

DATA ABOUT MACROLEPIDOPTERA (S. ORD. RHOPALOCERA) FAUNA OF THE HAȚEG BASIN HUNEDOARA COUNTY, ROMANIA)

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Abstract. 79 Macrolepidoptera species (S.ord. Rhopalocera) were recorded from three natural reserves situated in Hațeg Basin (Hunedoara County). At present, the most part of Hațeg Basin is included in a great natural parc known as „Geoparcul Dinozaurilor – Țara Hațegului (The Geoparc of Dinosaurs – Hațeg Country). Beside the well-known sites of reptilian paleofauna (Upper Cretacic), Hațeg Basin has also some natural reserves: “The Narcissus lawns of Sălașu de Sus”, “The rocks of Ohaba de Sub Piatră” (the village of Sălașu de Sus) and The Slivuț Forest of Hațeg town. If the first natural reserves are known for their rare plants, The Slivuț Forest is known as the first protected area in which the bison were colonized. The Macrolepidoptera species of these natural reserves were studied between 2004-2006, every year, in May-August. The checklist of the species, accompanied by data about the frequency of species, the collecting sites and IUCN categories of endangerment is presented. *Euphydryas aurinia*, *Hyponphele lycaon*, *Maculinea teleius*, *Maculinea alcon*, *Neozephyrus quercus* and *Pseudophilotes schiffermuelleri*, included in the Red List of the Butterflies of Romania are some of the rare species identified in these natural areas of Hațeg Basin. For these species some data about the collecting site, the fly period, the trophic source of larvae and adults are presented.

Key words: Macrolepidoptera, Hațeg Basin, Romania

Rezumat. Date despre fauna de macrolepidoptere (S. Ord. Rhopalocera) din Bazinul Hațegului (Județul Hunedoara, România). 79 de specii de macrolepidoptere diurne (S.ord. Rhopalocera) au fost semnalate în trei rezervații naturale situate în Bazinul Hațegului (județul Hunedoara). În prezent, cea mai mare parte a Bazinului Hațegului este inclusă într-un mare parc natural cunoscut sub numele de «Geoparcul Dinozaurilor-Țara Hațegului». Alături de binecunoscutele situri cu paleofaună reptiliană aparținând Cretacicului superior, o importanță deosebită o au și rezervațiile naturale ”Fânațele cu narcise de la Sălașu de Sus”, Stâncăriile de la Ohaba de Sub Piatră (comuna Sălașu de Sus) și Pădurea Slivuț Hațeg. Dacă primele două sunt cunoscute mai ales pentru unele rarități floristice, Pădurea Slivuț Hațeg, rest al unor extinse quercete din Bazinul Hațegului, este cunoscută ca fiind prima rezervație în care au fost colonizate câteva exemplare de zimbri. Macrolepidopterele din habitatele acestor rezervații naturale au fost studiate în 2004-2006, în fiecare an în lunile mai-august. Este prezentată lista sistematică a speciilor însoțită de date privind frecvența speciilor, locurile de colectare și categoriile de periclitare conform IUCN 2001. *Euphydryas aurinia*, *Hyponphele lycaon*, *Maculinea teleius*, *Maculinea alcon*, *Neozephyrus quercus* și *Pseudophilotes schiffermuelleri*, incluse în Lista Roșie a fluturilor din România, sunt câteva dintre speciile rare identificate în ariile naturale cercetate. Pentru aceste specii sunt prezentate date privind locul colectării, perioada de zbor a adulților, sursa trofică a larvelor și adulților.

Cuvinte cheie: Macrolepidoptera, Bazinul Hațeg, România

INTRODUCTION

The Hațeg Basin is a distinct geographical unity of Hunedoara County (Romania). The depressionary area, with a surface of 550 km², is delimited in its Southern part by Retezat-Țarcu Mountains and in the Western and Northwestern part by Poiana Ruscă Mountains. Șureanu Mountains and the Hills of Hunedoara border the Hațeg Basin in North and North-East (GRUMĂZESCU CORNELIA 1975; POPA 1999).

From 1979 until present, a lot of historical and natural monuments has been protected in the area of Hațeg Basin. The fame of this depression is due to its archaeological sites of Ulpia Traiana Sarmizegetusa but also to the fossiliferous sites with cretaceous reptilian fauna (especially dinosaurs) of Sânpetru and Tuștea localities.

The relief of the Hațeg Basin is formed by down and high plains. Hills with 500-600 m and 650-850 m altitude border the depression.

In 2004, The Geopark of Dinosaurs – Hațeg Country was created. This natural park, situated in the Southwestern part of Hunedoara County, protects not only the sites of fossil reptiles but also ecosystems, landscapes, plant and animal species, geological formations, historical and archaeological sites. Some natural reserves are situated into this park: “The forest of Slivuț” (near Hațeg town), “The lawns of Narcissus stellaris of Sălașu de Sus”, “The rocks of Ohaba de Sub Piatră” (Sălașu de Sus Village).

Between 2004-2006 we studied the lepidoptera fauna (S.ord. Rhopalocera) of the protected areas of Hațeg Basin. The aim of this study is to evidence the diversity of the butterflies of these areas.

GEOGRAPHICAL SITUATION

The lawns of *Narcissus stellaris* are situated in Hațeg Depression, on the territory of Sălașu de Sus commune. These coenoses are bordered by the Retezat Mountains in South (GRUMĂZESCU CORNELIA 1975; POPA 1999). The rocks of Ohaba de Sub Piatră (Șureanu Mountains) are also situated on the territory of the village of Sălașu de Sus. The Forest of Slivuț is situated on the territory of Hațeg town. Two of these natural reserves, “The Stones of Ohaba de Sub Piatră” and “The lawns with *Narcissus* of Sălașu de Sus” are situated on the principal route to the National Park of Retezat Mountains.

CLIMATE

According to TRUFAȘ (1985) and GRUMĂZESCU CORNELIA (1975), the area of Hațeg Basin has an annual average of the temperature of 8-9⁰C and an annual average of precipitations of 600 mm.

FLORA AND VEGETATION

Some very important associations characterize the vegetation of these natural reserves. For example, BOȘCAIU (1965) has described from Sălașu de Sus *Peucedanum (rocheliani) – Molinietum coeruleae* association. The coenoses of this association are situated in the southern part of Sălașu de Sus village. *Narcissus stellaris* (in April-May), *Peucedanum rochelianum*, *Molinia coerulea*, *Gladiolus imbricatus*, *Gentiana pneumonanthe*, *Iris sibirica*, *Orchis morio*, *Anthoxanthum odoratum*, *Briza media*, *Poa pratensis*, *Festuca rubra*, *Agrostis tenuis*, *Luzula campestris*, *Myosotis palustris*, *Senecio jacobaea*, *Carex flava*, *Carex hirta*, *Lythrum salicaria*, *Salix cinerea*, *Galium verum*, *Potentilla erecta*, and other species were reported by this coenoses. The rocks of Ohaba de Sub Piatră are protected because of their very rare plants such as: *Plantago holosteum*, *Anthemis montana*, *Alyssum murale*, *Astragalus onobrychis* var. *linearifolius* (BOȘCAIU, PETERFI & CERNELEA 1974). The Forest of Slivuț is formed especially by *Quercus petraea*, *Quercus robur* but also by *Fagus silvatica*, and *Carpinus betulus*. *Hepatica transsylvanica*, an endemic species in Romania, was also reported of this protected area. Shrubs are very present in all these areas and represented by *Berberis vulgaris*, *Sambucus nigra*, *Sambucus racemosa*, *Clematis vitalba*, *Crataegus monogyna*, *Rosa canina* and *Prunus spinosa*. Near the lawns with *Narcissus stellaris* of Sălașu de Sus village, *Alnetum glutinosae* and *Alneto-Salicetum* associations borders Sălașu de Sus river.

MATERIAL AND METHODS

The studies of butterflies were carried out in 2004-2006. Using an entomological net we sampled in the protected areas of Hațeg Basin, every year, in April-May and June-August. Coenoses of mesophilous and mesohygrophilous lawns, shrubs, forests, alder associations and stones with mesophilous and mesoxerophilous vegetation were the principal habitats we studied.

The lepidopterological material was identified after SPULER (1909-1911), BERGMANN (1952), NICULESCU (1961, 1965, 1966, 1967), CONTARINI & FIUMI (1982), CHYNERY (1996), HIGGINS & RILEY (1970, 1993), STILL (1996) and FELTWELL (2001). The scientific nomenclature and the classification of butterflies is according to RÁKOSY (2002).

The frequency of the species was established according to RÁKOSY & VIEHMANN (1991) classification:

Common species – 6-15 specimens/day;

Very common species – over 16 specimens/day;

Relative common species – 1-5 specimens/day;

Rare species – 5-10 specimens /generation;

Very rare species – 1-4 specimens /generation.

The status of the species, according to IUCN 2001 categories of endangerment, is presented. These categories of endangerment of taxa were published by RÁKOSY (2002) in the Red List of Romanian butterflies.

EX- Extinct taxa;

CR- Critical Endangered taxa;

EN- Endangered taxa ;

VU- Vulnerable taxa ;

NT- Near threatened taxa;

LC – Least concern taxa.

RESULTS AND DISCUSSIONS

On the basis of the samples and field observations, 79 species of butterflies were identified.

68 species were recorded from Ohaba de Sub Piatră Stones, 74 species from Sălașu de Sus lawns of *Narcissus stellaris* and 71 species from Slivuț Forest (Hațeg). Most of the species were collected in the lawns of Sălașu de Sus protected area.

The analysis of the lepidopterological material emphasizes the following structure of the families of Rhopalocera (Table 1).

Table 1. Number of the identified species in relation with the families of S.ord. Rhopalocera
Tabel 1. Numărul speciilor identificate în raport cu familiile S.ord. Rhopalocera

Families	Number of species
HESPERIIDAE	9
PAPILIONIDAE	2
PIERIDAE	8
LYCAENIDAE	21
NYMPHALIDAE	39
Total species	79

Nymphalidae with 39 species and Lycaenidae with 21 species are the prevalent families.

The checklist of the species and data about the sites of sampling, the frequency of species and IUCN categories of endangerment are presented (Table 2).

Table 2. The checklist of Macrolepidoptera species (S. ord. Rhopalocera) reported from the natural protected areas of Hațeg Basin. The sites, the frequency of species and IUCN categories of endangerment.

Tabel 2. Lista sistematică a speciilor de Macrolepidoptere (S.ord. Rhopalocera) semnalate în arealele naturale protejate din Bazinul Hațegului. Locurile de colectare, frecvența speciilor și categoriile de periclitare conform IUCN 2001

Taxa	SO	LS	SF	F	IUCN 2001
HESPERIIDAE					
<i>Erynnis tages tages</i> (LINNAEUS, 1758)	+	+	+	C	LC
<i>Pyrgus carthami</i> (HÜBNER, 1813)	+	+	-	R.c.	LC
<i>Carcharodus alceae</i> (ESPER, 1780)	+	+	+	V.r.	LC
<i>Carcharodus floccifera</i> (Zeller, 1847)	+	+	+	V.r.	NT
<i>Pyrgus malvae malvae</i> (LINNAEUS, 1758)	+	+	+	C	LC
<i>Carterocephalus palaemon</i> (Pallas, 1771)	+	+	+	C	LC
<i>Thymelicus sylvestris</i> (PODA, 1761)	-	-	+	R.c.	LC
<i>Hesperia comma</i> (LINNAEUS, 1758)	+	+	+	V.c.	LC
<i>Ochlodes venatus faunus</i> (TURATI, 1905)	+	+	+	V.c.	LC
PAPILIONIDAE					
<i>Papilio machaon machaon</i> (LINNAEUS, 1758)	+	+	+	R.c.	NT
<i>Iphiclidus podalirius</i> (LINNAEUS, 1758)	+	+	+	R.c.	NT
PIERIDAE					
<i>Leptidea sinapis sinapis</i> (LINNAEUS, 1758)	+	+	+	V.c.	LC
<i>Anthocharis cardamines</i> (LINNAEUS, 1758)	+	+	+	C	LC
<i>Pieris rapae</i> (LINNAEUS, 1758)	+	+	+	V.c.	LC
<i>Pieris napi napi</i> (LINNAEUS, 1758)	+	+	+	V.c.	LC
<i>Pontia edusa</i> (FABRICIUS, 1777)	+	+	+	V.c.	LC
<i>Colias croceus</i> (FOURCROY, 1785)	+	+	+	R.c.	LC
<i>Colias hyale</i> (LINNAEUS, 1758)	+	+	+	C	LC
<i>Gonepteryx rhamni rhamni</i> (LINNAEUS, 1758)	+	+	+	R.c.	LC
LYCAENIDAE					
<i>Hamearis lucina</i> (LINNAEUS, 1758)	+	+	+	V.c.	LC
<i>Lycaena phlaeas phlaeas</i> (LINNAEUS, 1761)	+	+	+	C	LC
<i>Lycaena dispar rutila</i> (WERNEBURG, 1864)	+	+	-	R.c.	VU
<i>Lycaena tityrus tityrus</i> (PODA, 1761)	-	+	+	R	NT
<i>Lycaena thersamon</i> (ESPER, 1784)	+	+	-	R	VU
<i>Thecla betulae</i> (LINNAEUS, 1758)	+	+	+	R	LC
<i>Neozephyrus quercus quercus</i> (LINNAEUS, 1758)	-	-	+	V.r.	VU
<i>Callophrys rubi</i> (LINNAEUS, 1758)	+	+	+	C	LC
<i>Satyrium w-album</i> (KNOCH, 1782)	+	+	+	C	LC
<i>Satyrium acaciae</i> (Fabricius, 1787)	+	+	+	R	VU
<i>Cupido minimus minimus</i> (FUESSLY, 1775)	+	+	+	C	NT
<i>Everes argiades</i> (PALLAS, 1771)	+	+	+	C	LC
<i>Celastrina argiolus</i> (LINNAEUS, 1758)	+	+	+	C	LC
<i>Pseudophilotes schiffmuelleri</i> HEMMING, 1929	-	+	-	V.r.	NT
<i>Glaucopsyche alexis</i> (PODA, 1761)	+	+	+	R.c.	LC
<i>Maculinea arion</i> (LINNAEUS, 1758)	-	+	+	R	NT
<i>Maculinea teleius</i> (BERGSTRÄSSER, 1779)	-	+	-	V.r.	EN
<i>Maculinea alcon</i> (DENIS & SCHIFFERMÜLLER, 1775)	-	+	-	V.r.	EN
<i>Plebeius argus argus</i> (LINNAEUS, 1758)	+	+	+	V.c.	LC
<i>Plebeius argyrognomon</i> (BERGSTRÄSSER, 1779)	+	+	+	V.c.	LC
<i>Polyommatus icarus</i> (ROTTEMBURG, 1775)	+	+	+	V.c.	LC
Taxa	SO	LS	SF	F	IUCN 2001
NYMPHALIDAE					
<i>Argynnis paphia paphia</i> (LINNAEUS, 1758)	+	+	+	V.c.	LC
<i>Argynnis aglaja</i> (LINNAEUS, 1758)	+	+	+	V.c.	LC
<i>Argynnis adippe</i> (DENIS & SCHIFFERMÜLLER, 1775)	+	+	+	V.c.	LC
<i>Argynnis niobe niobe</i> (LINNAEUS, 1758)	+	+	+	V.c.	LC
<i>Brenthis daphne</i> (DENIS & SCHIFFERMÜLLER, 1775)	+	+	+	R	VU
<i>Brenthis hecate</i> (DENIS & SCHIFFERMÜLLER, 1775)	+	+	-	R	VU
<i>Boloria euphrosyne</i> (LINNAEUS, 1758)	+	+	+	V.c.	LC
<i>Boloria selene</i> (DENIS & SCHIFFERMÜLLER, 1775)	+	+	+	V.c.	LC
<i>Boloria dia dia</i> (LINNAEUS, 1767)	+	+	+	V.c.	LC
<i>Vanessa atalanta</i> (LINNAEUS, 1758)	+	+	+	V.c.	LC
<i>Vanessa cardui</i> (LINNAEUS, 1758)	+	+	+	V.c.	LC
<i>Inachis io</i> (LINNAEUS, 1758)	+	+	+	R.c.	LC
<i>Polygonia c-album</i> (LINNAEUS, 1758)	+	+	+	R.c.	LC
<i>Araschnia levana</i> (LINNAEUS, 1758)	+	+	+	R.c.	LC
<i>Nymphalis antiopa</i> (LINNAEUS, 1758)	+	+	+	R	LC
<i>Euphydryas aurinia aurinia</i> (ROTTEMBURG, 1775)	-	+	-	R.c.	EN

<i>Melitaea cinxia cinxia</i> (LINNAEUS, 1758)	+	+	+	V.c.	LC
<i>Melitaea britomartis</i> ASSMANN, 1847	+	+	+	R	LC
<i>Melitaea athalia athalia</i> (ROTTEMBURG, 1775)	+	+	+	V.c.	LC
<i>Neptys hylas</i> (LINNAEUS, 1758)	+	+	+	R.c.	VU
<i>Neptis rivularis</i> (SCOPOLI, 1763)	+	+	+	R	LC
<i>Apatura ilia ilia</i> (DENIS & SCHIFFERMÜLLER, 1775)	-	+	+	R	VU
<i>Apatura iris</i> (LINNAEUS, 1758)	-	+	+	R	VU
<i>Pararge aegeria tircis</i> BUTLER, 1867	+	+	+	V.c.	LC
<i>Lasiommata megera megera</i> (LINNAEUS, 1767)	+	+	+	R.c.	LC
<i>Lasiommata maera</i> (LINNAEUS, 1758)	+	+	+	C	LC
<i>Coenonympha arcania arcania</i> (LINNAEUS, 1761)	+	+	+	V.c.	LC
<i>Coenonympha glycerion glycerion</i> (BORKHAUSEN, 1788)	+	+	+	R.c.	LC
<i>Coenonympha pamphilus</i> (LINNAEUS, 1758)	+	+	+	V.c.	LC
<i>Pyronia tithonus tithonus</i> (LINNAEUS, 1767)	+	+	+	R.c.	EN
<i>Aphantopus hyperantus</i> (LINNAEUS, 1758)	+	+	+	V.c.	LC
<i>Erebia aethiops aethiops</i> (ESPER, 1777)	+	-	+	R.c.	LC
<i>Maniola jurtina jurtina</i> (LINNAEUS, 1758)	+	+	+	V.c.	LC
<i>Hyponephele lycaon</i> (ROTTEMBURG, 1775)	+	-	+	V.r.	VU
<i>Melanargia galathea</i> (LINNAEUS, 1758)	+	+	+	V.c.	LC
<i>Minois dryas</i> (SCOPOLI, 1763)	+	+	+	R.c.	LC
<i>Hipparchia fagi</i> (SCOPOLI, 1763)	+	+	+	V.r.	LC
<i>Satyrus circe pannonica</i> (Fruhstorfer, 1919)	+	+	+	V.r.	LC
<i>Arethusana arethusana</i> (DENIS & SCHIFFERMÜLLER, 1775)	-	-	+	V.r.	EN

Abbreviations: **SO:** Ohaba de Sub Piatră Stones; **LS:** Lawns of Sălașu de Sus; **SF:** Slivuț Forest (Hațeg); **F=** **Frequency:** **C** = Common species – 6-15 specimens/day; **V. c.**= Very common species – over 16 specimens/day; **R. c.**= Relative common species – 1-5 exemplare/zi; **R** = **Rare species** – 5-10 specimens/generation; **V. r.**= Very rare species – 1-4 specimens/generation (RÁKOSY & VIEHMANN 1991); Categories of endangerment according IUCN 2001 (RÁKOSY (2002): **CR-** Critical Endangered taxa; **EN-** Endangered taxa; **VU-** Vulnerable taxa; **NT-** Near threatened taxa; **LC** – Least concern taxa.

Concerning the frequency of the species, most of captured species are common or relative common species such as: *Erynnis tages*, *Pyrgus malvae*, *Callophrys rubi*, *Cupido minimus minimus*, *Celastrina argiolus*, *Lycaena phlaeas*, *Lycaena dispar rutila*, *Colias hyale*, *Euphydryas aurinia aurinia*. Very common species (over 16 specimens/day), in all the studied areas are: *Maniola jurtina jurtina*, *Pieris rapae*, *Pieris napi*, *Aphantopus hyperanthus*, *Coenonympha pamphilus*, *Coenonympha arcania*, *Hamearis lucina*. Rare species are *Lycaena tityrus tityrus*, *Lycaena thersamon*, *Apatura ilia ilia*, *Apatura iris*, *Neptis rivularis*, *Melitaea britomartis*, *Nymphalis antiopa*, *Brenthis hecate* and *Brenthis daphne*. Very rare species are: *Neozephyrus quercus quercus*, *Hipparchia fagi*, *Brintesia circe pannonica*, *Arethusana arethusana*, *Hyponephele lycaon*, *Maculinea teleius*, *Maculineaalcon*, *Pseudophilotes schiffermuelleri*.

Adults nectar sources are varied. For example a lot of species as *Erynnis tages*, *Hesperia comma*, *Polyommatus icarus*, *Leptidea sinapis*, *Melitaea athalia*, *Melitaea cinxia*, *Boloria selene selene*, *Boloria dia dia*, *Boloria euphrosyne euphrosyne*, *Glaucopsyche alexis*, *Argynnis aglaja*, *Argynnis adippe* and other species have been found on flowers of *Medicago lupulina*, *Melilothus officinalis*, *Trifolium campestre*, *Hypericum perforatum*, *Leucanthemum vulgare*, *Dianthus carthusianorum*, *Narcissus stellaris*, *Orchis morio*, *Scabiosa columbaria*, *Sanguisorba officinalis*, *Senecio vulgaris*, *Salvia nemorosa*, *Galium verum*, *Tanacetum vulgare*, *Viola tricolor*, *Potentilla reptans*. *Neozephyrus quercus* prefers *Sambucus nigra* and *Sambucus racemosa*. Other species were rarely observed on flowers as *Neptis rivularis*. Some species like *Inachis io* and *Vanessa atalanta* prefer fruits or tree sap.

Some of the captured species are included in the Red List of Romanian butterflies (RÁKOSY 2002) as vulnerable or endangered taxa:

Neozephyrus quercus quercus (LINNAEUS, 1758) – 1♂, at the edge of the Slivuț Forest. Monovoltine species. The adults fly in July-August. Larvae breed on *Quercus cerris* and finish their stage in ants nests. Flowers of *Sambucus nigra* and *Sambucus racemosa* are often visited by the adults. It is a rare species in Hunedoara County and recorded from Costești, The Gorges of Bănița, The Gorges of Crivadia (Șureanu Mountains) and the Gorges of Cerna (Poiana Ruscă Mountains) (BURNAZ SILVIA 2002).

Maculineaalconalcon (DENIS & SCHIFFERMÜLLER, 1775) – 1♂ 26. 06. 2006, at Sălașu de Sus lawns. Monovoltine species. The adults fly in June-July and often visit *Teucrium chamaedrys*, *Thymus serpyllum*, *Aster amellus*, *Centaurea scabiosa*, *Cardamine pratensis*, *Arabis hirsuta*. Larvae breed on *Gentiana pneumonanthe* and finish their stage in ant nests.

Maculinea arion (LINNAEUS, 1758) – 5♂♂ 10.07.2005, 3♂♂ 26.06.2006 at Sălașu de Sus lawns. The adults fly in June-July. Adult nectar sources are: *Filipendula ulmaria*, *Agrimonia eupatoria*, *Leucanthemum vulgare*, *Linum flavum*, *Thymus serpyllum*. Larvae breed on *Thymus serpyllum* and, after in ant nests.

Maculinea teleius (BERGSTRÄSSER, 1779) – 1♂ 26.06.2006, at Sălașu de Sus lawns. Larvae breed on *Sanguisorba officinalis*. *Myrmecophilous* species.

Pseudophilotes schiffermuelleri HEMMING, 1929 – 1♂ 26. 06. 2006 at Sălașu de Sus. It occurs in open fields and pastures. This species is bivoltine. The first flight extends from May to June inclusive and the second from July to August inclusive. Larvae breed on *Thymus serpyllum*. It is the first record of this species in Hunedoara County.

Hyponephele lycaon lycaon (ROTTEMBERG, 1775) – 2♂♂, 26.06.2006 at Ohaba de Sub Piatră Stones and 1♂ at Slivuț Forest (Hațeg). Monovoltine species (VII-IX). Butterflies occur in stony lowlands but also at the edge of the forest. Larvae breed on grasses (Poaceae).

Euphydryas aurinia aurinia (ROTTEMBERG, 1775) – 6♂♂ 20.05.2006 at Sălașu de Sus lawns. Eurosiberian element, spread in the northern part of Africa, Europe and Asia. The adults like open spaces in both damp and dry conditions (STILL, 1996). In Romania it is a frequent species in Banat (Arad, Timiș) and Transilvania (Mureș, Brașov, Hunedoara, Alba) (KÖNIG, 1979; MOLDOVEANU, 1995). In Hunedoara County the adults prefer the dump habitats of the limestone areas (BURNAZ SILVIA, 2005). It is the first time we found this species in a law plain, near Retezat Mountains. Here, in the natural reserve of Narcissus, a lot of specimens we have seen in the second decade of May. The adults rest on *Carex hirta* and other Cyperaceae and Poaceae. The larvae breed on *Scabiosa columbaria* și *Plantago* sp. (STILL 1996).

Arethusana arethusana (DENIS & SCHIFFERMÜLLER, 1775) - 1♂, 26.06.2006, at the edge of Slivuț Forest. The adults fly in July-August. Larvae breed on different grasses, especially Festuca.

Brintesia circe pannonica FRUHSTORFER, 1911 - 3♂♂ 14.07.2004; 1♂ 20.07.2005; 4♂♂ 18.07.2006 at Slivuț Forest. Monovoltine species. Flight dates from July to August. Larvae breed on Poaceae. Adults rarely visit flowers.



Figure 1. *Maculinea teleius*
(BERGSTRÄSSER, 1779)



Figure 2. *Euphydryas aurinia aurinia*
(ROTTEMBERG, 1775)



Figure 3. *Hyponephele lycaon*
(ROTTEMBERG, 1775)



Figure 4. *Arethusana arethusana* (DENIS &
SCHIFFERMÜLLER, 1775)

CONCLUSIONS

Even if the identified taxa represent only 33.96% of the total of butterflies of Romania, we consider that the fauna of butterflies is varied in the studied area. Some of species as *Euphydryas aurinia*, *Maculinea teleius*, *Maculinea alcon*, *Lycaena dispar rutila*, *Apatura iris*, *Apatura ilia*, etc., are included in the Red List of Romanian butterflies as endangered or vulnerable species. They are protected not only in Romania but also in the European Union.

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