

The Macrolepidoptera (Insecta: Lepidoptera) from Istrița Hill (Buzău County, Romania)

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Rezumat

Macrolepidopterele (Insecta: Lepidoptera) din zona Dealului Istrița (jud. Buzău, România)

Subcarpații României și în special Subcarpații Curburii, reprezintă o veritabilă „pată albă” din punct de vedere lepidopterofaunistic. Prezenta lucrare cuprinde rezultatele cercetărilor asupra macrolepidopterelor din zona Dealului Istrița (jud. Buzău), efectuate în perioada aprilie 1996-septembrie 2005. Printre cei 521 taxoni identificați se numără o serie de specii valoroase din punct de vedere zoogeografic, puțin cunoscute de pe teritoriul României sau chiar al Europei, precum: *Hipparchia volgensis delattini* Kudrna, 1975, *Scotopteryx ignorata* Huemer & Hausmann, 1998, *Cucullia fraterna* Butler, 1878, *Euxoa vitta* (Esper, 1789), *Euxoa hastifera pomazensis* Kovács, 1952, *Aedia leucomelas* (Linnaeus, 1758), *Chrysodeixis chalcites* (Esper, 1789), *Dichagyris candelisequa* ([Denis & Schiffermüller], 1775), etc.

Dealul Istrița (749 m) se remarcă în mod special prin prezența versanților calcaroși cu expoziție sudică care reprezintă habitatul optim al unor specii de lepidoptere termofile și xerothermofile cunoscute din foarte puține localități ale României.

Pe lângă asemănările semnificative cu lepidopterofauna Dobrogei, datele prezente în lucrare atestă existența unei continuități între lepidopterofauna din sud-estul și cea din sud-vestul țării noastre, continuitate realizată la nivelul dealurilor subcarpatice, în condițiile în care regiunile de câmpie au suferit și suferă încă transformări profunde datorate puternicelor presiuni antropozoogene.

Key words: Macrolepidoptera, Curvature Subcarpathians, faunistics, limestone, zoogeography.

Previous Studies

The first information related to the lepidopterans from Muntenia (large historical region in southern Romania, covering more than ten counties) (Fig. 1) dates back to the end of the XIX century and the beginning of the XX century, when several well known entomologists published various species lists that referred partially or totally to this region (CARADJA 1895, 1896, 1901, 1902, 1903, 1905, MONTANDON 1900, FLECK 1904, SALAY 1910).

After a pause of more than 30 years, new research was made by the lepidopterist A. Popescu-Gorj from the Natural History Museum in Bucharest (POPESCU-GORJ 1939, 1948, 1960, 1963, 1979, 1985, 1986, 1989, 1995), as well as by I. Drăghia (DRĂGHIA 1966, 1970, DRĂGHIA & AFTENE 1972, DRĂGHIA & NEACȘU 1973, POPESCU-GORJ & DRĂGHIA 1968) and E. V. Niculescu (NICULESCU 1961, 1963, 1965). Recently published data refers mainly to the lepidopterans from the plains of Muntenia (RÁKOSY 1996, RÁKOSY & NEGRU 1995, SZÉKELY & al. 1998,

SZÉKELY & STANCIU 2002). Despite these studies, Muntenia is still considered a little known region from the lepidopterological point of view. This is reflected in the Catalogue of the Romanian Lepidoptera in which only 1916 species are recorded in Muntenia compared to the 2985 species recorded from Transylvania (RÁKOSY & al. 2003). Moreover, due to the lack of recent research, many of the previously recorded species have not been recaptured in the last 25-30 years.

Under these circumstances, our research made on Istrița Hill (which is situated in the external part of the Curvature Subcarpathians), represents the most complete study of a region belonging to the Subcarpathians from Muntenia.

Localization, Geology and Climate

Istrița Hill is a part of the South-Eastern external sector of the Curvature Subcarpathians (Fig. 1) rising directly from Romanian Plain and having a maximum altitude of 749 m. The massif is situated



Fig. 1. Istrița Hill is a part of the South-Eastern external sector of the Curvature Subcarpathians / Dealul Istrița este situat în porțiunea externă a Subcarpaților Curburii

very close (2 km) to national road DN 1B Ploiești – Buzău, at a distance of about 22 km from Buzău city.

The particular geology of Istrița Hill is locally dominated by limestone. In fact, the stone from Istrița Hill has been since old times used for construction. There are also present grit stones, diorite sands, clays and loess (SANDA & BREZEANU 1966/1).

The calcareous rocks are often impregnated with petrified fossils (mostly shells and snails), this phenomenon being visible on quite large surfaces.

While many of the southern slopes are exposed to pronounced soil erosion (POSEA & al. 1982), the northern and eastern slopes, being partially afforested, are less affected.

The average yearly temperatures registered at an altitude of about 200 m range from 10.5°C (SANDA & BREZEANU 1966/2) to 11.5°C¹, with a maximum average in July and a minimum in January.

The average yearly precipitation registered at less than 250 m of altitude is 599.1 mm (average calculated between 1958-1965) (SANDA & BREZEANU 1966/2). These values increase with the altitude, so that above 700 meters around 700 mm should be expected (POSEA & al. 1982). As the hydrographic network is virtually absent, drought may often appear, especially on the southern slopes of the hill.

Flora and Vegetation

The strongly marked topology of this region causes the existence of a great variety of microclimatic conditions that are present on rather small surfaces and are quite clearly separated.

According to SANDA & BREZEANU (1966/1) Istrița Hill is characterized by the presence of three major vegetation zones: steppe, sylvo-steppe and

forest.

The steppes which occur below 400 m are composed by species such as *Andropogon ischaemum* and *Euphorbia stepposa*, or *Festuca valesiaca* and *Medicago minima*. Other species which are characteristic to these areas are *Artemisia austriaca*, *Digitalis lanata*, *Taraxacum xerotinum*, *Koeleria gracilis*, *Adonis vernalis*, etc.

At higher altitudes (700-750 m) the steppe (situated close to *Fagus sylvatica* forest) is dominated by *Festuca valesiaca*, *Koeleria gracilis* and *Euphorbia stepposa*.

The significant number of xerophilous species indicates conditions of pronounced aridity.

The sylvo-steppe is represented by three different types of vegetation. Under more humid conditions, vegetation is edified by mezophilous species such as *Poa pratensis* and *Achillea millefolium*. Around 500 m of altitude is present the association *Poetum pratensis* Răv., Căzăc. & Turenschi 1956, also characterized by the dominance of mezophilous species, but exposed to a constant process of degradation (infiltration of *Andropogon ischaemum*) leading finally to a steppe.

At about 400 m altitude there is an oak forest edifying the association *Quercetum pubescentis* Borza 1937, with several Ponto-Mediterranean species such as *Quercus pubescens*, *Carpinus orientalis*, *Fraxinus ornus*, *Iris graminea*, *Salvia pratensis*, *Onobrychis viciifolia*, etc.

The natural trend of these sylvo-steppes is towards eliminating many herbaceous plants in favour of forests.

The forest zone is situated above 500 m and is characterized by the presence of two major associations. One of them is edified by *Carpinus betulus* and is characterized by the dominance of mezophilous species in contrast to the steppes situated nearby (*Anemone ranunculoides*, *Asperula odorata*, *Astragalus glycyphyllos*, *Brachypodium sylvaticum*, *Lapsana communis*, *Carpinus betulus*, *Fagus sylvatica*, etc.).

The association *Quercus petraeae-Carpinetum* Soó & Pócs 1957 (550-600 m altitude) is one of the oldest in the area and is characterized by a relatively acid pH of the soil (6.5 to 4.9), favouring the development of species such as *Melica uniflora*, *Dactylis glomerata*, *Milium effusum*, or *Lapsana communis*.

The most humid areas situated above 500 m are covered with forests of *Fagus sylvatica* and *Carpinus betulus*.

A study about the weeds that occur in the vineyards of Istrița Hill pointed out the presence

¹ Source: www.weatheronline.co.uk/Europe.htm

of 114 of such species: *Lamium purpureum*, *L. amplexicaule*, *Cirsium arvense*, *Chorispora tenella*, *Bromus tectorum*, *Convolvulus arvensis*, *Diplotaxis muralis*, *Allium rotundum*, *Ornithogalum umbellatum*, *Setaria viridis*, *Veronica hederifolia*, *Convolvulus arvensis*, *Cyonodon dactylon*, *Cirsium arvense*, *Fumaria schleicheri*, *Capsella bursa-pastoris*, *Chenopodium album*, *Amarantus retroflexus*, *Taraxacum officinale*, etc. (SANDA 1966). It has been observed that the abandoned vineyards are replaced within 3 to 5 years by natural vegetation, with a strong pioneer's work by weeds (SANDA 1966).

The vegetation tableau is completed by a relatively recent (40-45 years) plantation of *Pinus nigra* (present on the higher regions of the hill, often on calcareous slopes) and a plantation dominated by *Eleagnus angustifolia*, *Rosa canina* and *Crataegus monogyna* (which covers quite large areas on the southern slopes of the hill, at lower altitudes).

The calcareous substrate and the particularities of the regional climate favour the vineyards, which cover large surfaces. In fact, the area belongs to one of the largest and most renowned wine-growing districts in Romania. Other quite small surfaces are covered with orchards, corn, lucerne, vegetables and hay meadows, resulting in a mosaic-type landscape. Many of the meadows are overgrazed by sheep, cows and goats.

Material and Methods

Our research in the area started in 1996 when we collected material mainly during daytime, using the insect net. Since 1997 we also regularly used light traps with a 125 W or 160 W mercury vapour lamp, supplied by the local electricity network. These light traps were mainly placed at different locations in Breaza village (situated on the South-Western side of the hill) and several times on the plateau from the top of the hill (745 m). Since spring 2005 we also used light traps powered by a portable electricity generator. Occasionally (early in the spring and late in the autumn) we used sugar traps (stout or wine and sugar) to attract moths that are not (well) attracted to light.

The research covered the period between March and October with a maximum effort from April until September. The earliest collecting date of the research was February 27, 1999 while the latest one was December 6, 2004. In total, we made more than 50 trips on the field, most of them consisting of at least two or three days.

For the precise identification of several species (genera *Eupithecia*, *Cucullia*, *Abrostola*, *Oli-*

gia, etc.) we studied the morphology of the genital apparatus.

The systematic list was created according to the one present in The Catalogue of the Romanian Lepidoptera (RÁKOSY & al. 2003). The red list was made following the ones proposed by RÁKOSY (2003) for butterflies and by RÁKOSY & al. (2003) for the so called Macroheterocera, which point out the conservation status of Lepidoptera species at the country's level.

Faunistical Aspects

During the period 1996-2005 we identified 521 Lepidoptera species of which 504 belong to the so called Macrolepidoptera and 17 to the Microlepidoptera groups; these species belong to 23 families synthetically presented in Table 1.

The 504 Macrolepidoptera taxa identified on Istrița Hill represent more than one third (33.42%) of the 1508 Macrolepidoptera² taxa known at this time from Romania (RÁKOSY & al. 2003). Some of these species are little known or considered to be very rare in Romania and even in Europe, and have been dealt with in a separate paper (DINCĂ 2005). Of these, we would like to mention *Scotopteryx ignorata* Huemer & Hausmann, 1998, *Cucullia fraterna*, Butler, 1878, *Chrysodeixis chalcites* (Esper, 1789), *Euxoa hastifera pomazensis* Kovács, 1952, *Euxoa vitta* (Esper, 1789), also *Lamellocossus terebra* ([Denis & Schiffermüller], 1775), *Zerynthia polyxena* ([Denis & Schiffermüller], 1775), *Hipparchia volgensis delattini* Kudrna, 1975, *Aedia leucomelas* (Linnaeus, 1758), *Meganephria (Meganephria) bimaculosa* (Linnaeus, 1767), *Episema tersa* ([Denis & Schiffermüller], 1775), *Euxoa cos* (Hübner, 1824), *Dichagyris candelisequa* ([Denis & Schiffermüller], 1775), *Yigoga signifera* ([Denis & Schiffermüller], 1775), etc. A number of 45 species are recorded for the first time from Muntenia (Table 2).

The complete systematic list of the identified taxa accompanied by relative frequency, trophic larval category, zoogeographical affiliation, ecological preferences and red list status is presented in Table 2.

Ecological Aspects

Istrița Hill is characterized by the presence

² In the Catalogue of the Romanian Lepidoptera (RÁKOSY & al. 2003) are listed 1507 Macrolepidoptera species. Adding *S. gorgoniades*, the number rises at 1508 species. (MIHUȚ & DINCĂ pers. com.).

Table 1.

The specific structure of the lepidopterans identified on Istrița Hill and the percentage they represent of the total known in Romania, according to the Catalogue of the Romanian Lepidoptera (RÁKOSY & al. 2003). / Situația pe familii a numărului de specii identificate și procentul pe care acestea îl reprezintă din totalul cunoscut în România, conform Catalogului Lepidopterelor României (RÁKOSY & al. 2003).

No.	Family	Number of species in Romania	Number of species identified on Istrița Hill	%
1	Hepialidae	7	1	14.28
2	Psychidae	56	4	7.14
3	Limacodidae	2	1	50
4	Zygaenidae	29	5	17.24
5	Sesiidae	59	1	1.69
6	Cossidae	9	4	44.44
7	Thyrididae	1	1	100
8	Lasiocampidae	19	8	42.1
9	Saturniidae	6	2	33.33
10	Sphingidae ¹	26	11	42.3
11	Hesperiidae	24	9	37.5
12	Papilionidae	6	3	50
13	Pieridae	23	13	56.52
14	Lycaenidae	59	24	40.67
15	Nymphalidae	90	33	36.66
16	Drepanidae	17	7	41.17
17	Geometridae	482	136	28.21
18	Notodontidae	39	13	33.33
19	Noctuidae	621	212	34.13
20	Pantheidae	3	1	33.33
21	Lymantriidae	18	6	33.33
22	Nolidae	19	7	36.84
23	Arctiidae	52	19	36.53

of a variety of habitats ranging from relatively humid forests (on the northern slopes), to dry open or bushy calcareous slopes with southern exposition. This mixture of different ecological parameters determines a quite rich and particular Lepidoptera fauna.

As it can be seen in Fig. 3, the ecological spectrum is dominated by mezophilous species (37.96%); this is a reasonable result taking in consideration the geographical location and the altitude at which we made our research. The dominance of mezophilous elements is observed in the entire country, in concordance with the general ecological parameters manifested in Romania.

Nevertheless, there is an important percentage (26.28%) of xerothermophilous and xerophilous species (Fig. 3: Xt, Mxt, Mx) as a consequence

of the xeric habitats present in the area. The calcareous slopes, highly exposed to solar radiation (Fig. 2), and the steppe represent the optimum habitat of some typical xerothermophilous species such as *Episema tersa*, *Dichagyris candelisequa*, *Euxoa cos*, *Cucullia tanaceti* ([Denis & Schiffermüller], 1775), *Eublemma amoena* (Hübner, 1803), *Glossodice polygramma* (Duponchel, 1842), *Prodotis stolidia* (Fabricius, 1775), *Oxicesta geographica* (Fabricius, 1787), *Aspilates gilvaria* ([Denis & Schiffermüller], 1775), *Eilicrinia trinotata* (Metzner, 1845), *Neognopharmia stevenaria* (Boisduval, 1840), *Odontognophos dumetata* (Treitschke, 1827), *Hipparchia volgensis delattini*, etc. Phytosociological studies made on Istrița Hill obtained a similar result (SANDA & BREZEANU 1966/1, 1966/2).

The thermophilous species (Fig. 3: T, Mt,

Table 2.

Systematic list of the Lepidoptera species identified on Istrița Hill / Lista sistematică a speciilor de lepidoptere identificate în zona Dealului Istrița

Abbreviations / Abrevieri: head of the table / cap tabel – Freq. = frequency / frecvența; L. t. s. = larval trophic source / baza trofică larvară; Z. el. = zoogeographical element / element zoogeografic; Ec. ch. = ecological character / caracter ecologic; R. L. = red list / lista roșie.

Freq. – v.r. = very rare / foarte rar = 1-4 ind. / brood / ex. / generație; r = rare / rar = 5-10 ind. / brood / ex./generație; r.f. = relatively frequent / relativ frecvent = 1-5 ind. / day / night / ex./zi/noapte; f = frequent / frecvent = 6-15 ind / day / night / ex./zi/noapte; v.f. = very frequent / foarte frecvent = >15 ind / day / night / ex./zi/noapte. **L. t. s.** – 1 = consumers of herbaceous plants, excluding Poaceae / consumatori plante ierboase, mai puțin Poaceae; 2 = consumers of Poaceae and other mono-cotyledonous plants / consumatori Poaceae și alte monocotiledonate; 3 = consumers of bushes and Ericaceae / consumatori arbuști și ericacee; 4 = consumers of deciduous trees / defoliatori foioase; 5 = consumers of coniferous trees / defoliatori conifere; 6 = xilophagous / xilofage; 7 = consumers of subterranean vegetal organs / consumatori organe vegetale subterane; 8 = myrmecophilous / mirmecofile; 9 = consumers of moss, lichens and of other categories / consumatori muști, licheni & alte categorii. **Z. el.** – Eua = Eurasiatic; Vam = West-Asiatic Mediterranean; E = European; Hol = Holarctic; Str = Subtropical; Cosm = Cosmopolit. **Ec. ch.** – M = mezophilous / mezofil; Mx = mezoxerophilous / mezoxerofil; Mxt = mezoxerothermophilous / mezoxeroterofil; Xt = xerothermophilous / xeroterofil; T = thermophilous / termofil; Mt = mezothermophilous / mezoterofil; Mh = mezohygrophilous / mezohigrofil; Mht = mezohygrothermophilous / mezohigroterofil; Hg = hygrophilous / higrofil; Eu = euribiont / euribiont; Mg = migratory / migrator. **R. L.** – NT = near threatened / taxon potențial amenințat; VU = vulnerable / taxon vulnerabil; EN = endangered / taxon periclitat; CR = critically endangered / taxon critic periclitat; DD = data deficient / taxon cu informație deficitară. * = taxa recorded for the first time from Muntenia / taxon semnalat pentru prima dată din entomofauna Munteniei (RAKOSY & al. 2003).

TAXA	Freq.	L. t. s.	Z. el.	Ec. ch.	R. L.
HEPIALOIDEA					
Hepialidae					
<i>Triodia sylvina</i> (Linnaeus, 1761)	r.f.	7	Eua	M	
TINEOIDEA					
Psychidae					
Epichnopteryginae					
<i>Rebelia</i> sp.	r.f.	-	-	-	
* <i>Acentra subvestalis</i> (Wehrli, 1933)	r	1	E	Mxt	
Oiketinae					
<i>Canephora hirsuta</i> (Poda, 1761)	r	1,9	Eua	M	
<i>Pachythelia villosella</i> (Ochsenheimer, 1810)	r	1	E	Mxt	
ZYGAENOIDEA					
Limacodidae					
<i>Apoda limacodes</i> (Hufnagel, 1766)	r	3,4	Eua	M	
Zygaenidae					
Procridinae					
* <i>Jordanita (Lucasiterna) subsolana</i> (Staudinger, 1862)	v.r.	1	Eua	Mxt	
Zygaeninae					
<i>Agrumenia carniolica</i> (Scopoli, 1763)	f	1	Eua	Mxt	
<i>Agrumenia (Zygaena) loti</i> ([Denis & Schiffermüller], 1775)	f	1	Eua	M	
<i>Agrumenia (Zygaena) ephialtes</i> (Linnaeus, 1767)	r	1	Eua	Mxt	
<i>Agrumenia (Zygaena) filipendulae</i> (Linnaeus, 1758)	v.f.	1	Eua	M	
SESOIDEA					
Sesiidae					
Sesiinae					
<i>Synanthedon myopaeformis</i> (Borkhausen, 1789)	v.r.	6	E	M	
COSSOIDEA					
Cossidae					
Cossinae					
<i>Cossus cossus</i> (Linnaeus, 1758)	r	6	Eua	Mh	
* <i>Lamellocossus terebra</i> ([Denis & Schiffermüller], 1775)	v.r.	6	Eua	Mht	

TAXA	Freq.	L. t. s.	Z. el.	Ec. ch.	R. L.
<i>*Dyspessa ulula</i> (Borkhausen, 1790)	v.r.	7	Eua	Xt	
<i>Zeuzera pyrina</i> (Linnaeus, 1761)	r.f.	6	Eua	Mh	
THYRIDOIDEA					
Thyrididae					
<i>Thyris fenestrella</i> (Scopoli, 1763)	r	1	Eua	Mt	
LASIOCAMPOIDEA					
Lasiocampidae					
Lasiocampinae					
<i>Eriogaster lanestris</i> (Linnaeus, 1758)	v.r.	3	Eua	T	VU
<i>Malacosoma neustria</i> (Linnaeus, 1758)	v.r.	4	Eua	M	NT
<i>Lasiocampa trifolii trifolii</i> ([Denis & Schiffermüller], 1775)	v.r.	1,2,3	Eua	M	EN
<i>Lasiocampa quercus quercus</i> (Linnaeus, 1758)	r	1,3,4	Eua	M, Mh	
<i>Macrothylacia rubi</i> (Linnaeus, 1758)	r.f.	1,3,4	Eua	M	NT
<i>Phyllodesma tremulifolia</i> (Hübner, 1810)	r	3,4	Eua	T	NT
<i>Gastropacha quercifolia</i> (Linnaeus, 1758)	r.f.	3,4	Eua	Mt	NT
<i>Odonestis pruni pruni</i> (Linnaeus, 1758)	r.f.	3,4	Eua	Mt	NT
BOMBYCOIDEA					
Saturniidae					
Agliinae					
<i>Aglia tau</i> (Linnaeus, 1758)	r.f.	4	Eua	M, Mh	
Saturniinae					
<i>Saturnia pyri pyri</i> ([Denis & Schiffermüller], 1775)	r.f.	3,4	Eua	T	VU
Sphingidae					
Smerinthinae					
<i>Mimas tiliae</i> (Linnaeus, 1758)	r	4	Eua	M	
<i>Smerinthus ocellata</i> (Linnaeus, 1758)	r	4	Eua	Mh	
<i>Laothoe populi</i> (Linnaeus, 1758)	r	4	Eua	Mh	
Sphinginae					
<i>Agrius convolvuli</i> (Linnaeus, 1758)	f	1	Str	Mg	
<i>Acherontia atropos</i> (Linnaeus, 1758)	v.r.	1	Str	Mg	VU
<i>Sphinx ligustri</i> Linnaeus, 1758	r	3	Eua	M, Mg	NT
Macroglossinae					
<i>Macroglossum stellatarum</i> (Linnaeus, 1758)	f	1	Eua	Mx, Mg	
<i>Hyles euphorbiae</i> (Linnaeus, 1758)	r.f.	1	Eua	Mx, Mg	NT
<i>Hyles galii</i> (Rottemburg, 1775)	v.r.	1	Hol	Mxt, Mg	VU
<i>Deilephila elpenor</i> (Linnaeus, 1758)	r	1,3	Eua	M, Mh	NT
<i>Deilephila porcellus</i> (Linnaeus, 1758)	f	1,3	Eua	M	
HESPERIOIDEA					
Hesperiidae					
Pyrginae					
<i>Erynnis tages tages</i> (Linnaeus, 1758)	v.f.	1	Eua	Mxt	
<i>Carcharodus alceae</i> (Esper, 1780)	r.f.	1	Vam	Xt	
<i>Carcharodus floccifera</i> (Zeller, 1847)	r	1	Vam	Mh	NT
<i>Pyrgus malvae malvae</i> (Linnaeus, 1758)	v.f.	1	Eua	Eu	
<i>*Pyrgus armoricanus</i> (Oberthür, 1910)	r	1	Eua	Xt	
Hesperiinae					
<i>*Thymelicus sylvestris</i> (Poda, 1761)	r.f.	2	Vam	Mxt	
<i>*Thymelicus acteon acteon</i> (Rottemburg, 1775)	r	2	Eua	Mxt	NT
<i>Hesperia comma</i> (Linnaeus, 1758)	r.f.	2	Eua	Mh	
<i>Ochlodes venatus faunus</i> (Turati, 1905)	r.f.	2	Eua	Mh	
PAPILIONOIDEA					
Papilionidae					
Parnassiinae					
<i>Zerynthia (Zerynthia) polyxena</i> ([Denis & Schiffermüller], 1775)	r.f.	1	Vam	Xt	EN

TAXA	Freq.	L. t. s.	Z. el.	Ec. ch.	R. L.
Papilioninae					
<i>Iphiclides podalirius podalirius</i> (Linnaeus, 1758)	f	3,4	Eua	Mxt	NT
<i>Papilio machaon machaon</i> Linnaeus, 1758	r.f.	1,3	Eua	M	
Pieridae					
Dismorphiinae					
<i>Leptidea sinapis sinapis</i> (Linnaeus, 1758)	f	1	Eua	M	
* <i>Leptidea morsei major</i> Grund, 1907	r	1	Eua	Mt	EN
Pierinae					
<i>Anthocaris cardamines</i> (Linnaeus, 1758)	f	1	Eua	M	
<i>Aporia crataegi crataegi</i> (Linnaeus, 1758)	v.r.	3,4	Eua	M	
<i>Pieris brassicae brassicae</i> (Linnaeus, 1758)	r.f.	1	Eua	M, Mg	
<i>Pieris rapae</i> (Linnaeus, 1758)	f	1	Hol	Eu, Mg	
<i>Pieris napi napi</i> (Linnaeus, 1758)	v.f.	1	Eua	Eu, Mg	
<i>Pontia edusa</i> (Fabricius, 1777)	r.f.	1	Eua	Xt, Mt	
Coliadinae					
<i>Colias erate erate</i> (Esper, 1805)	v.f.	1	Eua	Mx, Mg	NT
<i>Colias croceus</i> (Fourcroy, 1785)	f	1	Eua	Mxt, Mg	
<i>Colias hyale</i> (Linnaeus, 1758)	r	1	Eua	M, Mg	
<i>Colias alfacariensis</i> Ribbe, 1905	f	1	Eua	Mxt, Mg	NT
<i>Gonepteryx rhamni rhamni</i> (Linnaeus, 1758)	v.r.	3	Eua	M, Mg	
Lycaenidae					
Riodininae					
<i>Hamearis lucina</i> (Linnaeus, 1758)	r.f.	1	E	M	
Lycaeninae					
<i>Lycaena phlaeas phlaeas</i> (Linnaeus, 1761)	r.f.	1	Hol	Mxt	
<i>Lycaena dispar rutila</i> (Werneburg, 1864)	v.r.	1	Vam	Hg	VU
<i>Lycaena thersamon</i> (Esper, 1784)	v.r.	1	Vam	Mt	VU
<i>Thecla betulae</i> (Linnaeus, 1758)	v.r.	3,8	Eua	M	NT
<i>Neozephyrus quercus quercus</i> (Linnaeus, 1758)	r	4	Vam	Mxt	VU
<i>Callophrys rubi</i> (Linnaeus, 1758)	r.f.	1,3	Eua	Mt	
<i>Satyrrium spini</i> ([Denis & Schiffermüller], 1775)	r	3	Eua	Mx	NT
<i>Cupido (Everes) argiades</i> (Pallas, 1771)	r.f.	1	Eua	M	
<i>Cupido (Everes) decolorata</i> (Staud.) / <i>alcetas</i> (Hoff.) ²	r	-	-	Xt, Mxt	
<i>Celastrina argiolus</i> (Linnaeus, 1758)	f	1,3,4,8	Hol	M	
* <i>Pseudophilotes schiffmuelleri</i> Hemming, 1929	r	1,8	Eua	Xt	NT
<i>Glaucopsyche alexis</i> (Poda, 1761)	r	1,8	Eua	Mh	
<i>Maculinea arion</i> (Linnaeus, 1758)	r	1,8	Eua	Mh	NT
* <i>Maculinea alcon</i> ([Denis & Schiffermüller], 1775)	v.r.	1,8	Eua	Mh	EN
<i>Plebeius (Plebeius) argus argus</i> (Linnaeus, 1758)	v.f.	1,8	Eua	M	
<i>Plebeius (Plebeius) idas idas</i> (Linnaeus, 1761)	r.f.	1,8	Hol	M	NT
<i>Plebeius (Plebeius) argyrognomon</i> (Bergsträsser, 1779)	r.f.	1,8	E	Mt	
<i>Aricia agestis agestis</i> ([Denis & Schiffermüller], 1775)	r.f.	1,8	Eua	Mxt	
<i>Polyommatus (Polyommatus) thersites</i> (Cantener, 1835)	r	1,8	Eua	Mxt	DD
<i>Polyommatus (Polyommatus) icarus</i> (Rottemburg, 1775)	v.f.	1,8	Eua	M	
<i>Polyommatus (Meleageria) daphnis</i> ([Denis & Schiffermüller], 1775)	r	1,8	Vam	Mxt	
<i>Polyommatus (Meleageria) bellargus</i> (Rottemburg, 1775)	r.f.	1,8	Eua	Mt	
<i>Polyommatus (Meleageria) coridon coridon</i> (Poda, 1761)	r.f.	1,8	E	Mxt	
Nymphalidae					
Heliconiinae					
<i>Argynnis paphia paphia</i> (Linnaeus, 1758)	f	1	Eua	Mh	
<i>Argynnis pandora</i> ([Denis & Schiffermüller], 1775)	r	1	Vam	Mt	VU
<i>Argynnis aglaja</i> (Linnaeus, 1758)	r.f.	1	Eua	M, Mh	

² We identified only ♀♀ specimens which are extremely difficult to determinate without having ♂ specimens / Am identificat numai exemplare ♀♀ care sunt extrem de dificil de determinat cu precizie în absența exemplarelor ♂.

TAXA	Freq.	L. t. s.	Z. el.	Ec. ch.	R. L.
<i>Argynnis adippe</i> ([Denis & Schiffermüller], 1775)	r.f.	1	Eua	M	
<i>Argynnis niobe niobe</i> (Linnaeus, 1758)	r	1	Eua	M	
<i>Issoria lathonia</i> (Linnaeus, 1758)	r.f.	1	Eua	Mxt, Mg	
<i>Brenthis hecate</i> ([Denis & Schiffermüller], 1775)	r.f.	1	Eua	Mt	VU
<i>Boloria (Clossiana) euphrosyne</i> (Linnaeus, 1758)	r	1	Eua	M	
<i>Boloria (Clossiana) dia dia</i> (Linnaeus, 1767)	v.f.	1	Eua	M	
Nymphalinae					
<i>Vanessa atalanta</i> (Linnaeus, 1758)	r.f.	1	Eua	Eu, Mg	
<i>Vanessa cardui</i> (Linnaeus, 1758)	r.f.	1	Cosm	Eu, Mg	
<i>Inachis io</i> (Linnaeus, 1758)	r.f.	1	Eua	M, Mg	
<i>Aglais urticae</i> (Linnaeus, 1758)	r	1	Eua	Eu, Mg	
<i>Polygonia c-album</i> (Linnaeus, 1758)	f	1,3,4	Eua	Eu	
<i>Araschnia levana</i> (Linnaeus, 1758)	v.r.	1	Eua	Mh	
<i>Nymphalis polychloros</i> (Linnaeus, 1758)	r	3,4	Eua	M	VU
<i>Melitaea phoebe</i> ([Denis & Schiffermüller], 1775)	r.f.	1	Eua	Mt	
<i>Melitaea trivia trivia</i> ([Denis & Schiffermüller], 1775)	r.f.	1	Vam	Xt	
<i>Melitaea aurelia aurelia</i> Nickerl, 1850	r.f.	1	Eua	Mh	
<i>Melitaea athalia athalia</i> (Rottemburg, 1775)	f	1	Eua	Mt	
Apaturinae					
<i>Apatura iris</i> (Linnaeus, 1758)	r	3,4	Eua	M	VU
Satyrinae					
<i>Pararge aegeria tircis</i> Butler, 1867	f	2	E	M	
<i>Lasiommata megera megera</i> (Linnaeus, 1767)	f	2	Eua	Mt	
<i>Lasiommata maera maera</i> (Linnaeus, 1758)	r.f.	2	Eua	M	
<i>Coenonympha arcania arcania</i> (Linnaeus, 1761)	f	2	Eua	Mh	
<i>Coenonympha pamphilus</i> (Linnaeus, 1758)	f	2	Eua	M	
<i>Aphantopus hyperantus</i> (Linnaeus, 1758)	f	2	Eua	M	
<i>Maniola jurtina jurtina</i> (Linnaeus, 1758)	v.f.	2	Eua	M	
<i>Hyponephele lycaon</i> (Rottemburg, 1775)	v.r.	2	Eua	Mxt	VU
<i>Melanargia galathea</i> (Linnaeus, 1758)	v.f.	2	Eua	M	
<i>Hipparchia fagi</i> (Scopoli, 1763)	r	2	Vam	Mt	
<i>Hipparchia semele semele</i> (Linnaeus, 1758)	r.f.	2	Eua	Mxt	
<i>Hipparchia volgensis delattini</i> Kudrna, 1975	r.f.	2	E	Xt	VU
DREPANOIDEA					
Drepanidae					
Thyatirinae					
<i>Thyatira batis</i> Linnaeus, 1758	r.f.	1	Eua	Mh	
<i>Habrosyne pyritoides</i> (Hufnagel, 1766)	r.f.	1	Eua	M, Mh	
<i>Tethea ocularis</i> (Linnaeus, 1767)	r	4	Eua	Mh	NT
<i>Tethea or</i> ([Denis & Schiffermüller], 1775)	r	4	Eua	Mh	NT
Drepaninae					
<i>Watsonalla binaria</i> (Hufnagel, 1767)	r.f.	4	Vam	M	
<i>Watsonalla cultraria</i> (Fabricius, 1775)	r	4	Vam	Mt	
<i>Cilix glaucata</i> (Scopoli, 1763)	f	3,4	Eua	Mt	
GEOMETROIDEA					
Geometridae					
Archiearinae					
* <i>Archiearis parthenias</i> (Linnaeus, 1761)	v.r.	4	Eua	M, Mh	NT
Ennominae					
<i>Lomaspilis marginata</i> (Linnaeus, 1758)	r	4	Eua	M	
<i>Ligdia adustata</i> ([Denis & Schiffermüller], 1775)	r.f.	4	Eua	M	
* <i>Stegania dilectaria</i> (Hübner, 1790)	v.r.	4	Eua	Mx	NT
<i>Heliomata glarearia</i> ([Denis & Schiffermüller], 1775)	r.f.	1	Vam	Mxt	
<i>Macaria alternata</i> ([Denis & Schiffermüller], 1775)	r.f.	1	Eua	M	
<i>Macaria liturata</i> (Clerck, 1759)	v.r.	5	Eua	M	

TAXA	Freq.	L. t. s.	Z. el.	Ec. ch.	R. L.
<i>Chiasmia clathrata</i> (Linnaeus, 1758)	r.f.	1	Eua	M	
<i>Godonella aestimaria sareptanaria</i> Staudinger, 1871	v.r.	1	Vam	Xt	VU
<i>Tephрина murinaria</i> ([Denis & Schiffermüller], 1775)	r	1	Vam	Mxt	NT
<i>Tephрина arenacearia</i> ([Denis & Schiffermüller], 1775)	r.f.	1	Vam	Mxt	NT
<i>Neognopharmia stevenaria</i> (Boisduval, 1840)	r.f.	3,4	Vam	Xt	NT
<i>Plagodis pulveraria</i> (Linnaeus, 1758)	r	3,4	Eua	M	
<i>Opisthograptis luteolata</i> (Linnaeus, 1758)	r.f.	3,4	Eua	M	NT
<i>Therapis flavicaria</i> ([Denis & Schiffermüller], 1775)	r	1	Vam	Mt	NT
<i>Pseudopanthera macularia</i> (Linnaeus, 1758)	f	1	Eua	M	
<i>Eilicrinia trinotata</i> (Metzner, 1845)	r.f.	1	Vam	Xt	NT
<i>Apeira syringaria</i> (Linnaeus, 1758)	v.r.	3	Eua	Mt	NT
<i>Ennomos erosaria</i> ([Denis & Schiffermüller], 1775)	r	4	Eua	M	NT
<i>Selenia dentaria</i> (Fabricius, 1775)	r	3,4	Eua	M	NT
<i>Selenia lunularia</i> (Hübner, 1788)	r.f.	3,4	Eua	M	NT
<i>Artiora evonymaria</i> ([Denis & Schiffermüller], 1775)	v.r.	3	Eua	M	VU
<i>Crocallis elinguaris</i> (Linnaeus, 1758)	r	3,4	Eua	M	
<i>Ourapteryx sambucaria</i> (Linnaeus, 1758)	r	3,4	Eua	M	CR
<i>Apocheima pilosaria</i> ([Denis & Schiffermüller], 1775)	r	4	Eua	M	NT
<i>Lycia hirtaria hirtaria</i> (Clerck, 1759)	r	4	Eua	M	NT
<i>Biston betularia</i> (Linnaeus, 1758)	r.f.	3,4	Eua	M	
<i>Agriopis marginaria</i> (Fabricius, 1776)	r.f.	3,4	Eua	M	
<i>Erannis defoliaria</i> (Clerck, 1759)	r.f.	3,4	Eua	M	
<i>Synopsis sociaria</i> (Hübner, 1799)	r	1,3	Eua	Mx	
<i>Peribatodes rhomboidaria</i> ([Denis & Schiffermüller], 1775)	f	4	Eua	M	
<i>Cleora cinctaria</i> ([Denis & Schiffermüller], 1775)	r	3,4	Eua	M	
<i>Alcis repandata</i> (Linnaeus, 1758)	r.f.	1,3,4,5	Eua	M	
<i>Hypomecis punctinalis</i> (Scopoli, 1763)	r	4	Eua	M	
<i>Ascotis selenaria selenaria</i> ([Denis & Schiffermüller], 1775)	f	1	Eua	M	
<i>Ectropis crepuscularia</i> ([Denis & Schiffermüller], 1775)	r	4,5	Eua	M	
<i>Ematurga atomaria atomaria</i> (Linnaeus, 1758)	v.f.	1,3	Eua	M	
<i>Cabera pusaria</i> (Linnaeus, 1758)	r	4	Eua	M	
<i>Cabera exanthemata</i> (Scopoli, 1763)	r	4	Eua	Mh	NT
* <i>Lomographa temerata</i> ([Denis & Schiffermüller], 1775)	v.r.	3,4	Eua	M	NT
* <i>Theria rupicapraris</i> ([Denis & Schiffermüller], 1775)	v.r.	3,4	Eua	M	NT
<i>Campaea margaritata</i> (Linnaeus, 1767)	r.f.	4	Eua	M	
<i>Hylaea fasciaria fasciaria</i> (Linnaeus, 1758)	r.f.	1,5	Eua	M	
* <i>Odontognophos dumetata dumetata</i> (Treitschke, 1827)	r	3,4	Vam	Xt	VU
<i>Charissa (Charissa) obscurata</i> ([Denis & Schiffermüller], 1775)	r	1,3	Eua	Xt	
<i>Charissa (Costignophos) pullata</i> ([Denis & Schiffermüller], 1775)	v.r.	1,3	Eua	Xt	
<i>Siona lineata</i> (Scopoli, 1763)	r.f.	1	Eua	M	
* <i>Aspilates gilvaria</i> ([Denis & Schiffermüller], 1775)	v.r.	1	Eua	Xt	NT
* <i>Perconia strigillaria</i> (Hübner, 1787)	r	1,3	Eua	Mxt	NT
Alsophilinae					
<i>Alsophila aescularia</i> ([Denis & Schiffermüller], 1775)	r.f.	3,4	Eua	M	
<i>Alsophila aceraria</i> ([Denis & Schiffermüller], 1775)	r.f.	4	Eua	Mt	NT
Geometrinae					
<i>Pseudoterpna pruinata</i> (Hufnagel, 1767)	r.f.	1	Eua	Mx	
<i>Thetidia (Antonechloris) smaragdaria</i> (Fabricius, 1787)	r.f.	1	Eua	Mx	
<i>Chlorissa viridata</i> (Linnaeus, 1758)	r.f.	1,3,4	Eua	T	
<i>Chlorissa cloraria</i> (Hübner, [1813])	r.f.	1,3,4	Eua	Xt	NT
<i>Phaiogramma etruscaria</i> (Zeller, 1849)	v.r.	1,3,4	Vam	Xt	NT
<i>Thalera fimbrialis</i> (Scopoli, 1763)	r.f.	1	Eua	Mt, Xt	
<i>Hemistola chrysoprasaria</i> (Esper, 1795)	r	1	Eua	Mt	
Sterrhinae					

TAXA	Freq.	L. t. s.	Z. el.	Ec. ch.	R. L.
<i>Cyclophora pendularia</i> (Clerck, 1759)	r	4	Eua	M	NT
<i>Cyclophora albicellaria albicellaria</i> (Hübner, 1789)	v.r.	4	Eua	Mx	NT
<i>Cyclophora annularia</i> (Fabricius, 1775)	v.r.	4	Eua	Mt	NT
<i>Cyclophora punctaria</i> (Linnaeus, 1758)	r	4	Vam	Mt	NT
<i>Cyclophora linearia</i> (Hübner, 1799)	v.r.	4	Eua	M	
<i>Timandra comae</i> A. Schmidt, 1931	f	1	Eua	Mt	
<i>Scopula immorata</i> (Linnaeus, 1758)	r.f.	1	Eua	Mt, Mht	
<i>Scopula tessellaria</i> (Boisduval, 1840)	v.r.	1,3	Eua	M, Mx	VU
<i>Scopula virgulata</i> ([Denis & Schiffermüller], 1775)	r	1,2,4	Eua	Xt	
<i>Scopula ornata</i> (Scopoli, 1763)	r.f.	1	Eua	Mt, Mht	
<i>Scopula decorata decorata</i> ([Denis & Schiffermüller], 1775)	r	1	Eua	Xt, Mxt	NT
<i>Scopula rubiginata</i> (Hufnagel, 1767)	r.f.	1	Eua	Mxt	
<i>Scopula marginepunctata</i> (Goeze, 1781)	r.f.	1	Eua	Mxt	
<i>Scopula incanata</i> (Linnaeus, 1758)	r	1,3	Eua	Xt	
<i>Scopula imitaria</i> (Hübner, 1799)	r	1,3	E	Xt	NT
<i>Idaea rufaria</i> (Hübner, 1799)	r.f.	1	Eua	Mxt	NT
<i>Idaea serpentata</i> (Hufnagel, 1767)	r	1,2	Eua	Xt	NT
<i>Idaea muricata</i> (Hufnagel, 1767)	r	1,3	Eua	M	NT
<i>Idaea rusticata</i> ([Denis & Schiffermüller], 1775)	r	1,3,4	Eua	Mt	NT
<i>Idaea filicata</i> (Hübner, 1799)	r.f.	1	Vam	Xt	NT
* <i>Idaea laevigata</i> (Scopoli, 1763)	r	1	Vam	Xt	NT
<i>Idaea inquinata</i> (Scopoli, 1763)	r	1	Eua	M	
<i>Idaea humiliata</i> (Hufnagel, 1767)	r	1	Eua	Mxt	NT
<i>Idaea politaria</i> (Hübner, 1799)	r	1	Vam	Xt	NT
<i>Idaea seriata</i> (Schrank, 1802)	r	1,3,4	Eua	M	NT
<i>Idaea dimidiata</i> (Hufnagel, 1767)	r	1,3,4	Hol	Mh, Mx	
<i>Idaea subsericeata</i> (Haworth, 1809)	r	1,4	Eua	Xt	NT
<i>Idaea aversata aversata</i> (Linnaeus, 1758)	r.f.	1,3	Eua	M	
<i>Idaea degeneraria</i> (Hübner, 1799)	r.f.	1,3	Eua	Mt	
<i>Idaea straminata</i> (Borkhausen, 1794)	r	1,3,4	Eua	Xt	
<i>Idaea deversaria</i> (Herrich-Schäffer, 1847)	r	1,3,4	Eua	Xt	NT
<i>Rhodostrophia vibicaria</i> (Clerck, 1759)	r.f.	1	Eua	Xt	
Larentiinae					
<i>Lythria purpuraria</i> (Linnaeus, 1758)	r	1	Vam	Mxt	NT
<i>Cataclysmes rigata</i> (Hübner, 1813)	r	1	Eua	Mxt	
<i>Scotopteryx bipunctaria</i> ([Denis & Schiffermüller], 1775)	r	1	Vam	Mxt	
<i>Scotopteryx chenopodiata</i> (Linnaeus, 1758)	r.f.	1	Eua	M	
* <i>Scotopteryx ignorata</i> Huemer & Hausmann, 1998	v.r.	1	E	Xt	NT
<i>Xanthorhoe biriviata</i> (Borkhausen, 1794)	r	1	Eua	Mh	NT
<i>Xanthorhoe ferrugata</i> (Clerck, 1759)	r	1	Eua	M, Mh	
<i>Xanthorhoe fluctuata</i> (Linnaeus, 1758)	f	1	Eua	M	
* <i>Catarhoe rubidata</i> ([Denis & Schiffermüller], 1775)	r.f.	1	Eua	M	NT
<i>Catarhoe cuculata</i> (Hufnagel, 1767)	r.f.	1	Eua	Mh	
<i>Epirrhoe alternata</i> (Müller, 1764)	r.f.	1	Eua	Mh	
<i>Epirrhoe rivata</i> (Hübner, 1813)	r.f.	1	Eua	Mht	
<i>Epirrhoe galiata</i> ([Denis & Schiffermüller], 1775)	r.f.	1	Eua	Mxt	
<i>Costaconvexa polygrammata</i> (Borkhausen, 1794)	r.f.	1	Eua	Mh	NT
<i>Camptogramma bilineata</i> (Linnaeus, 1758)	r.f.	1	Eua	M, Mh	
* <i>Anticlea badiata</i> ([Denis & Schiffermüller], 1775)	r.f.	3	Eua	M	NT
<i>Anticlea derivata</i> ([Denis & Schiffermüller], 1775)	v.r.	3	Eua	M	NT
<i>Pelurga comitata</i> (Linnaeus, 1758)	r.f.	1	Eua	M	NT
<i>Cosmorhoe ocellata</i> (Linnaeus, 1758)	r	1	Eua	M, Mh	
<i>Eulithis pyraliata</i> ([Denis & Schiffermüller], 1775)	r	1	Eua	Mh	
<i>Cidaria fulvata</i> (Forster, 1771)	v.r.	3	Eua	M	
<i>Electrophaes corylata</i> (Thunberg, 1792)	r	3,4	Eua	M, Mh	

TAXA	Freq.	L. t. s.	Z. el.	Ec. ch.	R. L.
<i>Colostygia pectinataria</i> (Knoch, 1781)	r.f.	1	Eua	M	
<i>Hydriomena furcata</i> (Thunberg, 1784)	r.f.	3	Eua	M	
<i>Horisme vitalbata</i> ([Denis & Schiffermüller], 1775)	r.f.	1	Eua	Mx	
* <i>Horisme corticata</i> (Treitschke, 1835)	r	1	Vam	Mt	NT
<i>Melanthia procellata</i> ([Denis & Schiffermüller], 1775)	r.f.	3	Eua	M	
<i>Philereme vetulata</i> ([Denis & Schiffermüller], 1775)	r	3	Eua	M	
<i>Philereme transversata</i> (Hufnagel, 1767)	v.r.	3	Vam	Mh	NT
<i>Operophtera brumata</i> (Linnaeus, 1758)	r.f.	4	Eua	M	
<i>Perizoma albulata</i> ([Denis & Schiffermüller], 1775)	r	1	Eua	Eu	
<i>Eupithecia linariata</i> ([Denis & Schiffermüller], 1775)	r	1	Eua	M	
<i>Eupithecia centaureata</i> ([Denis & Schiffermüller], 1775)	r.f.	1,3	Eua	M	
<i>Eupithecia vulgata vulgata</i> (Haworth, 1809)	r	1,3	Eua	Eu	
<i>Eupithecia subfuscata</i> (Haworth, 1809)	v.r.	1,3,4	Hol	Eu	
<i>Eupithecia icterata icterata</i> (Villers, 1789)	r	1	Eua	M	
<i>Eupithecia innotata</i> (Hufnagel, 1767)	r.f.	1,3,4	Eua	Xt	
<i>Gymnoscelis rufifasciata</i> (Haworth, 1809)	r.f.	1,3,4	Eua	Eu	
<i>Chloroclystis v-ata</i> (Haworth, 1809)	r.f.	1,3	Eua	Eu	
<i>Pasiphila rectangulata</i> (Linnaeus, 1758)	r.f.	3,4	Eua	M	
<i>Pasiphila chloerata</i> (Mabille, 1870)	r	3	Eua	M	
<i>Aplocera plagiata</i> (Linnaeus, 1758)	r.f.	1	Eua	Mx	
<i>Lithostege griseata</i> ([Denis & Schiffermüller], 1775)	r	1	Eua	Mxt	
<i>Hydrelia flammeolaria</i> (Hufnagel, 1767)	v.r.	4	Eua	Mh	
<i>Minoa murinata</i> (Scopoli, 1763)	r.f.	1	Eua	M	
<i>Lobophora halterata</i> (Hufnagel, 1767)	r.f.	4	Eua	Mh	
NOCTUOIDEA					
Notodontidae					
Pygaerinae					
<i>Clostera curtula</i> (Linnaeus, 1758)	r	4	Eua	Mh	
<i>Clostera pigra</i> (Hufnagel, 1766)	v.r.	4	Eua	Mh	
Notodontinae					
<i>Furcula bifida bifida</i> (Brahm, 1787)	v.r.	4	Eua	Mh	
<i>Dicranura ulmi</i> ([Denis & Schiffermüller], 1775)	r.f.	3,4	Eua	Mxt	NT
<i>Notodonta tritophus tritophus</i> ([Denis & Schiffermüller], 1775)	r	4	E	M	
<i>Drymonia ruficornis</i> (Hufnagel, 1766)	r	4	Eua	M	
* <i>Drymonia querna</i> ([Denis & Schiffermüller], 1775)	r	4	E	Mxt	
<i>Pheosia tremula</i> (Clerck, 1759)	v.r.	4	Eua	M, Mh	
<i>Pterostoma palpina</i> (Clerck, 1759)	r.f.	4	Eua	M	
Phalerinae					
<i>Phalera bucephala</i> (Linnaeus, 1758)	v.r.	4	Eua	M	
Heterocampinae					
<i>Stauropus fagi</i> (Linnaeus, 1758)	r	4	Eua	M	
<i>Harpyia milhauseri</i> (Fabricius, 1775)	v.r.	4	Vam	Xt	NT
<i>Spatalia argentina</i> ([Denis & Schiffermüller], 1775)	r	4	Vam	Mt	
Noctuidae					
Acronictinae					
<i>Oxicesta geographica</i> (Fabricius, 1787)	r.f.	1	Vam	Xt	NT
<i>Acronicta alni</i> (Linnaeus, 1767)	v.r.	3,4	Eua	M	
<i>Acronicta tridens tridens</i> ([Denis & Schiffermüller], 1775)	r	3,4	Eua	M, Mt	
<i>Acronicta megacephala</i> ([Denis & Schiffermüller], 1775)	r	4	Eua	Mh	
<i>Acronicta euphorbiae</i> ([Denis & Schiffermüller], 1775)	r	1	Eua	Xt	
<i>Acronicta rumicis</i> (Linnaeus, 1758)	f	1,3,4	Eua	Mh	
<i>Craniophora ligustri ligustri</i> ([Denis & Schiffermüller], 1775)	r.f.	3,4	Eua	M	
<i>Simyra nervosa nervosa</i> ([Denis & Schiffermüller], 1775)	v.r.	1	Eua	Xt	VU
Bryophilinae					
<i>Cryphia receptricula</i> (Hübner, 1803)	r	9	Vam	Xt	VU

TAXA	Freq.	L. t. s.	Z. el.	Ec. ch.	R. L.
<i>Cryphia algae</i> (Fabricius, 1775)	r.f.	4	Vam	M	
<i>Cryphia raptricula</i> ([Denis & Schiffermüller], 1775)	v.r.	9	Eua	Mxt	NT
Herminiinae					
<i>Simplicia rectalis</i> (Eversmann, 1842)	r	4	Eua	Xt	
<i>Paracolax tristalis</i> (Fabricius, 1794)	r.f.	1,3,4	Eua	Mht	
<i>Herminia tarsicrinalis</i> (Knoch, 1782)	r.f.	1	Eua	Mh	NT
<i>Polypogon tentacularia</i> (Linnaeus, 1758)	r.f.	1	Eua	M	
<i>Zanclognatha lunalis</i> (Scopoli, 1763)	r	4	Eua	Mxt	
Strepsimaninae					
* <i>Schrankia taenialis</i> (Hübner, 1809)	v.r.	1	Vam	T	NT
Catocalinae					
<i>Catocala fraxini fraxini</i> (Linnaeus, 1758)	v.r.	4	Eua	Mh	NT
<i>Catocala nupta nupta</i> (Linnaeus, 1767)	r	4	Eua	Mh	NT
<i>Catocala elocata elocata</i> (Esper, 1787)	r	4	Vam	Mht	NT
<i>Catocala puerpera</i> (Giorna, 1791)	v.r.	4	Vam	Mht	NT
<i>Catocala promissa promissa</i> ([Denis & Schiffermüller], 1775)	r	4	Vam	Mt	NT
<i>Catocala hymenaea</i> ([Denis & Schiffermüller], 1775)	r	3,4	Eua	Xt	NT
<i>Dysgonia algira algira</i> (Linnaeus, 1767)	r	3,4	Vam	Xt	NT
<i>Prodotis stolidia</i> (Fabricius, 1775)	v.r.	3,4	Str	Xt	
<i>Lygephila cracca</i> ([Denis & Schiffermüller], 1775)	r.f.	1	Eua	Mt	
<i>Aedia funesta funesta</i> (Esper, 1786)	r.f.	1	Vam	Mht	NT
<i>Aedia leucomelas</i> (Linnaeus, 1758)	r	1	Str	Xt	VU
<i>Tyta luctuosa</i> ([Denis & Schiffermüller], 1775)	f	1	Eua	Xt	
<i>Euclidia glyphica</i> (Linnaeus, 1758)	f	1	Eua	Mt	
<i>Gonospilea triquetra</i> ([Denis & Schiffermüller], 1775)	r.f.	1	Eua	Xt	VU
Calpinae					
<i>Scoliopteryx libatrix</i> (Linnaeus, 1758)	v.r.	4	Hol	Mh	
<i>Calyptra thalictri</i> (Borkhausen, 1790)	v.r.	1	Eua	Mt	VU
Hypeninae					
<i>Hypena proboscidalis</i> (Linnaeus, 1758)	r.f.	1	Eua	M, Mh	
<i>Hypena rostralis</i> (Linnaeus, 1758)	r.f.	1	Eua	M	
<i>Phytometra viridaria</i> (Clerck, 1759)	r.f.	1	Eua	M	
<i>Rivula sericealis</i> (Scopoli, 1763)	r	2	Eua	Mh	
<i>Parascotia fuliginaria</i> (Linnaeus, 1761)	v.r.	6,9	Vam	Mh	
<i>Colobochyla salicalis</i> ([Denis & Schiffermüller], 1775)	v.r.	4	Eua	Mh	
Plusiinae					
<i>Diachrysia chrysitis chrysitis</i> (Linnaeus, 1758)	r.f.	1	Eua	M	
* <i>Diachrysia tutti</i> (Kostrowicki, 1961)	r	1	Eua ?	Mht	
<i>Macdunnoughia confusa confusa</i> (Stephens, 1850)	f	1	Eua	Mt, Mg	
<i>Autographa gamma</i> (Linnaeus, 1758)	f	1	Eua	Eu, Mg	
<i>Autographa pulchrina</i> (Haworth, 1809)	v.r.	1	Eua	M, Mh	
<i>Chrysodeixis chalcites</i> (Esper, 1789)	r	1	Str	Xt, Mg	DD
<i>Abrostola tripartita</i> (Hufnagel, 1766)	r.f.	1	Eua	M	
<i>Abrostola triplasia</i> (Linnaeus, 1758)	r.f.	1	Eua	M	
Acontiinae					
<i>Emmelia trabealis</i> (Scopoli, 1763)	r.f.	1	Eua	Mt	
<i>Acontia lucida</i> (Hufnagel, 1766)	r.f.	1	Eua	Xt	
Eustrotiinae					
<i>Pseudeustrotia candidula candidula</i> ([Denis & Schiffermüller], 1775)	v.r.	1	Eua	Mh	
<i>Calymma communimacula</i> ([Denis & Schiffermüller], 1775)	v.r.	9	Vam	Xt	NT
<i>Eublemma amoena</i> (Hübner, 1803)	v.r.	1	Vam	Xt	VU
<i>Eublemma purpurina</i> ([Denis & Schiffermüller], 1775)	v.r.	1	Vam	Xt	
* <i>Glossodice polygramma</i> (Duponchel, 1842)	v.r.	1	Vam	Xt	NT
Cuculliinae					

TAXA	Freq.	L. t. s.	Z. el.	Ec. ch.	R. L.
<i>Cucullia absinthii</i> (Linnaeus, 1761)	v.r.	1	Eua	Mt	
* <i>Cucullia fraterna</i> Butler, 1878	r	1	Eua	Mxt	DD
<i>Cucullia umbratica</i> (Linnaeus, 1758)	r.f.	1	Eua	M	
<i>Cucullia tanacetii</i> ([Denis & Schiffermüller], 1775)	v.r.	1	Eua	Xt	NT
<i>Shargacucullia verbasci</i> (Linnaeus, 1758)	v.r.	1	Eua	Mt	
Oncocnemidinae					
* <i>Lamprosticta culta culta</i> ([Denis & Schiffermüller], 1775)	r.f.	3,4	Vam	T	
Psaphidininae					
<i>Valeria oleagina</i> ([Denis & Schiffermüller], 1775)	r	3	Vam	Mxt	
<i>Meganephria (Meganephria) bimaculosa</i> (Linnaeus, 1767)	r	3,4	Vam	Mht	CR
<i>Allophytes oxyacanthae</i> (Linnaeus, 1758)	v.r.	3,4	Vam	Mt	
Amphipyridae					
<i>Amphipyra pyramidea</i> (Linnaeus, 1758)	r.f.	4	Eua	M	
<i>Amphipyra berbera svenssoni</i> Fletcher, 1968	r	4	Vam	Mt	
<i>Amphipyra livida</i> ([Denis & Schiffermüller], 1775)	r	1	Eua	M	
<i>Amphipyra tragopoginis</i> (Clerck, 1759)	r.f.	1,3,4	Hol	M	
Dilobinae					
<i>Diloba caeruleocephala</i> (Linnaeus, 1758)	v.r.	3,4	Eua	Mt	
Heliothinae					
<i>Schinia scutosa</i> ([Denis & Schiffermüller], 1775)	r	1	Hol	Xt, Mg	
<i>Heliothis viriplaca viriplaca</i> (Hufnagel, 1766)	r	1	Eua	T	
<i>Heliothis maritima bulgarica</i> (Draut, 1938)	r.f.	1	Eua	Xt, Mg	
<i>Helicoverpa armigera armigera</i> (Hübner, 1808)	f	1	Cosm	T, Mg	
<i>Pyrrhia umbra</i> (Hufnagel, 1766)	r.f.	1,3,4	Hol	Mht	
Ipimorphinae					
<i>Elaphria venustula</i> (Hübner, 1790)	v.r.	3,4	Eua	Mt	
<i>Caradrina morpheus</i> (Hufnagel, 1766)	r.f.	1	Eua	Mh	
<i>Platyperigea kadenii</i> (Freyer, 1836)	r	1	Vam	Xt	NT
<i>Paradrina clavipalpis</i> (Scopoli, 1763)	r.f.	1	Eua	Mt	
<i>Hoplodrina octogenaria</i> (Goeze, 1781)	r.f.	1	Eua	M	
<i>Hoplodrina blanda</i> ([Denis & Schiffermüller], 1775)	r.f.	1	Eua	M	
<i>Hoplodrina ambigua</i> ([Denis & Schiffermüller], 1775)	f	1,3	Vam	Mt	
<i>Charanyca trigrammica</i> (Hufnagel, 1766)	r.f.	1	Vam	M	
<i>Athetis furvula</i> (Hübner, 1808)	r.f.	1	Eua	Mxt	
<i>Athetis gluteosa</i> (Treitschke, 1835)	r.f.	1	Eua	Xt	
<i>Dypterygia scabriuscula</i> (Linnaeus, 1758)	r.f.	1	Eua	Mh	
<i>Rusina ferruginea</i> (Esper, 1785)	r	1	Eua	M, Mh	
* <i>Polyphaenis viridis</i> (Villers, 1789)	r	3	Vam	Xt	CR
<i>Thalpophila matura</i> (Hufnagel, 1766)	r.f.	2	Vam	M	
<i>Trachea atriplicis</i> (Linnaeus, 1758)	r.f.	1	Eua	M	
<i>Euplexia lucipara</i> (Linnaeus, 1758)	v.r.	1	Eua	M, Mh	
<i>Phlogophora meticulosa</i> (Linnaeus, 1758)	r.f.	1	Vam	M, Mh	
<i>Actinotia polyodon</i> (Clerck, 1759)	r	1	Eua	Mxt	
* <i>Chloantha hyperici</i> ([Denis & Schiffermüller], 1775)	r	1	Vam	Mxt	
<i>Parastichtis ypsilon</i> ([Denis & Schiffermüller], 1775)	v.r.	4	Eua	Mh	
<i>Mesogona acetosellae</i> ([Denis & Schiffermüller], 1775)	r	3,4	Eua	Xt	
<i>Cosmia affinis</i> (Linnaeus, 1767)	r	4	Eua	Mht	NT
<i>Cosmia pyralina</i> ([Denis & Schiffermüller], 1775)	r	3,4	Eua	Mh	
<i>Cosmia trapezina</i> (Linnaeus, 1758)	f	4	Vam	M	
<i>Apamea monoglypha</i> (Hufnagel, 1766)	r.f.	7	Eua	Eu	
<i>Apamea sublustris</i> (Esper, 1788)	v.r.	7	Eua	Mh	NT
<i>Apamea crenata</i> (Hufnagel, 1766)	r	7	Eua	M	
<i>Apamea epomidion</i> (Haworth, 1809)	v.r.	7	Eua	M	NT
<i>Apamea anceps</i> ([Denis & Schiffermüller], 1775)	r	2	Eua	M	
<i>Apamea sordens</i> (Hufnagel, 1766)	r	2	Eua	Eu	

TAXA	Freq.	L. t. s.	Z. el.	Ec. ch.	R. L.
<i>Apamea scolopacina</i> (Esper, 1788)	v.r.	2	Eua	M	
<i>Apamea ophiogramma</i> (Esper, 1794)	v.r.	1,2	Eua	Mh	
<i>Oligia strigilis</i> (Linnaeus, 1758)	r.f.	2	Eua	M	
<i>Oligia versicolor</i> (Borkhausen, 1792)	r	1,2	Eua	M	
<i>Oligia latruncula</i> ([Denis & Schiffermüller], 1775)	r	2	Eua	Mh	
<i>Mesapamea secalis</i> (Linnaeus, 1758)	r.f.	2	Eua	M	
<i>Mesapamea didyma</i> (Esper, 1788)	v.r.	2	Eua	M	DD
<i>Photodes minima</i> (Haworth, 1809)	v.r.	2	Eua	Mh, Hg	NT
<i>Luperina testacea</i> ([Denis & Schiffermüller], 1775)	r	2	Vam	M	
<i>Rhizedra lutosa</i> (Hübner, 1803)	v.r.	2	Eua	Hg	NT
<i>Gortyna flavago</i> ([Denis & Schiffermüller], 1775)	r	1	Eua	Mh	NT
<i>Calamia tridens tridens</i> (Hufnagel, 1766)	r	2	Eua	Mxt	
* <i>Chortodes pygmina</i> (Haworth, 1809)	v.r.	1,2	Eua	Mh	NT
Hadeninae					
<i>Hadula (Calocestra) trifolii</i> (Hufnagel, 1766)	f	1	Hol	Eu	
<i>Polia nebulosa</i> (Hufnagel, 1766)	r	1	Eua	M, Mh	
<i>Lacanobia (Lacanobia) w-latinum</i> (Hufnagel, 1766)	r.f.	1,3,4	Eua	M	
<i>Lacanobia (Dianobia) contigua</i> ([Denis & Schiffermüller], 1775)	r.f.	1,3	Eua	M	
<i>Lacanobia (Dianobia) suasa</i> ([Denis & Schiffermüller], 1775)	r	1	Eua	Mh	
<i>Lacanobia (Diataraxia) oleracea</i> (Linnaeus, 1758)	r.f.	1	Eua	Mht	
<i>Lacanobia (Diataraxia) blenna</i> (Hübner, 1824)	v.r.	1	Vam	Xt	VU
<i>Melanchra persicariae</i> (Linnaeus, 1761)	r	1	Eua	Mh	
<i>Hada plebeja</i> (Linnaeus, 1761)	r	1	Eua	Eu, Mg	
<i>Mamestra brassicae</i> (Linnaeus, 1758)	f	1	Eua	M, Mg	
<i>Sideridis (Aneda) rivularis</i> (Fabricius, 1775)	v.r.	1	Eua	M	NT
<i>Sideridis (Heliophobus) reticulata</i> (Goeze, 1781)	r	1	Eua	Mt	
<i>Conisania (Luteohadena) luteago luteago</i> ([Den. & Schiff.], 1775)	v.r.	1	Vam	Mxt	NT
<i>Hecatera bicolorata</i> (Hufnagel, 1766)	r.f.	1	Eua	Mt	
<i>Hecatera dysodea</i> ([Denis & Schiffermüller], 1775)	r.f.	1	Eua	M	
<i>Cerapteryx graminis</i> (Linnaeus, 1758)	r.f.	2	Hol	Mh	
<i>Tholera cespitis</i> ([Denis & Schiffermüller], 1775)	r.f.	2	Eua	M	
<i>Tholera decimalis</i> (Poda, 1761)	r.f.	2	Eua	M	
<i>Mythimna (Mythimna) pallens</i> (Linnaeus, 1758)	r.f.	1,2	Eua	M, Mh	
<i>Mythimna (Mythimna) vitellina</i> (Hübner, 1808)	r.f.	2	Vam	Mxt, Xt, Mg	
<i>Mythimna (Hyphilare) albipuncta</i> ([Denis & Schiffermüller], 1775)	r.f.	1,2	Vam	M	
<i>Mythimna (Hyphilare) ferrago</i> (Fabricius, 1787)	r.f.	2	Eua	M, Mh	
* <i>Mythimna (Hyphilare) congrua</i> (Hübner, 1817)	v.r.	2	Vam	T, Hg	VU
<i>Mythimna (Hyphilare) l-album</i> (Linnaeus, 1767)	r.f.	2	Eua	Eu, Mg	
<i>Leucania (Leucania) obsoleta</i> (Hübner, [1803])	v.r.	2	Eua	Hg	
* <i>Panolis flammea</i> ([Denis & Schiffermüller], 1775)	v.r.	5	Eua	M	VU
<i>Orthosia (Orthosia) incerta</i> (Hufnagel, 1766)	f	4	Eua	M	
<i>Orthosia (Monima) cerasi</i> (Fabricius, 1775)	r.f.	4	Eua	M	
<i>Orthosia (Monima) cruda</i> ([Denis & Schiffermüller], 1775)	r.f.	4	Vam	M	
* <i>Orthosia (Monima) populeti</i> (Fabricius, 1781)	v.r.	4	Eua	M, Mh	NT
<i>Orthosia (Cororthosia) gracilis</i> ([Denis & Schiffermüller], 1775)	r.f.	1,3	Eua	M	
<i>Orthosia (Semiophora) gothica</i> (Linnaeus, 1758)	f	1,3,4	Eua	M	
<i>Egira conspicillaris</i> (Linnaeus, 1758)	f	1,2,3	Eua	M	
<i>Tiliacea citrigo</i> (Linnaeus, 1758)	r	4	Vam	M, Mh	
<i>Tiliacea aurago</i> ([Denis & Schiffermüller], 1775)	r.f.	4	Eua	M	
<i>Tiliacea sulphurago</i> ([Denis & Schiffermüller], 1775)	r	4	Vam	Mt	
<i>Xanthia (Xanthia) togata</i> (Esper, 1788)	f	4	Hol	M	
<i>Xanthia (Cirrha) icteritia</i> (Hufnagel, 1766)	f	4	Eua	Mh	

TAXA	Freq.	L. t. s.	Z. el.	Ec. ch.	R. L.
<i>Agrochola (Anchoscelis) nitida</i> ([Denis & Schiffermüller], 1775)	r.f.	1,3	Vam	M	
<i>Agrochola (Anchoscelis) litura</i> (Linnaeus, 1761)	r.f.	1,3	Vam	Mh	
<i>Agrochola (Anchoscelis) helvola</i> (Linnaeus, 1758)	r	1,3,4	Eua	Mt	
<i>Agrochola (Leptologia) macilenta</i> (Hübner, [1809])	r.f.	4	Vam	M	
<i>Agrochola (Sunira) circellaris</i> (Hufnagel, 1766)	v.f.	3,4	Eua	M	
<i>Agrochola (Propenistra) laevis</i> (Hübner, 1803)	r.f.	1,3,4	Vam	T	NT
<i>Conistra (Conistra) vaccinii</i> (Linnaeus, 1761)	r.f.	1,3,4	Eua	M	
<i>Conistra (Conistra) rubiginosa</i> (Scopoli, 1763)	r.f.	1,3,4	Vam	M, Mt	
<i>Conistra (Dasycampa) rubiginea</i> ([Denis & Schiffermüller], 1775)	r.f.	1,3,4	Vam	M	
<i>Conistra (Dasycampa) erythrocephala</i> ([Denis & Schiffermüller], 1775)	v.r.	1,4	Vam	Mt	
<i>Brachylochia viminalis</i> (Fabricius, 1777)	v.r.	4	Eua	Mh	
<i>Lithophane (Lithophane) socia</i> (Hufnagel, 1766)	v.r.	3,4	Eua	Mt	
<i>Lithophane (Lithophane) ornitopus ornitopus</i> (Hufnagel, 1766)	r.f.	3,4	Eua	M	
<i>Eupsilia transversa</i> (Hufnagel, 1766)	r.f.	4	Eua	M	
<i>Dichonia (Dichonia) convergens</i> ([Denis & Schiffermüller], 1775)	r	3,4	Vam	Xt	NT
<i>Ammoconia caecimacula</i> ([Denis & Schiffermüller], 1775)	f	1,3	Eua	Mt	
<i>Mniotype satura</i> ([Denis & Schiffermüller], 1775)	r	1,3	Eua	M	
* <i>Episema tersa</i> ([Denis & Schiffermüller], 1775)	r	1	Vam	Xt	VU
<i>Axylia putris</i> (Linnaeus, 1761)	r.f.	1,2,7	Eua	M	
<i>Ochropleura flammata flammata</i> ([Denis & Schiffermüller], 1775)	r	1	Eua	Xt, Mg	
<i>Ochropleura plecta</i> (Linnaeus, 1761)	f	1	Hol	M	
<i>Diarsia brunnea brunnea</i> ([Denis & Schiffermüller], 1775)	v.r.	1,3	Hol	Mh	
<i>Noctua pronuba</i> Linnaeus, 1758	r.f.	1,2	Eua	M, Mg	
<i>Noctua orbona</i> (Hufnagel, 1766)	r.f.	1	Vam	M	
<i>Noctua interposita</i> (Hübner, 1790)	r.f.	1	Vam	M, Mg	
<i>Noctua comes</i> Hübner, 1813	r.f.	1	Vam	Mt	
<i>Noctua fimbriata</i> (Schreber, 1759)	f	1	Vam	M, Mg	
<i>Noctua janthina</i> ([Denis & Schiffermüller], 1775)	r.f.	1	Eua	Mt	NT
<i>Noctua tertia</i> Mentzer, Moberg & Fibiger, 1991	r.f.	1	Vam	Mt	DD
* <i>Epilecta linogrisea</i> ([Denis & Schiffermüller], 1775)	v.r.	1	Vam	Xt	VU
<i>Chersotis rectangula</i> ([Denis & Schiffermüller], 1775)	r	1	Vam	Xt	
<i>Chersotis margaritacea</i> (Villers, 1789)	r	1	Eua	Xt	
<i>Rhyacia simulans</i> (Hufnagel, 1766)	v.r.	2	Eua	M, Mg	
<i>Spaelotis ravidia</i> ([Denis & Schiffermüller], 1775)	r.f.	1,2	Eua	M, Mg	NT
<i>Eugnorisma depuncta</i> (Linnaeus, 1761)	v.r.	1,3	Eua	M	
<i>Xestia c-nigrum</i> (Linnaeus, 1758)	f	1	Cosm	Eu, Mg	
<i>Xestia ditrapezium</i> ([Denis & Schiffermüller], 1775)	r.f.	1	Eua	M	
<i>Xestia triangulum</i> (Hufnagel, 1766)	r.f.	1	Eua	M	
<i>Xestia xanthographa</i> ([Denis & Schiffermüller], 1775)	r.f.	1,2	Eua	M	
<i>Cerastis rubricosa</i> ([Denis & Schiffermüller], 1775)	f	1	Eua	M	
<i>Peridroma saucia</i> (Hübner, 1808)	r	1,2	Cosm	Eu, Mg	
* <i>Euxoa cos</i> (Hübner, 1824)	r	2	Vam	Xt	VU
<i>Euxoa aquilina</i> ([Denis & Schiffermüller], 1775)	f	1,2	Eua	Mxt	
* <i>Euxoa distinguenda</i> (Lederer, 1857)	v.r.	2	Eua	Xt	VU
* <i>Euxoa hastifera pomazensis</i> Kovács, 1952	r.f.	2	Vam	Xt	EN
<i>Euxoa temera</i> (Hübner, 1808)	f	2	Vam	Xt	
<i>Euxoa nigricans</i> (Linnaeus, 1761)	r	2	Eua	M	NT
* <i>Euxoa vitta</i> (Esper, 1789)	v.r.	2	E	Xt	CR
* <i>Dichagyris candelisequa</i> ([Denis & Schiffermüller], 1775)	v.r.	1,2	Vam	Xt	CR
* <i>Yigoga signifera</i> ([Denis & Schiffermüller], 1775)	r.f.	1,2	Eua	Xt, Mxt	EN
* <i>Yigoga nigrescens</i> (Hofner, 1888)	r	?	Vam	Xt	NT
<i>Yigoga forcipula</i> ([Denis & Schiffermüller], 1775)	r	1	Vam	Xt, Mxt	NT

TAXA	Freq.	L. t. s.	Z. el.	Ec. ch.	R. L.
<i>Agrotis crassa</i> (Hübner, 1803)	r	1,2,7	Vam	Xt	VU
<i>Agrotis ipsilon</i> (Hufnagel, 1766)	r.f.	1,2,7	Cosm	Eu, Mg	
<i>Agrotis exclamationis</i> (Linnaeus, 1758)	f	1,2,7	Eua	Eu, Mg	
<i>Agrotis clavis</i> (Hufnagel, 1766)	r	1,2,7	Eua	M	NT
<i>Agrotis segetum</i> ([Denis & Schiffermüller], 1775)	f	1,2,7	Eua	Eu, Mg	
<i>Agrotis cinerea</i> ([Denis & Schiffermüller], 1775)	r.f.	1,7	Eua	Mxt	
Pantheidae					
<i>Colocasia coryli</i> (Linnaeus, 1758)	f	3,4	Eua	M	
Lymantriidae					
<i>Lymantria monacha</i> (Linnaeus, 1758)	r.f.	4,5	Eua	M	
<i>Lymantria dispar</i> (Linnaeus, 1758)	f	4	Hol	M	
<i>Calliteara pudibunda</i> (Linnaeus, 1758)	v.r.	3,4	Eua	M	
<i>Orgyia antiqua</i> (Linnaeus, 1758)	r	3,4	Hol	M	
<i>Euproctis chryorrhoea</i> (Linnaeus, 1758)	r	4	Eua	M	
<i>Arctornis l-nigrum</i> (Müller, 1764)	r	4	Eua	M	NT
Nolidae					
Nolinae					
<i>Nola cucullatella</i> (Linnaeus, 1758)	v.r.	3,4	Eua	Mx	NT
<i>Nola aerugula</i> (Hübner, 1793)	r.f.	1,3,4	Eua	Mht	NT
Chloephorinae					
<i>Nycteola revayana</i> (Scopoli, 1772)	v.r.	4	Vam	Mt, Mg	NT
<i>Nycteola asiatica</i> (Krulikovski, 1904)	r.f.	4	Eua	M	
<i>Bena bicolorana</i> (Fuessly, 1775)	r	4	Vam	Mt	
<i>Pseudoips prasinana</i> (Linnaeus, 1758)	r	4	Eua	M	
Eariadinae					
<i>Earias clorana</i> (Linnaeus, 1761)	r.f.	4	Eua	Mh	
Arctiidae					
Lithosiinae					
<i>Miltochrista miniata</i> (Forster, 1771)	r	9	Eua	M	
<i>Atolmis rubricollis</i> (Linnaeus, 1758)	r.f.	9	Eua	M	
<i>Lithosia quadra</i> (Linnaeus, 1758)	r	9	Eua	M	
<i>Eilema lurideola</i> (Zincken, 1817)	r	9	Eua	Mt	
<i>Eilema complana</i> (Linnaeus, 1758)	f	1,9	Eua	Mt	
<i>Eilema pseudocomplana</i> (Daniel, 1939)	r	9	Vam	Xt	DD
<i>Eilema sororcula</i> (Hufnagel, 1766)	r	9	Eua	Mh	
Syntominae					
<i>Amata phegea</i> L. / <i>kruegeri</i> Rag. ³	f	-	-	-	
<i>Dysauxes ancilla</i> (Linnaeus, 1767)	r	1,9	Vam	Xt	
* <i>Dysauxes famula</i> (Freyer, 1836)	v.r.	1	Vam	Xt	
Arctiinae					
<i>Phragmatobia fuliginosa</i> (Linnaeus, 1758)	f	1	Eua	M	
<i>Phragmatobia luctifera</i> ([Denis & Schiffermüller], 1775)	v.r.	1	Eua	Mt	
<i>Spilosoma lubricipeda</i> (Linnaeus, 1758)	r.f.	1	Eua	M	
<i>Spilosoma urticae</i> (Esper, 1789)	r	1,2	Eua	Mht	NT
* <i>Hyphantria cunea</i> (Drury, 1773)	v.r.	3,4	Hol	M	
<i>Diaphora mendica</i> (Clerck, 1759)	r.f.	1	Eua	Mh	
<i>Diacrisia sannio</i> (Linnaeus, 1758)	r.f.	1	Eua	M	
<i>Arctia villica</i> (Linnaeus, 1758)	r.f.	1	Eua	T	

Mxt, Xt, Mht) are also well represented (39.41%) most probably due to the gentle general climate characterized by quite high average temperatures (see above) and also due to the warm microclimate

present on the calcareous slopes exposed to intense solar radiation.

The percentage of species (18.42%) that prefer a higher hydric regime (Fig. 3: Hg, Mh, Mht)

³ The presence of *A. kruegeri* in the studied area is possible, but at this time we do not have sufficient data to confirm or invalidate this assumption / Prezența speciei *A. kruegeri* în zona cercetată este posibilă, însă momentan nu deținem date suficiente care să confirme sau să infirme această ipoteză.



Fig. 2. Calcareous slopes with southern exposition, habitat of several xerothermophilous Lepidoptera species / Pante calcaroase cu expoziție sudică, habitatul unor specii xerotermofile de lepidoptere.

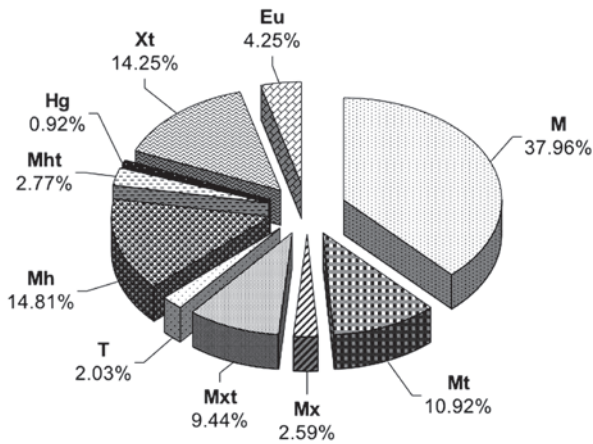


Fig. 3. Ecological spectrum of the Lepidoptera species identified on Istrița Hill / Spectrul ecologic pentru speciile de lepidoptere identificate în zona Dealului Istrița
M= mezophilous; Mt= mezothermophilous; Mx= mezoxerophilous; Mxt= mezoxerothermophilous; T= thermophilous; Mh= mezohygrophilous; Mht= mezo-hygrothermophilous; Hg= hygrophilous; Xt= xerothermophilous; Eu= euribiont.

attests the presence of the afforested areas covering the northern slopes of the hill at altitudes above 400 m, where they generate a more humid microclimate. Several hygrophilous species were also identified around some small reed areas covering no more than a few square meters and surrounded by dry habitats.

It is worth nothing that, of the 521 identified species, around 40 are known as displaying migratory behaviour; thus, these species may occur in areas that do not represent their ecological optimum. Such are *Ochropleura flammatra* ([Denis & Schiffermüller], 1775), *Rhyacia simulans* (Hufnagel, 1766), *Agrotis ipsilon* (Hufnagel, 1766), *Apamea monoglypha* (Hufnagel, 1766), *Autographa gamma* (Linnaeus, 1758), *Agrius convolvuli* (Linnaeus,

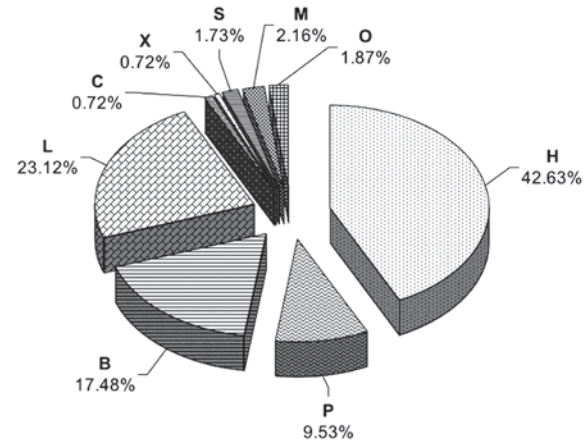


Fig. 4. Larval trophic spectrum of the Lepidoptera species identified on Istrița Hill / Spectrul trofic larvar al speciilor de lepidoptere identificate în zona Dealului Istrița
H = consumers of herbaceous plants, excluding Poaceae; P = consumers of Poaceae and other mono-cotyledonous plants; B = consumers of bushes and Ericaceae; L = consumers of deciduous trees; C = consumers of coniferous trees; X = xilophagous; S = consumers of subterranean vegetal organs; M = myrmecophilous; O = consumers of moss, lichens and of other categories / H = consumatori plante ierboase, mai puțin Poaceae; P = consumatori Poaceae și alte monocotiledonate; B = consumatori arbuști și Ericaceae; L = defoliatori foioase; C = defoliatori conifere; X = xilofage; S= consumatori organe vegetale subterane; M = mirmecofile; O = consumatori mușchi, licheni și alte categorii.

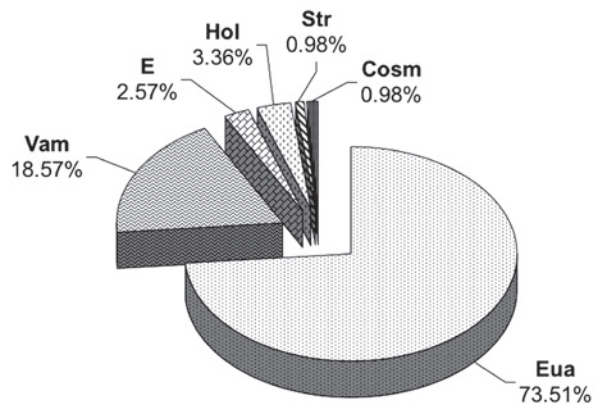


Fig. 5. Zoogeographical spectrum of the Lepidoptera species identified on Istrița Hill / Spectrul zoogeografic al speciilor de lepidoptere identificate în zona Dealului Istrița

Eua= Eurasian; Vam= West-Asiatic Mediterranean; E= European; Hol= Holarctic; Str= Subtropical; Cosm= Cosmopolit.

1758), etc., which have also been found in the sub-alpine or alpine levels of the Carpathians (RÁKOSY 1995/2, SZÉKELY 1996).

The larval trophic spectrum (Fig. 4) was made taking into consideration nine categories of food preferences. This system was adapted from the one proposed by RÁKOSY (1995/1) for the Noctuidae

of Transylvania.

The high proportion (52.16%) of species whose larvae feed on herbaceous plants (including Poaceae) is probably a consequence of the substantial specific diversity of these plants compared to ligneous species such as trees and bushes; thus, herbaceous plants represents a heterogeneous trophic source for lepidopterans.

On the other hand, although trees and bushes don't have high species diversity, they are well represented from a quantitative point of view; therefore, the larvae of many Lepidoptera species consume their leaves exclusively or at least as an alternative (more than 40 % of the identified species).

The extremely low percentage of species that feed on resinous trees (0.72%) attests the negative impact of the *Pinus nigra* plantation which, although covers significant surfaces, bears a poor entomofauna and simultaneously menaces the xeric habitats which are shelter for many Lepidoptera species that are valuable from a zoogeographical point of view.

The other categories of trophic sources are generally much less preferred by Lepidoptera larvae and are therefore represented by a small percentage.

Zoogeographical Aspects

The zoogeographical structure (Fig. 5) was made following the system proposed by RÁKOSY (1996) for Noctuidae as well as by RÁKOSY (1997) and RÁKOSY & LÁSZLÓFFY (1997) for the other families.

For the Geometridae and Zygaenidae families we also consulted the system proposed by HAUSMANN (2001, 2004), MIRONOV (2003), NAUMANN & al. (1999).

The dominance of the Eurasiatic elements (73.51%) represents the natural consequence of the geographical location and climate particularities of our country, being in concordance with the data currently known regarding the zoogeographical origin of the Romanian Lepidoptera (RÁKOSY 1995/1, 1996, RÁKOSY & LÁSZLÓFFY 1997, SZÉKELY 1996).

The relatively high percentage of West-Asiatic Mediterranean elements (18.57%) can be explained if, besides the climatic conditions, we take into consideration the localization of the studied region: being situated in the external (South-Eastern) part of the Curvature Subcarpathian Hills and rising directly from Romanian Plain, Istrița Hill is not separated by any significant geographical barrier from Dobrogea, which is no more than 150 Km away. As a consequence of its geographical position

and particular climate, southern Dobrogea represents the region with the highest proportion of West-Asiatic and West-Asiatic Mediterranean elements in Romania (RÁKOSY & SZÉKELY 1996). Istrița Hill is also situated at approximately the same latitude as Măcin Mountains which are located in Northern Dobrogea. Therefore, it is very probable that the processes of postglacial colonization of Dobrogea with West-Asiatic Lepidoptera species (RÁKOSY & SZÉKELY 1996), were very similar in the case of the studied region.

Similarities with the particular fauna of Dobrogea are pointed out by the presence on Istrița Hill of several Lepidoptera species which were until now known only from, or are best represented in Dobrogea, such as: *Hipparchia volgensis delatini*, *Godonella aestimaria sareptanaria* Staudinger, 1871, *Aedia leucomelas*, *Cucullia fraterna*, *Chryso-deixis chalcites*, *Glossodice polygramma*, *Mythimna (Hyphilare) congrua* (Hübner, 1817), *Dichagyris candelisequa*, *Euxoa cos*, *Euxoa distinguenda* (Lederer, 1857), *Eilema pseudocomplana* (Daniel, 1939), etc.

On the other hand, because the plains of southern Romania suffered great changes under human pressure (deforestations, drainage of wet habitats for agricultural purposes, etc.) many southern Lepidoptera species may have found refuge in the Subcarpathian Hills area. In our opinion, these hills represent a link between the Lepidoptera fauna from South-Western and that of South-Eastern Romania. The lack of substantial data regarding the Lepidoptera species from the Subcarpathians seems to be the cause that many species apparently have a disjunct distribution, being known only (or mainly) in the South-West and South-East of Romania (e.g. *Episema tersa*, *Calyptra thalictri* (Borkhausen, 1790), *Dysauxes famula* (Freyer, 1836), etc). The present data suggest that in reality there is a certain level of continuity between most Lepidoptera populations of the two mentioned regions. This should be clearer as new studies on the Subcarpathian fauna are undertaken.

Conclusions

- The variety of habitats that are present on Istrița Hill determines a rich and diverse Lepidoptera fauna illustrated by the 521 identified species of which many are very local or little known from Romania;

- The *Pinus nigra* plantation present on the hill has a general negative impact on the Lepidoptera fauna, altering the quasi-natural limestone habi-

tats or bushy clearings that are optimum for many rare or local species;

- The Lepidoptera fauna from Istrița Hill has significant similarities with that of Dobrogea;

- The present data also suggest a continuity between the Lepidoptera from the South-West and South-East of Romania;

- The known distribuion for several Lepidoptera species with few data from Romania and even Europe is improved;

- The Romanian Subcarpathian Hills represent a veritable “white spot” from a lepidopterological point of view;

- Taking into account the Microlepidoptera, which will be analyzed in a separate paper, we believe the total number of Lepidoptera species present on Istrița Hill to be around 1000.

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REFERENCES

CARADJA A. 1895. Die Grossschmetterlinge des Königreiches Rumänien. Dtsch. Ent. Ztsch. Iris, Dresden, **8**: 1-102.

CARADJA A. 1896. Grossschmetterlinge des Königreiches Rumänien. Dtsch. Ent. Ztsch. Iris, Dresden, **9**: 1-112.

CARADJA A. 1901. Die Microlepidopteren Rumäniens. Bul. Soc. Sci. Bucarest, **10** (1-2): 113-168.

CARADJA A. 1902. Die Microlepidopteren Rumäniens. Nachtrag I. Bul. Soc. Sci. Bucarest, **11** (5-6): 612-619.

CARADJA A. 1903. Neuer Beitrag zur Lepidopteren-Fauna Rumäniens. Bul. Soc. Sci. Bucarest, **12** (5-6): 355-365.

CARADJA A. 1905. Neuer Beitrag zur Lepidopteren-fauna Rumäniens. Bul. Soc. Sci. Bucarest, **14** (1-2): 227-243.

DINCĂ V. 2005. New Data Regarding Several Lepidoptera Species Little Known in Romania. Stud. Univ. Babeș-Bolyai, Biol., **50** (1): 11-16.

DRĂGHIA I. 1966. *Lithocolletis pastorella* Z. (Lepidoptera – Lithocolletidae) in Rumania. Trav. Mus. Hist. nat. „Grigore Antipa” București, **6**: 119-124.

DRĂGHIA I. 1970. Nouvelles contributions à la connaissance des insectes mineurs de Bucarest et

de ses environs. Trav. Mus. Hist. nat. „Grigore Antipa” București, **10**: 235-240.

DRĂGHIA I. & M. AFTENE 1972. Contribuții la cunoașterea insectelor miniere din jud. Prahova. Com. Ref. Muz. Șt. Nat. Ploiești, 303-315.

DRĂGHIA I. & P. NEACȘU 1973. Contribuții la cunoașterea insectelor miniere din bazinul superior al râului Teleajen. Com. Ref. Muz. Șt. Nat. Ploiești, 167-183.

FLECK E. 1904. Die Makrolepidopteren Rumäniens. Nachtrag II. Bul. Soc. Șt. București, **13** (3-4): 288-308.

HAUSMANN A. 2001. Introduction. Archiarinae. Orthostixinae. Desmobathrinae. Alsophilinae. Geometrinae. In A. HAUSMANN (ed.): The Geometrid Moths of Europe 1. Apollo Books, Stenstrup, 282 pp.

HAUSMANN A. 2004. Sterrhinae. In A. HAUSMANN (ed.): The Geometrid Moths of Europe 2. Apollo Books, Stenstrup, 600 pp.

MONTANDON A. L. 1900. Contributions à la faune entomologique de la Roumanie. Bul. Soc. Sci. Bucarest, **9** (5): 382-386.

NAUMANN C. M., TARMANN G. M. & W. G. TREMEWAN 1999. The Western Palaearctic Zygaenidae (Lepidoptera). Apollo Books, Stenstrup, 304 pp.

NICULESCU E. V. 1961. Fauna R.P.R.: Fam. Papilionidae (Lepidoptera). Ed. Academiei R.P.R., București, **11** (5), 120 pp.

NICULESCU E. V. 1963. Fauna R.P.R.: Fam. Pieridae (Lepidoptera). Ed. Academiei R.P.R., București, **11** (6), 202 pp.

NICULESCU E. V. 1965. Fauna R.P.R.: Fam. Nymphalidae (Lepidoptera). Ed. Academiei R.P.R., București, **11** (7), 361 pp.

POPESCU A. A. 1939. Câteva lepidoptere recoltate în luna august în jurul comunei Mihai Bravu. Bul. Soc. stud. nat. București, **8-10**: 1-5.

POPESCU-GORJ A. 1948. Contributions à l'étude des lépidoptères de la région Sinaia et des Monts Bucegi. Notationes biologicae, București, **6** (1-2): 138-145.

POPESCU-GORJ A. 1960. Lépidoptères nouveaux ou rares pour la faune de la Republique Populaire Roumaine. Trav. Mus. Hist. nat. „Grigore Antipa” București, **2**: 267-278.

POPESCU-GORJ A. 1963. Genul *Erebia* Dalm. (Lepidoptera, Satyridae) și răspândirea sa verticală în Masivul Bucegi. Ocrot. nat. **7**: 53-62.

POPESCU-GORJ A. 1979. Données concernant les espèces d'Hepialidae (Lepidoptera) de Roumanie. Trav. Mus. Hist. nat. „Grigore Antipa” București, **20**: 253-263.

POPESCU-GORJ A. 1985. Nouvelles données pour la connaissance des Microlépidoptères de Roumanie. Trav. Mus. Hist. nat. „Grigore Antipa”

- București, **27**: 101-119.
- POPESCU-GORJ A. 1986. Espèces nouvelles ou peu connues dans la faune de Microlépidoptères de Roumanie. *Trav. Mus. Hist. nat. „Grigore Antipa” București*, **28**: 79-83.
- POPESCU-GORJ A. 1989. Nouvelles données pour la connaissance des Lépidoptères de la faune de Roumanie. *Trav. Mus. Hist. nat. „Grigore Antipa” București*, **30**: 71-79.
- POPESCU-GORJ A. 1995. Lepidopterans from the Surroundings of the Town Sinaia and from Bucegi Mountains (Romania). *Trav. Mus. Hist. nat. „Grigore Antipa” București*, **35**: 161-220.
- POPESCU-GORJ A. & I. DRĂGHIA 1968. Nouvelles contributions à la connaissance de l'entomofaune mineuse de la Roumanie. *Trav. Mus. Hist. nat. „Grigore Antipa” București*, **9**: 357-368.
- POSEA G. (coord.) 1982. Enciclopedia geografică a României. Ed. Științifică și Enciclopedică București, 321-336.
- RÁKOSY L. 1995/1. Die Noctuidae Siebenbürgens (Transsylvanien, Rumänien). *Nach. Ent. Ver. Apollo, Frankfurt/Main, Suppl.* **13**: 1-109.
- RÁKOSY L. 1995/2. Contribuții la studiul faunei de macrolepidoptere din Munții Parâng. *Bul. inf. Soc. lepid. rom.* **6** (3-4): 179-188.
- RÁKOSY L. 1996. Die Noctuiden Rumäniens. *Staphia, Linz*, 648 pp.
- RÁKOSY L. 1997. Macrolepidopterele din Parcul Național Retezat. In: RÁKOSY L. (ed.): Entomofauna parcurilor naționale Retezat și Valea Cerneli. *Soc. lepid. rom., Cluj-Napoca*, : 87-123.
- RÁKOSY L. 2003. Lista roșie pentru fluturii diurni din România. *Bul. inf. Soc. lepid. rom.* **13** (1-4): 9-26.
- RÁKOSY L. & Z. LÁSZLÓFFY 1997. Fauna de macrolepidoptere de la Fânațele Clujului (Lepidoptera) (Cluj, România). *Bul. inf. Soc. lepid. rom.* **8** (3-4): 165-186.
- RÁKOSY L. & G. NEGRU 1995. *Rhyacia arenacea* (HAMPSON 1907) în fauna României (Lepidoptera, Noctuidae). *Bul. inf. Soc. lepid. rom.* **6** (3-4): 175-177.
- RÁKOSY L. & L. SZÉKELY 1996. Macrolepidopterele din sudul Dobrogei. *Entomol. rom.* **1**: 17-62.
- RÁKOSY L., GOIA M. & Z. KOVÁCS 2003. Catalogul Lepidopterelor României / Verzeichnis der Schmetterlinge Rumäniens. *Soc. lepid. rom., Cluj-Napoca*, 446 pp.
- SALAY F. 1910. Katalog der Makrolepidopteren Rumäniens. *Bul. Soc. Sci Bucarest*, **19** (1-2): 74-206; (3): 453-516.
- SANDA V. & AURELIA BREZEANU 1966/1. Cercetări fitocenologice asupra Dealului Istrița. *Stud. și cerc. de biol., Seria bot. București*, **18** (3): 217-238.
- SANDA V. & AURELIA BREZEANU 1966/2. Regimul unor factori ecologici în fitocenozele de pe Dealul Istrița. *Stud. și cerc. de biol., Seria bot. București*, **18** (4): 355-365.
- SZÉKELY L. 1996. Lepidopterele (Fluturii) din sud-estul Transilvaniei (România). *Disz. Tipo, Săcele*, 78 pp.
- SZÉKELY L. & S.-M. STANCIU 2002. Contribuții la studiul faunei de lepidoptere din Câmpia Munteniei II. *Bul. inf. Soc. lepid. rom.* **12** (1-4): 259-268.
- SZÉKELY L., HANESCHLÄGER P. & R. GÖRBE 1998. Contribuții la studiul faunei de lepidoptere din Câmpia Munteniei I. *Bul. inf. Soc. lepid. rom.* **9** (3-4): 177-186.

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