasiocampa quercus (L.)		+				+		+	+	+									2/VII-1/VIII
Macrothylacia rubi (L.)	+	+				+	+	+	+							+	+		2/V-2/VI
Dendrolimus pini (L.)		+		+	+	+	+	+	+	+		+				+	+		2/V-2/IX
Euthrix potatoria (L.)	+	+	+	+	+	+	+	+	+	+			+	+		+	+		2/VI-2/VIII
Cosmotriche lobulina (Den. et Schiff.)																	+		3/VII-2/VIII
Gastropacha quercifolia (L.)		+			+	+						+	+				+		1/VI-1/VII
Odonestis pruni (L.)	+		+	+	+	+	+			+						+			1/VI-1/VIII
Endromididae																			
Endromis versicolora (L.)	+	+		+	+	+	+	+		+						+	+		3/III-1/V
Saturniidae																			
Aglia tau (L.)		+					+							+			+		3/IV-2/V
Saturnia pavonia (L.)				+															3/IV-1/V
Sphingidae																			
Mimas tiliae (L.)	+	+		+	+	+	+	+		+						+	+		3/IV-2/VI
Smerinthus ocellata (L.)	+		+	+	+			+		+					+	+	+		1/V-1/VIII
Laothoe populi (L.)	+	+		+	+		+	+		+					+	+	+		1/V-2/VIII
Agrius convolvuli (L.)					+		+									+			2/IX-1/X

·	1	2	3	4	5	6	7	8	9	10	··	11	12	13	14	15	16	···	····
Sphinx ligustri L.	+	+	+						+	+			+		+		+		1/VI-3/VII
Hyloicus pinastri (L.)	+	+		+	+	+	+	+	+	+			+	+		+	+		3/IV-3/VIII
Macroglossum stellatarum (L.)							+				24-II						+		2/VII-3/VIII
Proserpinus proserpina (Pall.)			+																L- 3/VI-2/VII
Hyles euphorbiae (L.)		+										+	+	+					2/VI-1/VII
Hyles gallii (Rott.)													+			+	+		3/V-3/VI; 3/VIII
Deilephila elpenor (L.)	+	+	+	+		+	+	+	+	+		+	+		+	+	+		3/V-2/VII
Deilephila porcellus (L.)		+	+				+					+	+	+			+		2/V-1/VII
Drepanidae																			
Thyatira batis (L.)	+	+		+	+	+	+	+		+			+	+	+	+	+		1/V-3/VI; 1/VII-1/IX
Habrosyne pyritoides (Hufn.)	+	+		+	+	+	+	+	+	+		+	+		+	+	+		2/V-2/VII; 2/VIII-2/IX
Tethea or (Den. et Schiff.)	+	+	+		+	+	+	+	+	+				+	+	+	+		3/IV-3/VI; 1/VII-2/VIII
Tetheella fluctuosa (Hbn.)	+	+		+		+	+	+	+	+			+			+	+		3/V-3/VII
Ochropacha duplaris (L.)	+	+		+		+	+	+		+			+			+	+		1/V-3/VI; 1/VII-2/VIII
Polyploca ridens (F.)	+	+								+			n			+	+		2/IV-3/IV
Achlya flavicornis (L.)	+	+				+	+	+		+						+	+		3/III-2/IV
Falcaria lacertinaria (L.)	+	+		+	+	+	+	+	+	+			+			+	+		2/IV-3/V; 2/VII-3/VIII
Watsonalla binaria (Hufn.)	+	+			+			+	+	+			+	+		+	+		3/IV-3/V; 1/VII-1/IX
Watsonalla cultraria (F.)		+						+	+	+			+		+	+	+		3/IV-2/VI; 2/VII-1/IX
Drepana curvatula (Borkh.)	+	+	+	+		+	+	+	+	+			+			+	+		3/IV-1/VI; 1/VII-3/VIII
Drepana falcataria (L.)	+	+	+	+	+	+	+	+	+	+			+	+	+	+	+		3/IV-2/VI; 3/VI-3/VIII
Sabra harpagula (Esp.)	+							+		+					+	+	+		3/IV-1/VI; 1/VII-3/VIII
Cilix glaucata (Scop.)												+	+	+			+		2/V-3/V; 1/VII-3/VIII
Geometridae																			
Archiearis parthenias (L.)	+																	25	3/III-3/IV
Archiearis notha (Hbn.)	+																		1/III-2/IV
Calospilos sylvata (Scop.)	+	+		+	+	+	+	+	+	+					+	+	+		1/VI-3/VII
Lomaspilis marginata (L.)	+	+	+	+	+	+	+	+		+		+	+	+	+	+	+		3/IV-3/VI; 2/VII-3/VIII
Ligdia adustata (Den. et Schiff.)	+	+	+	+	+	+	+	+		+			+	+	+	+	+		3/IV-1/VII; 2/VII-3/VIII
Stegania cararia (Hbn.)	+			+						+									3/V-2/VII
Heliomata glarearia (Den. et Schiff.)														+			+		1/VI-3/VI; 2/VII-1/VIII
Macaria notata (L.)	+	+		+	+	+	+	+		+			+	+	+	+	+		3/IV-3/VI; 2/VII-1/IX
Macaria alternata (Den. et Schiff.)	+	+	+	+	+	+	+	+		+		+	+	+	+	+	+		1/V-3/VI; 2/VII-2/VIII
Macaria signaria (Hbn.)	+	+		+		+	+	+		+							+		3/V-1/VII
Macaria liturata (Cl.)	+	+	+	+	+	+	+	+	+	+		+	+	+		+	+		2/V-2/VII; 3/VII-1/IX
Macaria wauaria (L.)		+		+			+	+	+	+					+	+	+		1/VI-1/VII
Chiasmia clathrata (L.)	+	+	+	+	+	+	+	+	+			+	+	+	+	+	+		3/IV-3/VI; 1/VII-3/VIII
Itame brunneata (Thnbg.)	+	+	+	+	+	+	+	+	+	+			+	+	+		+		1/VI-1/VII
Cepphis advenaria (Hbn.)	+	+	+	+	+	+	+	+	+	+		+		+		+	+		2/V-2/VII
Petrophora chlorosata (Scop.)	+	+	+		+	+	+	+		+						+	+		1/V-2/VI

·	1	2	3	4	5	6	7	8	9	10	··	11	12	13	14	15	16	···	····
Plagodis pulveraria (L.)	+	+					+	+								+	+		2/V-1/VI
Plagodis dolabraria (L.)	+	+		+		+	+	+		+			+		+	+	+		1/V-1/VIII
Opisthograptis luteolata (L.)								+				+				+	+		3/V-2/VI
Epione repandaria (Hufn.)	+	+	+			+	+					+				+	+		2/VI-3/VII; 3/VIII
Apeira syringaria (L.)	+				+					+			+				+		2/VI-3/VI; 3/VIII
Ennomos autumnaria (Wernb.)	+			+	+		+	+	+	+			+		+	+	+		2/VIII-2/X
Ennomos quercinaria (Hufn.)										+									1/IX
Ennomos alniaria (L.)	+					+	+	+		+			+						3/VII-3/VIII
Ennomos fuscantaria (Haw.)				+												+	+		2/VIII-1/X
Ennomos erosaria (Den. et Schiff.)	+	+		+		+	+	+	+	+						+	+	28	2/VI-2/X
Selenia dentaria (F.)	+	+				+	+	+	+	+			+		+	+	+		2/IV-3/V; 3/VI-3/VIII
Selenia tetralunaria (Hufn.)	+	+		+	+	+	+	+	+	+			+		+	+	+		1/IV-2/V; 1/VII-1/VIII
Odontopera bidentata (Cl.)	+			+	+	+	+	+		+			n				+		1/V-3/V
Crocalis elinguaria (L.)						+	+	+		+							+		1/VII-2/VII
Ourapteryx sambucaria (L.)					+						21, 24-II		+		+				2/VI-1/VII
Colotois pennaria (L.)	+			+			+	+	+	+						+	+		1/IX-3/X
Angerona prunaria (L.)	+	+		+	+	+	+	+	+	+		+	+		+	+	+		3/V-3/VII; 1/IX
Apocheima hispidaria (Den. et Schiff.)	+						+	+		+						+		25	1/III-1/IV
Apocheima pilosaria (Den. et Schiff.)										+						+			1/III-2/III
Lycia hirtaria (Cl.)	+	+		+	+		+	+		+			+		+	+	+		3/III-1/V
Biston strataria (Hufn.)	+	+			+	+	+	+		+			+			+	+		3/III-3/IV
Biston betularia (L.)	+	+	+	+		+	+	+	+	+			+		+	+	+		2/V-2/VIII
Agriopis leucophaearia (Den. et Schiff.)	+			+						+						+			1/III-2/III
Agriopis aurantiaria (Hbn.)							+	+	+	+						+	+		2/X-1/XI
Agriopis marginaria (F.)	+	+		+				+		+			+				+		3/III-2/IV
Erannis defoliaria (Cl.)										+								27	2/IX-1/XI
Peribatodes rhomboidaria (Den. et Schiff.)						+					22		n	+		+	+		2/VII-3/VIII
Peribatodes secundaria (Den. et Schiff.)	+					+		+		+			n				+		2/VII-2/VIII
Cleora cinctaria (Den. et Schiff.)		+				+	+	+					+			+	+		2/IV-3/V
Deileptenia ribeata (Cl.)	+	+				+	+	+	+	+						+			2/VI-1/VIII
Alcis repandata (L.)	+	+		+	+	+	+	+	+	+		+	+	+		+	+		1/VI-2/VII; 2/IX
Arichanna melanaria (L.)						+	+				22								2/VI-2/VII
Hypomecis roboraria (Den. et Schiff.)	+	+		+		+	+	+	+	+					+	+	+		3/V-2/VII; 3/VIII-1/IX
Hypomecis punctinalis (Scop.)	+	+	+	+	+	+	+	+	+	+			+		+	+	+		1/V-2/VII; 3/VIII
Ascotis selenaria (Den. et Schiff.)									+	+	20								3/VI-3/VII
Ectropis crepuscularia (Den. et Schiff.)	+	+		+		+	+	+		+			+		+	+	+		3/III-3/V; 2/VI-1/IX
Paradarisa consonaria (Hbn.)	+	+						+									+		2/IV-2/V
Parectropis similaria (Hufn.)	+	+		+		+	+	+		+			+		+	+	+		2/V-3/VI
Aethalura punctulata (Den. et Schiff.)	+	+				+	+	+		+					+	+	+		3/IV-1/VI
Ematurga atomaria (L.)	+	+	+			+	+	+	+				+	+		+	+		3/V; 2/VI-1/VIII
Bupalus piniaria (L.)	+	+	+		+	+	+	+	+	+				+		+	+		3/V-2/VII
Cabera pusaria (L.)	+	+	+	+	+	+	+	+	+	+			+	+	+	+	+		1/V-3/VIII
Cabera exanthemata (Scop.)	+	+		+	+		+	+	+	+			+		+	+	+		1/V-3/VIII
Lomographa bimaculata (F.)	+	+		+		+	+	+	+	+			n		+	+	+		3/IV-3/VI

•	1	2	3	4	5	6	7	8	9	10	••	11	12	13	14	15	16	•••	••••
Lomographa temerata (Den. et Schiff.)	+	+		+	+	+	+	+		+		+	+		+	+	+		3/IV-2/VII; 3/VII-2/VIII
Theria rupicapraria (Den. et Schiff.)													+				+		2/III-3/III
Campaea margaritata (L.)	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+		2/V-3/VI; 1/VIII-2/X
Hylaea fasciaria (L.)		+				+	+	+	+	+							+		1/VI-1/IX
Charissa obscurata (Den. et Schiff.)						+							+	+					3/VII-3/VIII
Charissa ambiguata (Dup.)						+	+	+	+		21								2/VI-1/VII; 3/IX
Siona lineata (Scop.)		+						+				+	n	+	+	+	+		3/V-2/VII
Alsophila aescularia (Den. et Schiff.)	+			+				+		+			n			+	+		1/III-1/IV
Alsophila aceraria (Den. et Schiff.)	+																		1/XI-2/XI
Pseudoterpna pruinata (Hufn.)	+	+				+	+		+					+					1/VI-3/VIII
Geometra papilionaria (L.)	+	+		+	+	+	+	+	+	+		+	+			+	+		2/VI-3/VIII
Comibaena bajularia (Den. et Schiff.)	+	+	+	+			+	+	+	+					+	+	+		3/V-3/VII
Hemithea aestivaria (Hbn.)	+	+		+	+	+	+	+	+	+		+	+	+		+	+		1/VI-3/VII
Thalera fimbrialis (Scop.)					+								+	+			+		3/VI-1/VIII
Jodis lactearia (L.)	+	+				+		+											2/V-2/VI
Jodis putata (L.)		+				+	+	+								+			2/V-1/VII
Cyclophora annularia (F.)	+						+			+							+		1/V; 2/VII-1/VIII
Cyclophora albipunctata (Hufn.)	+	+	+	+	+	+	+	+	+	+			+	+	+	+	+		3/IV-2/VI; 1/VII-2/IX
Cyclophora porata (L.)		+														+			1/V-3/V; 3/VII-3/VIII
Cyclophora quercimontaria (Bastelb.)		+					+												2/V-3/V; 1/VII-2/VII
Cyclophora punctaria (L.)	+	+		+	+		+	+	+	+			+	+	+	+	+		3/IV-3/VI; 1/VII-1/IX
Cyclophora linearia (Hbn.)	+	+				+	+	+	+	+			+		+	+	+		3/IV-2/VI; 1/VII-1/IX
Timandra comae A. Schmidt	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+		1/V-3/VI; 1/VII-3/IX; 2/X
Scopula immorata (L.)		+	+	+	+	+	+	+	+			+	+	+	+	+	+		2/V-1/VII; 2/VII-3/VIII
Scopula nemoraria (Hbn.)	+	+																	3/V-2/VI
Scopula nigropunctata (Hufn.)	+	+		+	+	+	+	+	+	+			+	+	+	+	+		3/V-3/VII; 2/VIII-1/IX
Scopula virgulata (Den. et Schiff.)		+		+			+					+	+	+		+			1/VI-3/VI; 2/VIII-3/VIII
Scopula ornata (Scop.)	+			+	+		+	+				+	+	+			+		1/V-3/VII; 1/VIII-1/IX
Scopula rubiginata (Hufn.)	+	+	+		+	+						+	+	+		+	+		3/V-1/VI; 2/VII-2/IX
Scopula marginepunctata (Goeze)											24-I		+	+			+		3/V-2/VI; 2/VII-1/IX
Scopula immutata (L.)	+	+	+	+	+	+	+	+				+	n	+	+	+	+		2/V-1/IX
Scopula ternata Schr.						+	+	+											2/V-3/VI
Scopula floslactata (Haw.)		+		+	+	+	+	+								+	+		2/V-3/VII
Idaea serpentata (Hufn.)		+										+	+	+					1/VII-2/VIII
Idaea muricata (Hufn.)	+	+	+		+	+	+	+	+					+		+	+		2/VI-3/VII
Idaea sylvestraria (Hbn.)		+		+	+	+	+	+	+				n				+	28	3/VI-3/VIII
Idaea biselata (Hufn.)	+	+		+	+	+	+	+		+			+	+	+	+	+		2/VI-2/IX
Idaea inquinata (Scop.)							+												3/VI-1/VII
Idaea fuscovenosa (Goeze)											20							28	2/VI-2/VII
Idaea humiliata (Hufn.)	+	+									21		+	+			+	28	2/VI-3/VII
Idaea seriata (Schr.)					+		+												3/V; 3/VII-3/VIII
Idaea dimidiata (Hufn.)	+			+	+		+	+						+	+	+	+		3/VI-3/VIII
Idaea emarginata (L.)	+	+				+	+	+								+	+	28	3/VI-3/VII
Idaea aversata (L.)	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+		2/V-2/VII; 3/VII-2/IX; 1/X

*	1	2	3	4	5	6	7	8	9	10	**	11	12	13	14	15	16	***	****
Idaea straminata (Borkh.)	+	+					+	+	+	+			+	+					2/VI-2/VII
Idaea deversaria (H.-S.)					+	+	+	+	+	+									2/VI-3/VII
Rhodostrophia vibicaria (Cl.)				+		+					21								2/VI-1/VII
Lythria cruentaria (Hufn.)		+																28	2/V-2/VI; 2/VIII
Scotopteryx bipunctaria (Den. et Schiff.)												+	+	+					2/VII-1/VIII
Scotopteryx chenopodiata (L.)		+	+		+			+		+		+	+	+	+	+	+		1/VII-2/VIII
Scotopteryx luridata (Hufn.)		+					+	+		+							+		3/VI-1/VII
Orthonama vittata (Borkh.)	+	+		+		+	+	+								+			3/V-3/VI; 1/VIII-3/VIII
Orthonama obstipata (F.)																+	+		1/V; 3/VII-3/VIII
Xanthorhoe biriviata (Borkh.)	+			+			+	+		+						+	+		1/IV-2/VI; 3/VI-3/VII
Xanthorhoe designata (Hufn.)	+	+		+		+	+	+								+	+		1/V-1/VI; 2/VII-3/IX
Xanthorhoe spadicearia (Den. et Schiff.)	+	+	+	+	+	+	+	+		+		+	+		+	+	+		3/IV-1/VI; 1/VII-1/IX; 3/X
Xanthorhoe ferrugata (Cl.)	+	+	+	+	+	+	+	+	+	+			+	+	+	+	+		3/IV-1/VI; 3/VI-1/IX
Xanthorhoe quadrifasciata (Cl.)	+	+		+	+	+	+	+	+	+			+	+		+	+		3/V-2/VIII
Xanthorhoe montanata (Den. et Schiff.)	+	+		+		+		+							+		+		3/V-2/VI
Xanthorhoe fluctuata (L.)	+	+				+		+		+		+	+	+	+	+	+		3/IV-2/V; 2/VII-2/VIII
Catarhoe rubidata (Den. et Schiff.)												+							1/VI
Catarhoe cuculata (Hufn.)	+	+	+				+	+	+			+	+	+		+	+		2/V-2/VII; 3/VII-1/IX
Epirrhoe tristata (L.)	+	+	+	+			+	+				+	+	+	+	+	+		3/V-3/VI; 1/VII-2/VIII; 2/IX
Epirrhoe alternata (Müll.)	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+		3/IV-3/VI; 2/VII-2/IX; 1/X
Epirrhoe rivata (Hbn.)		+		+													+		2/VI-2/VII
Epirrhoe galiata (Den. et Schiff.)														+					2/VI; 2/VII-3/VIII
Camptogramma bilineata (L.)	+	+	+		+	+	+	+	+	+		+	+	+		+	+		1/VI-2/VII; 3/VII-3/VIII
Anticlea badiata (Den. et Schiff.)													+						3/III-3/IV
Mesoleuca albicillata (L.)	+	+				+	+	+		+			+			+	+		1/V-1/IX
Pelurga comitata (L.)		+		+										+		+			3/VII-2/VIII
Lampropteryx suffumata (Den. et Schiff.)	+										17						+		3/IV-2/V
Cosmorhoe ocellata (L.)	+	+	+	+	+		+	+				+	+	+		+	+		3/VI-1/VII; 2/VII-1/IX
Eulithis prunata (L.)											20		n		+	+	+		3/VI-1/VIII
Eulithis testata (L.)	+	+																	2/VII-3/VIII
Eulithis populata (L.)	+					+	+	+											1/VI-1/VII
Eulithis mellinata (F.)	+	+				+								+			+		1/VI-3/VI
Eulithis pyraliata (Den. et Schiff.)		+						+		+		+	n		+	+	+		3/V-3/VII
Ecliptopera silaceata (Den. et Schiff.)	+	+	+	+		+	+	+		+			n	+	+	+	+		3/IV-2/VI; 3/VI-1/IX
Ecliptopera capitata (H.-S.)	+	+		+												+	+		3/V-1/VII; 3/VII-1/VIII
Chloroclysta siterata (Hufn.)	+	+		+	+	+	+	+	+	+						+	+		3/VIII-3/X – W - 3/IV- 3/V
Chloroclysta citrata (L.)						+		+					+						3/VIII-1/X
Chloroclysta truncata (Hufn.)	+	+		+		+	+	+		+			+		+	+	+		3/V-2/VII; 3/VII-2/X
Cidaria fulvata (Forster)													+		+		+		3/VI-3/VII
Plemyria rubiginata (Den. et Schiff.)	+					+	+	+					+		+	+			2/VI-2/VII
Pennithera firmata (Hbn.)									+										2/IX
Thera obeliscata (Hbn.)	+	+	+	+	+	+	+	+	+	+		+	+	+		+	+		1/V-3/VI; 1/VIII-3/IX; 2/X
Thera variata (Den. et Schiff.)							+	+											3/V-1/VI
Thera juniperata (L.)									+	+						+	+	27	2/IX-1/XI

·	1	2	3	4	5	6	7	8	9	10	..	11	12	13	14	15	16	...	....
Electrophaes corylata (Thnbg.)	+	+					+	+		+			n	+		+	+		1/V-1/VII
Colostygia pectinataria (Knoch)	+	+		+		+	+	+				+	+	+	+	+	+		2/V-2/VII; 2/VIII-1/IX
Hydriomena furcata (Thnbg.)				+			+				23		+		+	+	+		3/VI-1/VII
Hydriomena impluviata (Den. et Schiff.)	+	+	+	+		+	+	+		+					+	+			2/V-2/VII
Horisme corticata (Treit.)														+			+		2/VII-3/VIII
Horisme tersata (Den. et Schiff.)																	+		1/VII-2/VII
Melanthia procellata (Den. et Schiff.)	+	+									20	+					+		1/V-2/VI; 2/VII-2/VIII
Rheumaptera cervinalis (Scop.)	+	+											n			+	+		3/IV-3/V
Rheumaptera undulata (L.)		+				+	+	+								+			2/VI-2/VII
Triphosa dubitata (L.)											24-I							25	W–2/IV
Philereme vetulata (Den. et Schiff.)	+	+									20	+	+	+	+	+	+		1/VI-2/VII
Philereme transversata (Hufn.)	+												+	+			+	28	3/VI-3/VII
Euphyia biangulata (Haw.)							+	+											3/VII-1/VIII
Euphyia unangulata (Haw.)	+	+		+	+	+	+	+	+	+		+	+		+	+	+		3/IV-3/VI; 1/VII-3/VIII
Epirrita dilutata (Den. et Schiff.)	+			+	+		+	+	+	+						+	+		2/IX-3/X
Epirrita christyi (Allen)							+	+		+							+	27	1/IX-2/X
Epirrita autumnata (Borkh.)							+	+	+	+						+			1/X-3/X
Operophtera brumata (L.)	+						+										+		2/X-1/XI
Operophtera fagata (Scharf.)	+				+		+			+							+		1/XI-2/XI
Perizoma alchemillata (L.)	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+		1/VI-3/VIII
Perizoma lugdunaria (H.-S.)															+				3/VII
Perizoma blandiata (Den et Schiff.)													+				+		3/VII-1/VIII
Perizoma albulata (Den et Schiff.)			+																1/VI-3/VI
Perizoma flavofasciata (Thnbg.)		+				+	+	+		+		+	+			+	+		1/VI-2/VII; 3/VII-1/VIII
Perizoma sagittata (F.)			+																3/VI-2/VII
Eupithecia tenuiata (Hbn.)			+					+		+							+		1/VI-2/VII
Eupithecia haworthiata Doubl.														+			+		1/VI-3/VI
Eupithecia plumbeolata (Haw.)		+					+	+											2/VI-1/VII
Eupithecia abietaria (Goeze)						+	+	+											1/VII-2/VII
Eupithecia linariata (Den et Schiff.)		+			+		+						+	+					1/VI-1/VII; 3/VIII
Eupithecia exiguata (Hbn.)	+	+				+	+	+		+			+				+		1/V-1/VI
Eupithecia pygmaeata (Hbn.)											19								3/V
Eupithecia venosata (F.)						+		+					+						3/VI-2/VII
Eupithecia egenaria H.-S.										+	24-I					+			2/V-2/VI
Eupithecia extraversaria H.-S.		+					+						n						2/VI-1/VII
Eupithecia centaureata (Den. et Schiff.)	+	+	+		+		+	+				+	+	+		+	+		2/V-2/VI; 2/VII-3/VIII
Eupithecia selinata H.-S.	+	+		+		+	+	+		+						+	+		3/V-3/VI; 1/VIII
Eupithecia trisignaria H.-S.	+	+	+			+												27	3/VI-2/VIII
Eupithecia intricata (Zett.)	+	+						+									+		2/V-2/VI
Eupithecia satyrata (Hbn.)	+	+	+	+	+	+	+	+	+	+		+	+			+	+		2/V-1/VII
Eupithecia absinthiata (Cl.)		+				+					22, 24-I	+				+	+	27	1/VII-2/VIII
Eupithecia goossensiata Mab.														+					3/VII
Eupithecia assimilata (Doubl.)	+					+	+	+		+						+	+		2/V-3/VI; 1/VII-3/VIII
Eupithecia vulgata (Haw.)						+	+	+					+						3/V-1/VI

•	1	2	3	4	5	6	7	8	9	10	••	11	12	13	14	15	16	•••	••••
Eupithecia tripunctaria H.-S.		+		+									+			+	+		1/V-3/V; 2/VII-1/VIII
Eupithecia subfuscata (Haw.)	+	+	+	+		+	+	+		+		+	+	+		+	+		2/V-1/VII; 1/VIII
Eupithecia icterata (Vill.)	+	+			+	+	+	+	+				+	+		+	+		2/VI-3/VIII
Eupithecia succenturiata (L.)		+	+		+	+	+	+		+		+	+	+	+	+	+		1/VI-2/VIII
Eupithecia subumbrata (Den. et Schiff.)	+	+	+	+	+	+	+	+	+			+	+			+	+		3/V-3/VII
Eupithecia millefoliata Rössl.		+		+	+	+	+					+	+	+		+	+		1/VII-2/VIII
Eupithecia sinuosaria (Ev.)							+				24-I		+						3/VI-2/VII
Eupithecia indigata (Hbn.)	+	+				+		+		+							+		3/IV-2/V
Eupithecia pimpinellata (Hbn.)						+							+			+	+	28	3/VII-3/VIII
Eupithecia nanata (Hbn.)						+											+		2/V; 1/VIII
Eupithecia innotata (Hufn.)		+				+	+						+				+	28	1/V-3/V; 2/VIII
Eupithecia ochridata Schütze et Pinker					+		+				24-I					+	+		3/IV-2/V; 1/VII-2/VIII
Eupithecia virgaureata Doubl.	+	+	+			+	+	+		+			n			+	+		3/IV-3/V; 3/VII-3/VIII
Eupithecia abbreviata Steph.	+	+		+			+			+			n			+	+		2/IV-2/V
Eupithecia dodoneata Guenée		+								+									1/V-3/V
Eupithecia pusillata (Den. et Schiff.)							+						+				+		3/VIII-3/IX
Eupithecia lanceata (Hbn.)	+	+					+	+		+									2/IV-1/V
Eupithecia lariciata (Frr.)	+	+		+		+	+	+					+			+	+		2/V-3/VII
Eupithecia tantillaria Bsd.	+	+					+	+		+						+	+		3/IV-3/V
Gymnoscelis rufifasciata (Haw.)		+				+							n	+				28	3/VII-2/VIII
Chloroclystis v-ata (Haw.)	+	+	+	+		+	+	+	+	+				+	+	+	+		3/IV-3/V; 3/VI-1/VIII
Rhinoprora rectangulata (L.)	+	+			+	+	+	+		+		+	+	+	+	+	+		1/VI-3/VII
Rhinoprora chloerata (Mab.)							+					+					+		3/V-1/VII
Rhinoprora debiliata (Hbn.)		+			+	+	+	+	+	+			+			+	+		2/VI-2/VII
Anticollix sparsata (Treit.)	+	+	+			+	+	+		+									2/V-3/VI; 2/VII-3/VIII
Chesias legatella (Den. et Schiff.)	+									+						+	+		1/X-2/X
Aplocera plagiata (L.)	+		+		+	+			+				+			+	+		2/V-1/VI; 1/VIII-2/IX
Euchoeca nebulata (Scop.)	+	+	+	+	+	+	+	+		+						+			1/V-3/VI; 1/VII-2/VIII
Asthena albulata (Hufn.)							+	+			20					+	+	27	3/V-1/VII
Asthena anseraria (H.-S.)	+										20						+		2/VI-1/VII; 1/VIII-2/VIII
Hydrelia flammeolaria (Hufn.)	+	+	+	+	+	+	+	+	+	+				+	+	+	+		3/V-3/VII
Hydrelia sylvata (Den. et Schiff.)	+	+				+		+								+	+		1/VI-3/VIII
Minoa murinata (Scop.)	+	+					+	+					+				+		3/V-3/VI; 2/VII-2/VIII
Lobophora halterata (Hufn.)	+	+		+	+		+	+		+						+	+		1/IV-3/V
Trichopteryx carpinata (Borkh.)	+	+					+	+		+							+		3/III-2/IV
Pterapherapteryx sexalata (Retz.)			+			+	+	+											1/VI-2/VII
Acasis viretata (Hbn.)	+	+						+					+	+	+		+		3/IV-2/V; 3/VI-3/VII
Notodontidae																			
Clostera curtula (L.)	+	+				+	+	+					+	+	+	+	+		3/IV-2/V; 3/VI-3/VII
Clostera anachoreta (Den. et Schiff.)	+	+																	1/V-2/V; 3/VI-2/VII
Clostera anastomosis (L.)	+	+	+		+	+	+	+	+	+		+				+	+		3/V-3/VI; 1/VII-3/VIII
Clostera pigra (Hufn.)	+	+			+		+	+		+						+	+		1/V-3/VI; 1/VII-2/VIII

.	1	2	3	4	5	6	7	8	9	10	..	11	12	13	14	15	16	...	....
Cerura erminea (Esp.)	+						+		+								+		1/VI-2/VI
Furcula furcula (Cl.)						+		+								+			1/V-1/VII
Furcula bicuspis (Borkh.)	+	+		+		+		+	+	+			+			+	+		3/IV-1/VIII
Furcula bifida (Brahm)	+															+			3/IV-2/V
Notodonta dromedarius (L.)	+	+		+	+	+	+	+	+	+			+		+	+	+		1/V-2/V; 2/VII-3/VIII
Notodonta torva (Hbn.)	+	+				+	+	+								+			3/IV-3/VI; 1/VII-2/VIII
Notodonta tritophus (Den. et Schiff.)	+												+						3/VI; 1/VII-2/VIII
Notodonta ziczac (L.)	+								+			+				+	+		1/V-2/V; 2/VII-1/VIII
Drymonia dodonaea (Den. et Schiff.)	+	+		+		+	+	+		+					+	+	+		1/V-2/VI
Drymonia ruficornis (Hufn.)	+	+		+	+	+	+	+		+						+	+		2/IV-2/V
Pheosia tremula (Cl.)	+	+	+	+		+	+	+	+	+			+			+	+		3/IV-2/VI; 1/VII-3/VIII
Pheosia gnoma (F.)	+			+	+		+	+	+	+			+		+	+	+		3/IV-2/VI; 2/VII-3/VIII
Pterostoma palpina (Cl.)	+						+	+		+		+		+		+	+		2/IV-2/VI; 3/VII-2/VIII
Ptilophora plumigera (Den. et Schiff.)										+									3/X
Leucodonta bicoloria (Den. et Schiff.)	+	+				+	+	+	+	+							+	27	3/IV-2/VI
Ptilodon capucina (L.)	+			+	+	+	+	+	+	+			+		+	+	+		3/IV-3/VI; 2/VII-2/VIII
Ptilodon cucullina (Den et Schiff.)	+							+	+			+	n	+			+		1/VI-1/VII; 3/VII-1/VIII
Odontosia carmelita (Esp.)	+	+		+	+		+	+								+	+		2/IV-1/V
Gluphisia crenata (Esp.)	+	+		+	+		+								+	+	+		3/IV-1/VIII
Phalera bucephala (L.)	+	+		+	+	+	+	+	+	+			+		+	+	+		1/V-3/VII
Peridea anceps (Goeze)	+	+		+		+	+	+		+						+	+		3/IV-2/V
Stauropus fagi (L.)	+	+		+	+	+	+	+	+	+			+			+	+		3/IV-2/VI; 3/VI-3/VII
Harpyia milhauseri (Fabr.)	+	+								+	17					+			1/V-1/VI
Noctuidae																			
Moma alpium (Osbeck)	+	+					+	+	+	+							+	26	2/V-3/VI; 3/VIII
Acronicta alni (L.)	+	+					+			+						+	+		1/V-2/VI; 2/VII-2/VIII
Acronicta cuspis (Hbn.)	+									+									2/VI
Acronicta tridens (Den. et Schiff.)				+				+						+					2/V; 1/VIII-2/VIII
Acronicta psi (L.)		+			+			+					+				+		3/V; 1/VIII
Acronicta aceris (L.)									+										1/VII
Acronicta leporina (L.)	+	+		+		+	+	+	+	+						+			1/V-3/V; 1/VII-3/VII
Acronicta megacephala (Den. et Schiff.)	+		+	+	+	+	+			+				+	+	+	+		3/IV-3/V; 1/VIII
Acronicta strigosa (Den. et Schiff.)	+																		2/VI; 2/VII
Acronicta auricoma (Den. et Schiff.)	+	+		+		+	+	+				+	+	+		+	+		3/IV-2/VI; 2/VII-2/VIII; 2/X
Acronicta cinerea (Hufn.)						+													1/VI
Acronicta rumicis (L.)	+	+	+	+	+	+	+	+	+	+			+	+	+	+	+		3/IV-1/VI; 1/VII-3/VIII
Craniophora ligustri (Den. et Schiff.)	+	+		+				+		+			+	+	+	+	+		3/IV-3/VI; 1/VII-2/X
Simyra albovenosa (Goeze)			+													+			3/VI-2/VII
Cryphia fraudatricula (Hbn.)		+																	1/VII
Cryphia algae (F.)		+							+	+			+						3/VII-3/VIII
Trisateles emortualis (Den. et Schiff.)	+	+		+		+	+	+	+	+			+			+	+		3/V-1/IX
Paracolax tristalis (F.)		+						+	+	+									2/VII-1/VIII

•	1	2	3	4	5	6	7	8	9	10	••	11	12	13	14	15	16	•••	••••
Macrochilo cribrumalis (Hbn.)					+		+	+				+				+			3/VI-1/VII
Herminia tarsicrinalis (Knoch)	+	+		+	+	+	+	+		+		+				+	+		3/V-2/VIII
Herminia grisealis (Den. et Schiff.)	+	+			+		+	+		+			n	+	+	+	+		1/V-3/VI; 2/VII-3/VIII
Polypogon tentacularia (L.)		+							+			+		+			+		3/V-3/VII
Pechipogo strigillata (L.)	+	+		+	+	+	+	+		+			+			+	+		1/V-3/VII
Zanclognatha tarsipennalis Treit.	+	+		+	+	+	+	+		+					+	+	+		3/V-3/VIII
Hypenodes humidalis Doubl.											22								2/VIII
Catocala fraxini (L.)	+			+						+						+	+		1/VIII-1/X
Catocala sponsa (L.)		+																26	2/VII-1/IX
Catocala nupta (L.)					+	+									+			28	2/VIII-2/IX
Catocala promissa (Den. et Schiff.)		+								+									3/VII-1/VIII
Catocala fulminea (Scop.)									+										2/VIII
Minucia lunaris (Den. et Schiff.)		+						+		+							+		3/IV-3/V
Lygephila pastinum (Treit.)	+		+				+	+		+		+		+		+	+		2/VI-3/VII
Lygephila viciae (Hbn.)																	+		3/V-1/VII
Tyta luctuosa (Den. et Schiff.)												+	+	+			+		1/V-1/VI; 3/VII-1/VIII
Callistege mi (Cl.)			+										+						3/IV-2/VI
Euclidia glyphica (L.)		+											+	+					3/V-2/VI
Laspeyria flexula (Den. et Schiff.)	+	+	+		+	+	+	+	+	+		+	+			+	+		1/VI-1/IX
Scoliopteryx libatrix (L.)	+	+											+			+	+		2/VI-3/VII-W-3V
Hypena proboscidalis (L.)	+	+	+	+	+	+	+	+		+			+	+	+	+	+		2/V-3/VI; 2/VII-1/X
Hypena rostralis (L.)											24-II		+					25	3/VIII–2/X-W
Hypena crassalis (F.)	+	+		+	+	+	+	+	+	+							+	28	3/V-1/VIII
Phytometra viridaria (Clerck)													+				+		1/VII-3/VIII
Rivula sericealis (Scop.)	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+		1/V-2/VI; 1/VII-2/X
Parascotia fuliginaria (L.)							+				21								2/VI-3/VI
Colobochyla salicalis (Den. et Schiff.)	+	+	+		+		+	+								+	+	28	2/V-3/VI; 3/VII
Lamprotes c-aureum (Knoch)	+																		3/VII
Diachrysia chrysitis (L.)	+	+	+	+	+		+	+	+	+			+		+	+	+		2/V-2/X
Macdunnoughia confusa (Steph.)	+	+	+				+	+	+	+		+	+	+	+	+	+		1/V-2/X
Plusia festucae (L.)		+	+					+					+	+		+	+		1/VI-2/VI; 1/VII-3/VIII
Autographa gamma (L.)	+	+	+		+	+	+	+	+	+		+	+	+	+	+	+		2/V-3/IX
Autographa pulchrina (Haw.)	+	+		+		+	+	+	+	+					+	+	+		3/V-3/VI
Autographa bractea (Den. et Schiff.)							+	+									+		1/VII
Abrostola tripartita (Hufn.)	+						+	+		+			+	+		+	+		1/VI-3/VI; 1/VIII-1/IX
Abrostola asclepiadis (Den. et Schiff.)	+	+											+		+		+		1/VI-3/VI; 2/VII-3/VII
Abrostola triplasia (L.)				+				+			17		+			+	+		1/V-3/VI; 3/VII-2/VIII
Emmelia trabealis (Scop.)	+					+	+					+	+	+			+		2/VI-2/VII
Protodeltote pygarga (Hufn.)	+	+	+	+	+	+	+	+	+	+			+	+	+	+	+		2/V-2/IX
Deltote deceptoria (Scop.)				+				+									+		3/VI; 1/VIII
Deltote uncula (Cl.)		+				+	+				21, 23								2/V-1/VII; 3/VII-3/VIII
Deltote bankiana (F.)	+	+	+	+	+	+	+	+	+			+	+	+	+	+	+		2/V-1/VIII
Pseudeustrotia candidula (Den. et Schiff.)			+		+		+		+					+			+		3/V-3/VII
Cucullia fraudatrix Ev.														+		+			2/VII-3/VII

.	1	2	3	4	5	6	7	8	9	10	..	11	12	13	14	15	16	...	....
Cucullia absinthii (L.)											18								L- 2/IX
Cucullia artemisiae (Hufn.)											18			+					3/VII; L- 2/IX
Cucullia lactucae (Den. et Schiff.)										+									3/VI
Cucullia lucifuga (Den. et Schiff.)													+						2/V
Cucullia umbratica (L.)		+							+				+						3/VI-3/VII
Shargacucullia lychnitis (Ramb.)											23			+					1/VI; L-1/VII-1/VIII
Amphipyra pyramidea (L.)	+							+		+						+	+		2/VII-2/X
Amphipyra berbera Rungs										+							+		3/VII-2/X
Amphipyra livida (Den. et Schiff.)	+				+				+							+	+		1/IX-1/X
Amphipyra tragopoginis (Cl.)		+	+		+		+	+					+	+			+		2/VII-2/VIII
Asteroscopus sphinx (Hufn.)								+		+						+	+		3/IX-3/X
Brachionycha nubeculosa (Esp.)	+	+					+	+		+						+			3/III-1/IV
Diloba caeruleocephala (L.)	+							+					+				+		3/IX-3/X
Panemeria tenebrata (Scop.)		+																	2/V
Schinia scutosa (Den. et Schiff.)					+														2/VIII
Heliothis viriplaca (Hufn.)		+			+								+	+					1/VII; 3/VII
Helicoverpa armigera (Hbn.)	+										24-II	+	n			+	+		1/VIII-2/X
Pyrrhia umbra (Hufn.)					+	+				+		+	+	+			+		1/VI-1/VII; 2/VIII
Elaphria venustula (Hbn.)	+	+	+	+	+	+	+	+	+	+		+	+	+		+	+		2/V-1/VII
Caradrina morpheus (Hufn.)	+			+				+	+							+	+		2/VI-1/VII
Paradrina selini (Bsd.)										+									1/VII
Paradrina clavipalpis (Scop.)									+				+						3/VII-2/IX
Hoplodrina octogenaria (Goeze)	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+		2/VI-3/VIII
Hoplodrina blanda (Den. et Schiff.)		+		+								+	+	+		+	+		1/VII-1/VIII
Hoplodrina ambigua (Den. et Schiff.)												+	+			+	+		1/VI-2/VIII
Charanyca trigrammica (Hufn.)		+		+	+		+	+		+					+	+	+		1/V-1/VII
Atypha pulmonaris (Esp.)																	+		1/VII
Dypterygia scabriuscula (L.)	+						+	+		+						+	+		1/VI-1/VIII
Rusina ferruginea (Esp.)	+	+	+	+	+	+	+	+	+	+		+	+			+	+		3/V-1/VIII
Thalpophila matura (Hufn.)	+		+	+	+		+	+	+	+			+	+		+	+		3/VII-1/IX
Trachea atriplicis (L.)	+	+		+		+	+	+	+	+			+		+	+	+		2/VI-2/VII; 3/VIII
Euplexia lucipara (L.)	+	+			+		+	+		+			+		+	+	+		2/V-2/VII
Phlogophora meticulosa (L.)					+			+		+			+		+	+	+		3/V-1/VII; 2/VIII-3/IX
Hyppa rectilinea (Esp.)						+		+											2/V-1/VI
Actinotia polyodon (Clerck)			+										+			+			1/V-1/VI; 3/VII-1/VIII
Callopistria juventina (Stoll)	+	+		+		+	+	+	+	+						+	+	28	1/VI-1/VIII
Eucarta virgo (Treit.)	+	+	+	+	+	+	+	+	+	+	24-I	+	n	+	+	+	+		1/VI-3/VII; 1/VIII-2/X
Ipimorpha retusa (L.)	+			+						+				+		+	+		3/VII-2/VIII
Ipimorpha subtusa (Den. et Schiff.)	+	+	+				+			+			+	+	+	+	+		1/VII-2/VIII
Enargia paleacea (Esp.)	+					+	+	+	+	+			+			+	+		3/VI-3/VIII
Parastichtis suspecta (Hbn.)										+						+			1/VII-2/VII
Parastichtis ypsillon (Den. et Schiff.)			+				+												3/VI-1/VII
Cosmia pyralina (Den. et Schiff.)	+	+		+	+		+	+	+	+			+	+	+	+	+		2/VI-2/VIII
Cosmia trapezina (L.)	+	+		+		+	+	+	+	+			+	+	+	+	+		3/VI-3/VIII

·	1	2	3	4	5	6	7	8	9	10	··	11	12	13	14	15	16	·••	••••
Xanthia togata (Esp.)	+			+				+	+	+					+	+	+		2/IX-2/X
Xanthia icteritia (Hufn.)			+	+	+											+	+		2/VIII-1/X
Xanthia ocellaris (Borkh.)							+		+										3/VIII-3/IX
Xanthia citrago (L.)	+									+							+		2/IX-1/X
Agrochola lychnidis (Den. et Schiff.)								+					+		+	+	+		3/IX-3/X
Agrochola circellaris (Hufn.)					+		+	+	+	+			+			+	+		3/VIII-3/X
Agrochola lota (Cl.)	+															+			2/X-1/XI
Agrochola macilenta (Hbn.)							+	+	+	+						+	+		1/IX-3/X
Agrochola helvola (L.)	+	+		+	+	+	+	+	+				+			+	+		2/IX-3/X
Agrochola litura (L.)		+		+	+		+	+	+	+					+	+	+		1/IX-3/X
Eupsilia transversa (Hufn.)	+	+		+			+	+	+	+			+			+	+		2/IX-3/X – W - 3/III-3/IV
Conistra vaccinii (L.)	+	+		+			+	+	+	+			+		+	+	+		1/X-2/X – W - 3/III-2/V
Conistra rubiginosa (Scop.)									+										3/X-1/XI
Conistra rubiginea (Den. et Schiff.)	+			+	+		+	+	+	+			+				+		1/IV-1/V
Conistra erythrocephala (Den. et Schiff.)									+										2/X
Lithomoia solidaginis (Hbn.)							+	+		+									3/VIII-2/IX
Lithophane socia (Hufn.)	+	+					+	+	+	+			+			+	+		1/IX-2/IX – W - 1/IV-2/V
Lithophane ornitopus (Hufn.)	+	+						+	+	+						+			2/IX– 2/X - W – 1/IV-2/IV
Lithophane furcifera (Hufn.)	+			+			+	+	+	+						+			1/X-3/X – W – 3/III-2/IV
Xylena vetusta (Hbn.)				+												+			2/IX-3/IX – W – 1/IV-2/IV
Allophyes oxyacanthae (L.)	+			+			+		+	+			+			+	+		2/IX-3/X
Dichonia aprilina (L.)										+									1/X
Dichonia convergens (Den. et Schiff.)																	+		2/X
Dryobotodes eremita (F.)									+										2/IX-1/X
Ammoconia caecimacula (Den. et Schiff.)				+			+										+		2/IX-1/X
Blepharita satura (Den. et Schiff.)	+	+		+	+	+	+	+	+	+			+		+	+	+		2/VIII-2/X
Mniotype adusta (Esp.)								+											1/VI
Apamea monoglypha (Hufn.)	+	+	+	+	+	+	+	+	+			+	+	+		+	+		2/VI-2/VIII
Apamea lithoxylaea (Den. et Schiff.)				+		+	+		+							+	+		2/VI-1/VIII
Apamea sublustris (Esp.)				+				+	+	+		+	+	+			+		2/VI-1/VII
Apamea crenata (Hufn.)	+	+		+	+	+	+	+		+			+	+	+	+	+		1/V-3/VII
Apamea epomidion (Haw.)	+	+									21						+		3/V-1/VII
Apamea lateritia (Hufn.)							+						+		+	+			3/VI-1/VII
Apamea remissa (Hbn.)	+	+		+				+	+			+	+				+		3/V-2/VI
Apamea unanimis (Hbn.)			+					+											1/VI
Apamea anceps (Den. et Schiff.)			+		+	+						+	+	+		+	+		3/V-2/VII
Apamea sordens (Hufn.)				+				+				+		+		+	+		3/V-1/VII
Apamea scolopacina (Esp.)	+	+	+		+	+	+	+		+					+	+	+		3/VI-3/VII
Apamea ophiogramma (Esp.)			+	+			+			+			+		+	+	+		1/VII-1/VIII
Oligia strigilis (L.)	+	+	+	+	+		+	+		+		+	+	+	+	+	+		2/V-2/VIII
Oligia versicolor (Borkh.)		+		+			+	+		+						+	+	28	1/VI-2/VIII
Oligia latruncula (Den. et Schiff.)	+	+		+	+	+	+	+	+	+		+	+		+	+	+		3/V-2/VIII
Mesoligia furuncula (Den. et Schiff.)	+	+			+	+	+	+	+			+	+	+			+		3/VII-3/VIII
Mesapamea secalis (L.)	+		+				+		+	+			n	+		+	+		1/VII-1/VIII

·	1	2	3	4	5	6	7	8	9	10	··	11	12	13	14	15	16	···	····
Mesapamea didyma (Esp.)										+						+	+		1/VII-3/VII
Luperina testacea (Den. et Schiff.)	+						+	+				+	+	+			+		2/VIII-1/IX
Rhizedra lutosa (Hbn.)				+			+		+							+			3/VIII-1/X
Amphipoea oculea (L.)							+	+					+				+		2/VII-3/VIII
Amphipoea fucosa (Fr.)			+	+		+	+		+			+	n	+		+	+		3/VI-2/VIII
Hydraecia micacea (Esp.)	+			+	+		+	+	+						+	+	+		3/VI-1/X
Gortyna flavago (Den. et Schiff.)	+			+				+					+						3/VIII-1/IX
Celaena leucostigma (Hbn.)			+	+	+			+								+	+		1/VIII
Nonargia typhae (Thnbg.)					+											+			1/IX
Archanara sparganii (Esp.)			+		+	+				+						+		27, 28	2/VII-2/VIII
Archanara dissoluta (Treit.)							+												1/VII
Sedina buettneri (E. Hering)				+		+	+	+									+		3/IX-2/X
Chortodes fluxa (Hbn.)		+	+	+	+	+		+	+			+	+	+		+	+		2/VI-3/IX
Chortodes pygmina (Haw.)	+	+		+	+		+	+	+	+			+			+			3/VII-3/IX
Discestra trifolii (Hufn.)	+		+		+		+		+			+	+	+	+	+	+		2/V; 2/VII-3/VIII
Anarta myrtilli (L.)		+				+		+									+		1/VII-1/VIII
Lacanobia w-latinum (Hufn.)	+	+						+				+	+				+		2/V-2/VI
Lacanobia aliena (Hbn.)								+											1/VI
Lacanobia oleracea (L.)			+	+	+		+	+	+				+	+	+	+	+		2/VI-2/VII; 3/VIII
Lacanobia thalassina (Hufn.)	+		+		+	+		+	+	+						+	+		1/VI-1/VII
Lacanobia contigua (Den. et Schiff.)		+		+		+	+	+	+	+				+			+		3/V-2/VII
Lacanobia suasa (Den. et Schiff.)	+	+		+	+	+	+		+	+		+	+	+	+	+	+		1/V-1/VII; 3/VII-1/IX
Hada plebeja (L.)		+			+	+		+	+								+		1/VI-3/VI
Hecatera bicolorata (Hufn.)												+							3/VII
Hadena bicruris (Hufn.)												+		+			+		1/VI-2/VI; 1/VIII-3/VIII
Hadena compta (Den. et Schiff.)							+		+										2/VI-1/VII
Hadena rivularis (F.)	+	+				+		+	+	+		+	+	+		+	+		3/IV-2/VIII
Hadena perplexa (Den. et Schiff.)		+										+		+			+		2/VI-3/VI
Heliophobus reticulata (Goeze)		+						+				+	+	+		+			1/VI-1/VII
Melanchra persicariae (L.)	+	+		+	+	+	+	+	+	+			+	+	+	+	+		3/V-2/IX
Melanchra pisi (L.)				+	+		+	+								+	+		2/V-1/VII
Mamestra brassicae (L.)					+								+			+	+		2/VII-2/VIII
Polia bombycina (Hufn.)		+				+	+	+	+	+			+	+			+		3/VI-1/VIII
Polia hepatica (Cl.)					+	+													1/VI-3/VI
Polia nebulosa (Hufn.)	+	+		+		+	+	+	+	+			+			+	+		3/V-2/VII
Mythimna turca (L.)	+	+		+	+	+	+	+	+	+						+			1/VI-2/VII
Mythimna conigera (Den. et Schiff.)				+	+	+	+	+	+	+		+	+	+	+	+	+		3/VI-1/VIII
Mythimna ferrago (F.)	+	+	+	+	+		+	+	+	+			+	+	+	+	+		3/VI-3/VIII
Mythimna albipuncta (Den. et Schiff.)	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+		2/V-2/VI; 2/VII-2/X
Mythimna vitellina (Hbn.)																	+		1/IX
Mythimna pudorina (Den. et Schiff.)	+	+	+	+	+	+	+	+	+			+	+	+		+	+		1/VI-1/VIII
Mythimna impura (Hbn.)	+	+	+	+	+	+	+	+	+			+	+	+	+	+	+		2/VI-2/VIII
Mythimna pallens (L.)	+	+	+	+	+	+	+	+	+			+	+	+	+	+	+		1/V-1/VII; 1/VIII-2/X
Mythimna obsoleta (Hbn.)				+				+						+		+			3/V-3/VI

.	1	2	3	4	5	6	7	8	9	10	..	11	12	13	14	15	16	...	....
Mythimna comma (L.)				+	+	+	+	+	+	+						+	+		1/VI-2/VII
Mythimna l-album (L.)									+				+				+		2/VIII-2/X
Orthosia incerta (Hufn.)	+	+		+	+	+	+	+		+			+			+	+		3/III-1/V
Orthosia gothica (L.)	+	+		+	+	+	+	+		+			+		+	+	+		3/III-2/V
Orthosia cruda (Den. et Schiff.)	+	+		+	+	+	+	+		+			+		+	+	+		3/III-2/V
Orthosia miniosa (Den. et Schiff.)				+	+					+						+	+		2/IV-1/V
Orthosia opima (Hbn.)		+			+					+							+		2/IV-3/IV
Orthosia populeti (F.)	+	+		+			+	+		+						+	+	26	3/III-3/IV
Orthosia cerasi (F.)	+	+		+	+		+	+		+			+		+	+	+		3/III-1/V
Orthosia gracilis (Den. et Schiff.)				+				+								+	+		1/IV-2/V
Orthosia munda (Den. et Schiff.)	+	+		+			+	+		+			n			+	+		3/III-3/IV
Panolis flammea (Den. et Schiff.)	+	+		+	+	+	+	+		+			+			+	+		3/III-2/V
Egira conspicillaris (L.)													+				+		3/IV-2/V
Cerapteryx graminis (L.)		+		+	+	+	+	+	+				+	+		+	+		3/VI-2/VIII
Tholera cespitis (Den. et Schiff.)		+				+	+	+	+			+	+			+	+		2/VIII-2/IX
Tholera decimalis (Poda)			+	+	+	+	+	+	+			+	+			+	+		2/VIII-2/IX
Pachetra sagittigera (Hufn.)								+									+		2/V-3/V
Eriopygodes imbecilla (Fabr.)																	+		1/VI-1/VII
Axylia putris (L.)	+	+	+	+	+		+	+	+	+		+	+	+	+	+	+		1/V-1/VIII
Ochropleura plecta (L.)	+	+	+	+	+	+	+	+		+		+	+	+	+	+	+		3/IV-2/IX
Diarsia mendica (F.)	+	+		+		+	+	+		+				+		+			3/V-2/VI
Diarsia brunnea (Den. et Schiff.)	+	+		+	+	+	+	+	+	+			+			+	+		1/VI-3/VIII
Diarsia rubi (Vieweg)	+		+		+		+	+	+					+		+			1/V-3/V; 3/VII-3/IX
Noctua pronuba L.	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+		1/VI-2/IX
Noctua orbona (Hufn.)													+			+			1/VII-3/VIII
Noctua interposita (Hbn.)												+	+				+		3/VIII
Noctua comes Hbn.		+								+		+	+	+			+		3/VI-3/VIII
Noctua fimbriata (Schreber)	+	+	+			+		+	+	+		+	+	+	+	+	+		2/VI-2/IX
Noctua janthina (Den. et Schiff.)	+		+		+			+		+			+	+	+	+	+		2/VII-3/VIII
Noctua janthe (Borkh.)	+		+						+	+			n			+	+		1/VII-3/VIII
Lycophotia porphyrea (Den. et Schiff.)		+			+	+	+	+	+	+				+		+			1/VI-3/VII
Rhyacia simulans (Hufn.)													+						3/VI-1/VII
Paradiarsia glareosa (Esp.)							+	+											3/VIII-2/IX
Eurois occulta (L.)	+						+	+		+									1/VI-2/VII
Graphiphora augur (Fabr.)													+						3/VI
Xestia c-nigrum (L.)	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+		2/V-1/VII; 2/VII-2/X
Xestia ditrapezium (Den. et Schiff.)	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+		3/V-3/VIII
Xestia triangulum (Hufn.)	+	+	+	+	+	+	+	+	+	+		+	+		+	+	+		1/VI-3/VIII
Xestia baja (Den. et Schiff.)	+	+		+	+	+	+	+	+	+		+	+	+	+	+	+		3/VI-1/IX
Xestia sexstrigata (Haw.)	+	+		+			+	+	+					+	+	+	+		3/VII-1/IX; 3/IX-3/X
Xestia xanthographa (Den. et Schiff.)	+	+	+	+	+		+	+	+			+	+	+	+	+	+		2/VIII-3/IX
Eugraphe sigma (Den. et Schiff.)		+				+	+		+	+								28	2/VI-2/VII
Cerastis rubricosa (Den. et Schiff.)		+		+		+	+	+					+			+	+		1/IV-2/V
Cerastis leucographa (Den. et Schiff.)	+	+		+		+	+	+							+	+	+		1/IV-2/V

·	1	2	3	4	5	6	7	8	9	10	··	11	12	13	14	15	16	···	····
Anaplectoides prasina (Den. et Schiff.)	+	+		+		+	+	+	+				+			+	+		1/VI-3/VII
Protolampra sobrina (Dup.)							+		+	+									1/VIII-2/VIII
Euxoa crypta (Dadd)						+													1/VIII
Euxoa tritici (L.)														+					3/VII
Euxoa obelisca (Den. et Schiff.)												+	+				+		3/VIII-1/IX
Agrotis crassa (Hbn.)														+			+		3/VII-1/VIII
Agrotis ipsilon (Hufn.)		+	+		+	+	+			+		+			+	+	+		2/V-2/VII; 1/VIII-2/X
Agrotis exclamationis (L.)	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+		2/V-2/IX
Agrotis clavis (Hufn.)					+				+								+		2/VI-2/VIII
Agrotis segetum (Den. et Schiff.)	+	+	+	+		+	+	+	+	+		+	+			+	+		2/V-2/VI; 2/VII-2/X
Agrotis vestigialis (Hufn.)		+	+			+	+		+			+	+				+		1/VI-1/VIII
Agrotis cinerea (Den. et Schiff.)																	+		1/V-3/V
Pantheidae																			
Panthea coenobita (Esp.)	+	+		+		+	+		+	+						+	+		1/VI-1/VIII
Colocasia coryli (L.)	+	+	+	+	+	+	+	+	+	+			+		+	+	+		2/IV-3/V; 3/VI-2/VIII
Lymåntriidae																			
Lymantria monacha (L.)	+	+		+		+	+	+	+	+			+			+	+		2/VI-3/VIII
Lymantria dispar (L.)	+	+	+		+		+	+	+	+		+		+	+	+	+		2/VII-2/VIII
Calliteara pudibunda (L.)	+	+		+		+	+	+		+					+	+	+		3/IV-2/VI
Orgyia antiqua (L.)		+					+	+		+						+	+		3/VI-3/VII; 3/VIII
Euproctis chrysorrhoea (L.)				+							23								3/VI-1/VII
Euproctis similis (Fuessly)	+	+	+	+	+	+	+	+	+	+		+	+	+		+	+		2/VI-2VIII; 1/IX-2/IX
Leucoma salicis (L.)			+				+		+	+								28	3/VI-2/VII
Arctornis l-nigrum (Müll.)	+	+		+	+	+	+	+	+	+						+	+	27	2/VI-1/VII
Nolidae																			
Meganola strigula (Den. et Schiff.)	+	+						+	+	+								28	2/VI-2/VII
Meganola albula (Den. et Schiff.)	+	+	+	+	+	+		+	+	+		+	+	+		+	+		2/VI-2/VII; 3/VIII-2/IX
Nola cucullatella (L.)						+		+	+		20					+	+	28	3/VI-3/VIII
Nola confusalis (H.-S.)		+								+									3/IV
Nola aerugula (Hbn.)	+	+			+	+	+	+					+					28	2/VI-2/VII
Nycteola revayana (Scop.)		+							+	+			+				+		1/VII-2/VII; 3/VIII-3/X
Bena bicolorana (Fuessly)	+	+		+	+		+	+	+	+		+	+	+	+	+	+		3/IV-2/VI; 2/VII-3/VIII
Pseudoips prasinana (L.)										+									1/VII-2/VII
Earias clorana (L.)	+		+	+	+			+		+			+			+	+		2/V-3/VI; 2/VII-1/VIII
Arctiidae																			
Thumatha senex (Hbn.)	+		+	+	+	+	+			+						+	+		3/VI-2/VII

•	1	2	3	4	5	6	7	8	9	10	••	11	12	13	14	15	16	•••	••••
Miltochrista miniata (Forst.)	+	+	+	+	+	+	+	+	+	+					+	+	+		1/VI-1/VIII; 3/VIII-2/IX
Cybosia mesomella (L.)	+	+	+	+	+	+	+	+	+			+	+	+	+	+	+		2/V-2/VII
Pelosia muscerda (Hufn.)	+	+	+	+	+	+	+	+	+	+				+	+	+	+		1/VI-2/VIII
Atolmis rubricollis (L.)	+	+		+			+	+	+	+						+	+		3/V-1/VII
Lithosia quadra (L.)	+	+				+	+	+	+	+						+	+	28	2/VI-1/VIII; 1/IX-2/IX
Eilema depressa (Esp.)	+	+		+		+	+	+	+	+			+	+		+	+		1/VI-3/VIII; 1/IX-2/IX
Eilema griseola (Hbn.)	+	+		+	+	+	+	+		+					+	+	+		2/VI-2/VIII
Eilema lurideola (Zinck.)	+	+		+	+	+	+	+		+			+			+	+		1/VI-2/VIII
Eilema complana (L.)	+	+	+	+	+	+	+	+	+	+		+	+	+		+	+		1/VI-3/VIII
Eilema lutarella (L.)	+	+		+	+	+	+	+	+	+			+	+		+	+		1/VII-2/VIII
Eilema sororcula (Hufn.)	+	+	+	+		+	+	+		+			+		+	+	+		3/IV-3/VI
Setina irrorella (L.)												+	+	+			+		3/VI-3/VII
Amata phegea (L.)		+																	3/VI-3/VII
Spiris striata (L.)		+			+		+						+						2/V-1/VII
Coscinia cribraria (L.)		+		+		+	+	+	+	+									2/VI-2/VII
Phragmatobia fuliginosa (L.)	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+		3/IV-3/V; 3/VI-1/IX
Parasemia plantaginis (L.)		+					+	+											2/VI
Spilosoma lutea (Hufn.)	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+		1/V-2/VII
Spilosoma lubricipeda (L.)	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+		1/V-1/VII
Spilosoma urticae (Esp.)			+	+							20								1/VI-2/VI
Diaphora mendica (Cl.)				+				+								+			1/IV-2/V
Rhyparia purpurata (L.)				+		+	+			+						+			1/VI-1/VII
Diacrisia sannio (L.)			+	+			+	+				+	+	+		+	+		3/V-1/VIII
Arctia caja (L.)	+	+	+	+	+	+	+	+	+	+			+	+	+	+	+		1/VII-3/VIII
Callimorpha dominula (L.)	+	+		+		+	+	+	+	+						+	+		2/VI-2/VII

Numbers of supplementary localities: 17 – Miedziana, 18 – Nakło, 19 – Falmirowice, 20 - Suchy Bór, 21 – Niwki, 22 – Szumirad, 23 – Mnichus, 24-I – Opole-Kolonia Gosławicka, 24-II – Opole-ZWM, 25 – Góra Świętej Anny, 26 – Ligota Górna, 27 – Czarnocin, 28 – Chorula,

Abbreviations and symbols:

L – larval stage

W – period of wintering

1/VIII – decade (first)/month (August)

; - interval between generations

n – new species for the historical locality - Kamienna Góra in Ligota Dolna (compare with Bielewicz 1966)

The more forest and wet meadow fauna of Równina Opolska is featured by the occurrence of a large group of species connected with vast pine forest habitats: *Ch. ambiguata, P. pruinata, P. firmata, E. abietaria, H. rectilinea* or *P. glareosa* and also with widely-spread marshy forest habitats: *S. cararia, A. sparsata, P. sexalata, C. anastomosis* or *A. cuspis.* The second important group of fauna of Równina Opolska embraces hygrophilous species of rushes, marshes and wet meadows: *A. melanaria, P. sagittata, H. humidalis, A. unanimis* or *A. dissoluta.*

The fauna of Równina Opolska and Chełm is influenced by dynamically spreading and increasing their numbers species. Among the new species, not recorded in the area of Równina Opolska and Chełm in historical times there are the following, at present widespread ones: *S. cararia, E. abbreviata, S. buettneri, X. sexstrigata, S. lineata, M. procellata, E. selinata, E. trisignaria* or *O. versicolor.* The first 4 species were recorded in Silesia only in the second half of the 20th century (Blaik & Majer 2000, 2002, Malkiewicz & Szpor 1996, Marcinowski 1984).

The most spectacular examples of expansive species in recent years are: *Eucarta virgo* and *Gymnoscelis rufifasciata.* The first species was recorded for the first time in south-eastern Poland in 1960 (Bielewicz 1973) and then has fast spread its range north-west (Buszko & Nowacki 2000). Since 1997, when the first specimen in Równina Opolska was collected (Opole-Kolonia Gosławicka, 13 VI 1997, 1 ex., leg. T. Blaik), this euryoecious species is often recorded in the whole area of Opole Province. The first observation of *G. rufifasciata* in the research area took place after 2000 (Dębska Kuźnia, 8 VIII 2001, 1 ex., leg. T. Blaik). In subsequent years the several specimens in four new localities were found which may stay on account of expansion of the species in western Poland in last decades (Sosiński 1987, Malkiewicz 2003).

The geographic position of the researched area near by the mouth of the Moravian Gate is conducive to more frequent appearance of migratory species, mainly in the poor afforested area of Chełm. The data of the following rarely observed in Poland species deserves a special attention: *Orthonama obstipata* – Szymiszów, 10 VIII 2000, 1 ex.; Jaryszów, 5 V, 31 VII, 25 VIII 2002, 4 exx., *Schinia scutosa* – Krasiejów, 11 VIII 2004, 1 ex., *Helicoverpa armigera* – 5 exx. in 1999 and 2000 (Blaik & Majer 2000); Jaryszów: 2 VIII, 16 IX 2002, 2 exx.; Lędziny, 5 IX 2002, 1 ex.; Opole-ZWM, 11 IX 2003, 1 ex., *Mythimna vittelina* – Szymiszów, 3 IX 2002, 1 ex. All the mentioned specimens were collected by the author.

In the result of the present research the occurrence of 71 species, mentioned from the area of Równina Opolska and Chełm in the past, was not confirmed (Tab. 3).

Tab. 3. List of published *Macrolepidoptera* species from the area of Równina Opolska and Chełm, not recorded during the research (1996-2004)

Species	Równina Opolska	Chełm	Source
1	2	3	4
Eriogaster lanestris (L.)		+	Bielewicz 1966
Gastropacha populifolia (Esp.)	+	+	Wolf 1928
Lemonia dumi (L.)	+	+	Wolf 1928, Bielewicz 1966
Abraxas grossulariata (L.)		+	Bielewicz 1966
Isturgia roraria (F.)		+	Bielewicz 1966
Perconia strigillaria (Hbn.)		+	Bielewicz 1966
Chlorissa viridata (Hbn.)	+		Raebel & Toll 1962
Chlorissa cloraria (Hbn.)		+	Bielewicz 1966
Scopula incanata (L.)		+	Bielewicz 1966
Cyclophora ruficiliaria (H.-S.)		+	Bielewicz 1966
Idaea pallidata (Den. et Schiff.)		+	Bielewicz 1966
Lythria purpuraria (L.)		+	Raebel & Toll 1962
Scotopteryx moeniata (Scop.)		+	Bielewicz 1966
Epirrhoe hastulata (Hbn.)		+	Bielewicz 1966
Epirrhoe molluginata (Hbn.)		+	Raebel & Toll 1962
Spargania luctuata (Den. et Schiff.)		+	Raebel & Toll 1962, Bielewicz 1966
Eupithecia immundata (L. et Z.)		+	Bielewicz 1966
Eupithecia analoga Djak.		+	Bielewicz 1966
Eupithecia pyreneata Mab.	+		Raebel 1931b
Eupithecia laquaearia H.-S.		+	Bielewicz 1966
Eupithecia valerianata (Hbn.)		+	Bielewicz 1966
Eupithecia actaeata Wald.		+	Bielewicz 1966
Eupithecia expallidata Dbl.		+	Bielewicz 1966
Eupithecia denotata (Hbn.)		+	Bielewicz 1966
Eupithecia simpliciata (Haw.)		+	Bielewicz 1966
Aplocera efformata (Guen.)		+	Bielewicz 1966
Lithostege farinata (Hufn.)		+	Bielewicz 1966
Cerura vinula (L.)		+	Bielewicz 1966
Spatalia argentina (Den. et Schiff.)	+		Wolf 1928
Acronicta menyanthidis (Esp.)	+		Wolf 1935
Acronicta euphorbiae (Den. et Schiff.)	+	+	Wolf 1935, Bielewicz 1966
Cryphia raptricula (Den. et Schiff.)		+	Bielewicz 1966
Cryphia domestica (Hufn.)		+	Bielewicz 1966
Catocala elocata (Esp.)		+	Bielewicz 1966
Catocala electa (Vieweg)	+		Wolf 1944
Catephia alchymista (Den. et Schiff.)	+		Wolf 1944
Polychrysia moneta (F.)	+		Wolf 1944
Syngrapha interrogationis (L.)		+	Wolf 1944
Eublemma purpurina (Den. et Schiff.)		+	Bielewicz 1966
Cucullia balsamitae Boisd.		+	Bielewicz 1966
Shargacucullia thapsiphaga (Treit.)	+	+	Bielewicz 1966
Calophasia lunula (Hufn.)	+	+	Wolf 1935, Bielewicz 1966
Athetis pallustris (Hbn.)	+	+	Wolf 1944, Bielewicz 1966
Mesogona oxalina (Hbn.)	+		Wolf 1935
Cosmia affinis (L.)		+	Bielewicz 1966
Conistra ligula (Esp.)	+	+	Wolf 1944, Bielewicz 1966
Xylena exoleta (L.)		+	Bielewicz 1966
Antitype chi (L.)		+	Bielewicz 1966
Apamea furva (Den. et Schiff.)		+	Bielewicz 1966
Calamia tridens (Hufn.)		+	Bielewicz 1966

1	2	3	4
Anarta cordigera (Thnbg.)	+		Wolf 1944
Hecatera dysodea (Den. et Schiff.)	+	+	Wolf 1935, Bielewicz 1966
Hadena confusa (Hufn.)		+	Bielewicz 1966
Sideridis albicolon (Hbn.)		+	Bielewicz 1966
Papestra biren (Goeze)		+	Bielewicz 1966
Lasionycta proxima (Hbn.)		+	Bielewicz 1966
Diarsia dahlii (Hbn.)	+		Wolf 1935
Chersotis multangula (Hbn.)		+	Bielewicz 1966
Spaelotis ravida (Den. et Schiff.)		+	Bielewicz 1966
Opigena polygona (Den. et Schiff.)		+	Bielewicz 1966
Naenia typica (L.)		+	Bielewicz 1966
Peridroma saucia (Hbn.)	+	+	Wolf 1935, Bielewicz 1966
Actebia praecox (L.)		+	Bielewicz 1966
Calliteara abietis (Den. et Schiff.)	+		Wolf 1928
Dicallomera fascelina (L.)		+	Bielewicz 1966
Orgyia recens (Hbn.)	+		Wolf 1928
Penthophera morio (L.)		+	Bielewicz 1966
Eilema pygmaeola (Doubl.)		+	Bielewicz 1966
Arctia festiva (Hufn.)	+		Wolf 1928
Tyria jacobaeae (L.)		+	Bielewicz 1966

The capturing of general changes in the fauna of Macrolepidoptera of the explored area is possible, as a matter of fact, only in the case of well surveyed, in the past, the massif of Chełm. Out of all about 510 published species of Macrolepidoptera, representing 12 researched families and family – Lemoniidae, the occurrence of more than 90 was not confirmed during the research. The list of the presently recorded species of Chełm includes 101 new (not published) species for the mesoregion and 26 new ones for the fauna of the historical locality - Ligota Dolna (Bielewicz 1966, Raebel 1931 a, b, Raebel & Toll 1962, Skalski & Śliwiński 1973, Wolf 1928-1944). The main qualitative feature of the present Macrolepidoptera fauna of Chełm is a distinctly lower number of xerophilous species (Tab. 3). However, the occurrence of the following interesting boreomontane species, as: *E. analoga, S. interrogationis* and *P. biren* has not been confirmed.

Just not numerous historical data came from particular places from the area of Równina Opolska situated in the north-eastern neighborhood of Opole city, as well as, along the course of the River Mała Panew, between Ozimek and Zawadzkie, and in the neighborhood of Kluczbork (Wolf 1928-1944, Raebel & Toll 1962). Moreover, the majority of old data collected before 1944 concerned indefinite vicinity of Opole ("bei Oppeln") which does not allow explicit mesoregional assigning of them. Out of certain records, the rare oak forests species, as: *S. argentina* and *C. alchymista* or pine and spruce forest ones: *Ch. viridata, A. cordigera* and *C. abietis* have not been recorded during the research.

Acknowledgements

I would like to thank Włodzimierz Nowakowski for providing *Shargacucullia* G. et L. Ronk and *Scotopteryx* Hbn. specimens to necessary comparison. I also wish to

express my sincere thanks to dr Krzysztof Spałek (Department of Biosystematics, University of Opole) for his friendly help during determination of plant communities and to Marek Pieczka for the correction of English version of this paper.

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Received: 15.11.2004

Streszczenie

Praca przedstawia wyniki badań nad fauną motyli większych (Macrolepidoptera) przeprowadzonych w latach 1996-2004 na obszarze mezoregionów: Równina Opolska i Chełm w województwie opolskim. Badaniami objęto 16 stanowisk podstawowych i 12 uzupełniających kontrolowanych z różną częstotliwością w okresie 1/III-2/XI. Łącznie wykazano 592 gatunki, z czego 552 stwierdzono na Równinie Opolskiej, a 515 na Chełmie. Motyle były łowione głównie w nocy do światła samołówek i przenośnych stanowisk zaopatrzonych w żarówki rtęciowe o mocy 160 i 250W. Jako metody uzupełniające stosowano przynęty pokarmowe oraz poszukiwano larw i dorosłych owadów w ciągu dnia. Faunę motyli większych Równiny Opolskiej charakteryzuje obecność znacznej liczby gatunków związanych z siedliskami borowo-łęgowymi, a także wyraźnej grupy gatunków higrofilnych. W faunie Chełmu wyróżnia się specyficzna grupa gatunków ciepłolubnych związanych z kserotermicznymi siedliskami murawowo-zaroślowymi.

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