ENDEMITS AND RARE SPECIES IN THE LEPIDOPTERA COLLECTION OF THE MUSEUM OF DACIAN AND ROMAN CIVILISATION (HUNEDOARA COUNTY, ROMANIA)

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Abstract. *The author presents the endemits and rare species of Lepidoptera collection, one of the oldest collections preserved in the Museum of Dacian and Roman Civilisation of Deva (Hunedoara County, Romania). The collection was set up by JOSEF MALLÁSZ, curator of the museum in the first decades of XX century. Species of Lepidoptera were collected by JOSEF MALLÁSZ in the surrounding of Deva locality and also in Metaliferi Mountains (Săcărâmb and Mada Gorges) and Retezat Mountains. The old collection also contains specimens collected by LADISLAU DIÓSZEGHY and DANIEL CZEKELIUS. Until the present, this collection contains 12,272 specimens belonging to 947 species. They are collected by the author or by other entomologists of Romania: FREDERIC KÖNIG, IOSIF CĂPUŞE, MARIN MOLDOVAN, LÁSZLÓ RÁKOSY and WILHELM WEBER. This lepidopterological material is recorded from different hillocky and mountainous regions of Romania. Rare species of Romanian fauna are: Proserpinus proserpina, Heteropterus morpheus morpheus, Zerynthia polyxena, Orthostixis cribraria, Coscinia cribraria pannonica, Lycophotia porphyrea, Hyppa rectilinea, Cryphia muralis, Gortyna borelii lunata, Catocala hymenea and Pseudochropleura musiva. Endemic taxa, especially endemic Carpathian subspecies are: Parnassius mnemosyne transsylvanica, Boloria pales carpathomeridionalis, Euphydryas maturna partiensis, Coenonympha rhodopensis, Erebia epiphron transsylvanica, Erebia cassioides neleus, Erebia pandrose roberti, Erebia gorge fridericikoenigi, Erebia pronoë regalis, Erebia melas runcensis, Psodos coracina dioszeghyi, Photedes captiuncula delattini, Apamea maillardi carpatobrunnea and Apamea zeta carpatodistincta. For each taxon, data about the geographical spreading, habitat, flight period and larval food are given.*

Keywords: *Lepidoptera, Deva Museum.*

Rezumat. Endemite şi specii rare în colecţia de lepidoptere a Muzeului Civilizaţiei Dacice şi Romane Deva (judeţul Hunedoara, România). *Autorul prezintă endemitele şi speciile rare din colecţia de lepidoptere (Ord. Lepidoptera), una dintre cele mai vechi colecţii ale Muzeului Civilizaţiei Dacice şi Romane din Deva (judeţul Hunedoara, România). Colecţia a fost înfiinţată de către JOSEF MALLÁSZ, director al muzeului din Deva. JOSEF MALLÁSZ a colectat lepidoptere atât în împrejurimile Devei cât şi în Munţii Metaliferi (Săcărâmb şi Cheile Mada) şi Munţii Retezat. Vechea colecţie conţine de asemenea şi exemplare colectate de LADISLAU DIÓSZEGHY şi DANIEL CZEKELIUS în primele decenii ale secolului XX. În prezent colecţia este alcătuită din 12.272 exemplare aparţinând la 947 specii colectate de către autor sau de alţi entomologi din România: FREDERIC KÖNIG, IOSIF CĂPUŞE, MARIN MOLDOVAN, LÁSZLÓ RÁKOSY, WILHELM WEBER. Materialul lepidopterologic provine din diferite regiuni deluroase şi montane ale României, în special din regiuni ale Carpaţilor Occidentali şi Sudici. Speciile rare prezentate în această lucrare sunt: Proserpinus proserpina, Heteropterus morpheus morpheus, Zerynthia polyxena, Orthostixis cribraria, Coscinia cribraria pannonica, Lycophotia porphyrea, Hyppa rectilinea, Cryphia muralis, Gortyna borelii lunata, Catocala hymenea and Pseudochropleura musiva. Taxonii endemici, în special subspecii endemice din lanţul carpatic, sunt: Parnassius mnemosyne transsylvanica, Boloria pales carpathomeridionalis, Euphydryas maturna partiensis, Coenonympha rhodopensis, Erebia epiphron transsylvanica, Erebia cassioides neleus, Erebia pandrose roberti, Erebia gorge fridericikoenigi, Erebia pronoë regalis, Erebia melas runcensis, Psodos coracina dioszeghyi, Photedes captiuncula delattini, Apamea maillardi carpatobrunnea and Apamea zeta carpatodistincta. Pentru fiecare taxon sunt prezentate date referitoare la răspândirea geografică, habitatul, perioada de zbor şi sursa trofică a larvelor.*

Cuvinte cheie: *Lepidoptera, Muzeul Deva.*

INTRODUCTION

JOSEF MALLÁSZ, the curator of the museum, set up the collection of Lepidoptera species of the Museum of Dacian and Roman Civilisation of Deva (Hunedoara County, Romania). The old collection contains specimens collected by JOSEF MALLÁSZ, DANIEL CZEKELIUS and LADISLAU DIÓSZEGHY in the first decades of XX century. Later, in 1972-1980, numerous specimens collected by MARIN MOLDOVAN, FREDERIC KÖNIG, WILHELM WEBER, LÁSZLÓ RÁKOSY and IOSIF CĂPUŞE enriched the collection.

The largest part of the collection contains specimens collected by SILVIA BURNAZ, the entomologist of the Museum of Deva. A catalogue of the collection published by BURNAZ (1993) includes 5910 specimens collected in 1927-1992. The author has also published, in collaboration with FREDERIC KÖNIG, the checklist of the subalpine-alpine and boreo-alpine species preserved in the collection of Deva Museum (BURNAZ & KÖNIG 1984). Until the present, because of numerous researches made by the author, especially in different areas of Hunedoara County (Southern and Western Carpathians) or in other regions of Romania (Făgăraş Mountains), the collection contains 12,272 specimens of Macrolepidoptera. The aim of this paper is to present the rare Lepidoptera species and endemic species deposited in the collection of Deva Museum.

MATHERIAL AND METHODS

The studied material is represented by the specimens preserved in the collection of Lepidoptera species of Deva Museum. Systematic and scientifical nomenclature of the species are based on the works of RÁKOSY (1996; 2002), RÁKOSY & GOIA (2003), TOLMAN & LEWINGTON (2007). The identification of the species was made according to SPULLER (1910-1911), POPESCU-GORJ (1952, 1962, 1963, 1965), RÁKOSY (1996), STILL (1996), FELTWELL (2001) and TOLMAN & LEWINGTON (2007) papers.

RESULTS AND DISCUSSIONS

30 endemic and rare species, kept in the collection of Deva Museum, are presented in this paper. The specimens have been collected in the mountainous, subalpine and alpine level of Romanian Carpathians, especially in Western and Southern Carpathians. Most of the endemic species represent subalpine-alpine, boreo-alpine and tundra-alpine elements.

1. Endemic taxa

VARGA (2003) considers that Carpathian Mountains, especially the eastern and the southern parts, together with the mountains of western Transylvania (Apuseni and Banat Mountains) can be considered as core areas of survival and autochthonous evolution in many invertebrate groups of limited mobility. Concerning Lepidoptera Order, endemic subspecies of the Carpathian Mountains belong to the genera Erebia (*Erebia epiphron transsylvanica*, *E. pharte belaensis*, *E. manto trajanus*, *E. gorge fridericikoenigi*, *E. pandrose roberti*, *E. pronoë regalis*) and Glacies (*G. coracina dioszeghyi*, *G. noricana carpathica*, *G. canaliculata schwingenschussi*). Some subspecies of Erebia occur only in calcareous areas like *Erebia melas melas* Herbst (Cernei Mts.), *Erebia melas carpathicola* (Eastern Carpathians) and *Erebia melas runcensis* (Western Carpathians, Apuseni Mountains). Other endemic taxa are widespread not only in the Carpathian Mountains but also in the neighbouring mountainous areas like *Aricia artaxerxes issekutzi* and *Photedes captiuncula delattini*. Some subspecies distributed in the Southern Carpathians are also widespread in the Balkan area like *Erebia cassioides neleus* Freyer and *Coenonympha rhodopensis schmidtii* (VARGA 2003).

Based on personal knowledges and different published papers about Lepidoptera fauna of Romania, RÁKOSY (1997) has mentioned 88 endemic taxa. Macrolepidoptera group is represented by 59 endemic species and subspecies. Some of these taxa, came from different zones of Romania, are present in the collection of Lepidoptera of Deva Museum (Tab. 1).

Tab. 1. Endemic taxa kept in the Lepidoptera collection of Deva Museum and the collecting sites.

Taxa	Sites
Psodos coracina dioszeghi SCHMIDT, 1930	Retezat Mts.
Photedes captiuncula delattini VARGA, 1970	Şureanu and Retezat Mts.
Apamea zeta carpatodistincta RÁKOSY, STANGELMAYER & WIESER, 1996	Făgăraş Mts.
Apamea maillardi carpatobrunnea RÁKOSY, 1996	Southern Carpathians Mountains.
Boloria pales carpathomeridionalis CROSSON & POPESCU- GORJ, 1963	Southern Carpathians (Bucegi and Făgăraş Mts.)
Euphydryas maturna partiensis (VARGA, 1973)	Apuseni Mts. (Metaliferi Mts.)
Coenonympha rhodopensis ELWES, 1900	Retezat Mts.
Erebia epiphron transsylvanica REBEL, 1908	Carpathian Mts.
Erebia manto trajanus HORMUZACHI, 1895	Carpathian Mts.
Erebia pronoë regalis HORMUZACHI, 1937	Bucegi Mts.
Erebia melas runcensis KÖNIG, 1965	Apuseni Mts.
Erebia gorge fridericikoenigi (VARGA, 1999)	Southern Carpathians Mountains.
Erebia cassioides neleus (FREYER, 1933)	Carpathian Mts.
Parnassius apollo transsylvanicus SCHWEITZER, 1912	Eastern Carpathians
Parnassius apollo jaraensis KERTESZ, 1922	Răcătău (Someşu Rece Valley)
Parnassius mnemosyne transsylvanica SCHMIDT, 1930	Transylvania

PAPILIONIDAE

Parnassius apollo transsylvanicus SCHWEITZER 1911-1912

Material: 1 ♂, 1 ♀ Lacul Roşu, 11.08. 1980, leg. König.

Geographical spreading: *Parnassius apollo* is spread in the mountainous zones of Europe and has many geographical races. Many factors have contributed to the decline of different races of *Parnassius apollo* in Europe, including habitat change combined with climatic change, acid rain and collection of the species (FELTWELL 2001). In Romania, the subspecies *P. apollo transsylvanicus* is locally distributed in Eastern Carpathians, especially in Bicaz Gorges, Rarău Mt., Bistriţa Valley (RÁKOSY 1983).

Habitat and flight period: Calcareous rocks. The adults fly in July-August.

Parnassius apollo jaraensis KERTÉSZ, 1922

Material: 1♂, 1♀ Răcătău (Someşu Rece Valley) 19.07. 1969, leg. König.

Geographical spreading: This subspecies was described in 1922 on the basis of some specimens from Iara Valley, a habitat which was later destroyed. Other specimens were recorded from Răcătău (Someşu Rece Valley) (RÁKOSY 1983).

Habitat and flight period: open meadows, rocky habitats with Sedum. The adults fly in June-July.

Larval food: Sedum sp.

Parnassius mnemosyne transsylvanica SCHMIDT, 1930

Material: 10 ♂♂ Retezat Mts., Lăpuşnic, 28.07.1978, leg. König; Şureanu Mts. (Godeanu Valley) 29.06.1988 (6 ex.); Costeşti (Şureanu Mts.) 19.06.1995; Crăciuneşti Gorges 17.06.2005 (2 ex.), leg. Burnaz.

Geographical spreading: This endemic subspecies is spread in Transsylvanian mountainous zones of Carpathians (RÁKOSY 1997).

Habitat and flight period: The adults fly in June at the edge of the deciduous forests.

Larval food: Corydalis sp.

NYMPHALIDAE

Boloria pales carpathomeridionalis (CROSSON & POPESCU-GORJ 1963)

Material: 5 ♂♂ Bucegi Mts., Babele, 2000 m, 27.07.1979 (2 ex.) leg. König; Făgăraş Mts. 26-27.07.1995 (3 ex.), leg. Burnaz.

Geographical spreading: Subalpine and alpine levels of different mountainous zones of Europe. The subspecies B. *pales carpathomeridionalis* is widespread in the Southern Carpathians (Bucegi Mts., Făgăraş Mts.). It is considered a vulnerable taxon according to IUCN categories of endangerment (RÁKOSY 2002).

Habitat and Flight period: The adults prefer subalpine and alpine lawns and fly in June-August.

Larval food: Viola sp.

Euphydryas maturna partiensis (VARGA, 1973) (Fig. 3)

Material: 14 ♂♂, 4♀♀ Retezat Mts., 12.06.1923 leg. Diószeghy; Retezat Mts. (Râu Mare Valley) 17.06.1963; Arad (Cladova Valley), 20.06.1966, Timişoara, 14.05.1967 (3 ex.) leg. Moldovan; Retezat Mts., 17.07.1973; Timişoara, 22.05. 1974; 15.05. 1979 (4 ex.); 21.05.1980 (4 ex.) leg. König; Ribicioara Gorges (Apuseni Mts.), 9.06.1990; Crăciuneşti Gorges (Metaliferi Mts.), 27.05.2006, leg. Burnaz.

Geographical spreading: Euroasiatic species with local colonies in Central, Eastern and Southeastern part of Europe. In Romania, *E. maturna partiensis* occurs especially in Transylvania and Banat. It is a vulnerable taxon according to IUCN categories of endangerment (RÁKOSY 2002).

Habitat and flight period: The adults fly in June-July at the edge of the deciduous forests, especially in the calcareous zones.

Larval food: *Fraxinus excelsior*, *Salix caprea*, *Plantago lanceolata*, *Veronicha chamaedrys*, *Succisa pratensis*.

Coenonympha rhodopensis ELWES, 1900

Material: 5 ♂♂ Retezat Mts. 1900 m, 27.07.1926; Retezat Mts., 1800 m, 2.08.1927, leg. Diószeghy; Retezat Mts., Slăvei, 2000 m, 21.06.1972; Retezat Mts., St. Radeş, 1800 m, 18.07.1979 (2 ex.), leg. König.

Geographical spreading: This species is known from Central Italy, ex. Yugoslavia, Romania (Retezat Mts.) and Bulgaria. (DIÓSZEGHY 1933; RÁKOSY 1993).

Habitat and flight period: The adults fly in June-July in mountainous and subalpine pastures at 800-1850 m altitude.

Larval food: Poaceae

Erebia epiphron transsylvanica REBEL, 1908

Material: 11 ♂♂, 3 ♀♀ Retezat Mts., 2.07.1927; 2.08. 1927; 3.08.1927, leg. Diószeghy; Parâng Mts. (Stefanu Mt.), 1.08.1963, leg. Moldovan; Retezat Mts. Slăvei, 2000 m, 21.06.1972, Retezat Mts. Stâna Zlata, 1700 m, 24.07.1967, Retezat Mts. Gura Zlata, 29.07.1978 (2 ex.), 27.07.1979; Bucegi Mts. Babele, 2000 m, 27.07.1979, leg. König; Şureanu Mts., 1750 m, 30.07.1994 (2 ex.), 20. 07.1995 (2 ex.), leg. Burnaz.

Geographical spreading: The nominal species, *Erebia epiphron epiphron* KNOCH 1783 is widespread in mountainous and alpine zones of Europe (TOLMAN & LEWINGTON 2007). The subspecies *Erebia epiphron transsylvanica* REBEL, 1908 is very common in the northern part of Slovakia, southern part of Poland, Tatra Mountains and Carpathian Mountains at1200 – 2500 m altitude (POPESCU-GORJ 1952; BURNAZ SILVIA & KÖNIG 1984; TOLMAN & LEWINGTON 2007).

Habitat and flight period: The adults fly in June-July in mountainous grasslands and alpine pastures. They also prefer the edge of the forests.

Larval food: Poaceae (*Nardus stricta* and *Festuca ovina*).

Erebia cassioides neleus (FREYER, 1833)

Material: 7 ♂♂ Retezat Mts. 1700 m, 29.07.1927, 30.07.1927, 3.08.1927, leg. Diószeghy; Cerna Gorges, Arjana, 1.08.1972; Retezat Mts., St. Radeş, 1800 m, 1.08.1972; Retezat, Berhina 1500 m, 19.07.1979 leg. König; Retezat Mts., Gemenele, 27.07.1994, leg. Burnaz.

Geographical spreading: This Carpathian endemit is locally common in Retezat and Ţarcu-Godeanu Mountains. It was also found at Arjana Mountain (Băile Herculane) (POPESCU – GORJ 1962).

Habitat and flight period: The adults fly in July-August, in subalpine and alpine pastures, up to 2000 m.
Larval food: Poaceae.

Erebia manto trajanus (HORMUZACHI, 1895)
Material: 8 ♂♂ Bucegi Mts. 1.08.1964; Retezat Mts. 7.07.1979 (4 ex.) leg. König; Şureanu Mts., 1750 m, 27.07.1994; 24.07.1995; 29.07.1996, leg. Burnaz.
Geographical spreading: *Erebia manto* (DENIS & SCHIFFERMÜLLER, 1775) is spread in subalpine meadows of Alpes, Vosges, Tatra Mts. The subspecies *E. manto trajanus* has been reported by HORMUZACHI (1895) from the southern part of Romanian Carpathians.
Habitat and flight period: The adults fly in July-August and prefer mountainous and subalpine meadows.
Larval food: Poaceae.

Erebia gorge fridericikoenigi (VARGA 1999)
Material: 2♂♂ Făgăraş Mts., 26.07.1994; Şureanu Mts., 1900 m, 27.07.1996, leg. Burnaz.
Geographical widespreading: It is widespread only in Carpathian and Balkan Mountains. In Romania, it was found in the Southern Carpathians (Retezat, Parâng, Şureanu, Făgăraş, Bucegi Mts.) and Eastern Carpathians (Ceahlău Mts.) (POPESCU-GORJ 1962; BURNAZ SILVIA & KÖNIG 1984; BURNAZ SILVIA 1997, 2006).
Habitat and flight period: The butterflies prefer alpine pastures and fly in July-August.
Larval food: Poaceae: *Poa minor*, *Poa alpina*, *Sesleria varia*, *Festuca ovina ssp. sudetica*, *Festuca airoides*.

Erebia pandrose roberti (PESCHKE, 1920)
Material: 11♂♂ Retezat Mts. 13.07.1921, 23.07.1921 leg. Diószeghy; Retezat Mts. 23.06. 1972; Retezat Mts., Slăvei, 2000 m, 21.06.1972; 21.07.1972 (2 ex.); 3.08.1980; 5.08.1980, leg. König; Şureanu Mts., 1750-2000 m, 25.07.1994, 23.07.1995, 18.07.1996, leg. Burnaz.
Geographical spreading: Boreo-alpine species, found in N Scandinavia with scattered local subspecies in the mountainous zones of S Europe from Pyrenees eastwards. In the N Europe it is found only in the lowlands (STILL 1996). The subspecies *Erebia pandrose roberti* is known from Tatra Mountains and Carpathian Mountains (POPESCU-GORJ 1963; BURNAZ SILVIA & KÖNIG 1984; BURNAZ SILVIA 1997, 2006).
Habitat and flight Period: The adults fly from June to July and prefer subalpine and alpine pastures from 1800-2300 m altitude.
Larval food: Poaceae (different species of Poa and Festuca).

Erebia pronoë regalis (HORMUZACHI 1937)
Material: 1♂ Bucegi Mts., Caraiman, 31.08. 1969, leg. König.
Geographical spreading: The nominal race is known from Alpes of Tirol and Styria (Austria), Tatra Mts. and northern part of Carpathian Mts. In Romania, the endemic subspecies *E. pronoe regalis* is known only from Bucegi and Piatra Craiului Mts. (POPESCU-GORJ 1965; SZEKELY 1995).
Habitat and flight period: This species is characteristic of subalpine-alpine pastures up to 2400 m altitude. The adults fly in July-August.
Larval food: Poaceae.

Erebia melas runcensis KÖNIG, 1965
Material: 3 ♂♂, 2 ♀♀ Runcu Gorges (Apuseni Mts.) 12.07.1971; 4.08.1978 (2 ex.) Poşaga-Arieş (Apuseni Mts.) 31.07.1976; Intregalde (Apuseni Mts.) 6.08.1979, leg. König.
Geographical spreading: It is widespread S and E Europe. The endemic subspecies *E. melas runcensis* was recorded by KÖNIG (1965 b) of the habitats of Cheile Runcului (Apuseni Mountains).
Habitat and flight period: The adults fly in July-August in the limestone rocks.
Larval food: Poaceae.

GEOMETRIDAE

Psodos coracina dioszeghyi (SCHMIDT, 1930)
Material: 2 ♂♂ Slăvei (Retezat Mts.) 3.08.1980, leg. König; Retezat Mts., Gemenele, 28.07.1994, leg. Burnaz.
Geographical spreading: The nominal subspecies is widespread in the alpine and subalpine level of the mountains of W and Central Europe. It was also recorded from N Europe. The endemic subspecies *P. coracinus dioszeghyi* was described by Schmidt on the basis of the specimens collected by Diószeghy in the Retezat Mountains (DIÓSZEGHY 1929-1930).
Habitat and flight period: The adults fly in July-August and prefer subalpine and alpine rocks between 1700-2500 m.
Larval food: herbaceous plants.

NOCTUIDAE

Apamea maillardi carpathobrunnea (RÁKOSY, 1996) (Fig. 5)

Material: 8♂♂, 3♀♀ Retezat Mts., Gura Apei, 27.07.1978; Retezat Mts. 27.07.1979 (2 ex.); 3.08.1980, leg. König; Făgăraş Mts. Bâlea See, 26-27.07.1994 (2 ex.), leg. Burnaz; Şureanu Mts., 1750 m, 19-20.07.1995 (3 ex.); Fetiţa Mt., 1500 m, 11.07.1995; Vârfu Lui Pătru Mt., 2000 m, 28.07. 1995, leg. Burnaz.

Geographical widespreading: Euroasiatic, tundro-alpine species. In Europe, the nominal subspecies is spread at N Scandinavia and N Russia. Geographical races were described from the mountainous, subalpine and alpine levels of Alps, Carpathian and Balkan Mountains. This subspecies, characteristic of Eastern and Southern Carpathians, was described by RÁKOSY (1996). It was found in Rodnei, Bucegi, Cibin, Piatra Craiului, Parâng, Retezat, Făgăraş, Şureanu Mts. (RÁKOSY 1995, 1996; BURNAZ SILVIA 1997, 2006).

Habitat and Flight period: The adults fly in July-August and prefer mountainous and subalpine pastures and meadows, from 1100 to 2200 m altitude.

Larval food: Poaceae (*Poa alpina*, *Nardus stricta*, *Molinia caerulea*).

Apamea zeta carpatodisticta (RÁKOSY, STANGELMAIER & WIESER, 1996)

Material: 6 ♂♂ Făgăraş Mts., 26-27.07.1994, leg. Burnaz.

Geographical widespreading: Euroasiatic species with many subspecies, locally distributed in N Europe and also in Pyrenees, Jura, Alps, Carpathians and Balkan Mts. *Apamea zeta carpatodistincta* was described by RÁKOSY, STANGELMAIER & WIESER after the specimens collected in Făgăraş Mountains (RÁKOSY, 1996). It was also found in Bucegi, Piatra Craiului, Hăşmaşu Mare, Ciucaş Mts.

Habitat and Flight Period: The adults fly in June-August and prefer subalpine and alpine meadows.

Larval food: Poaceae.

Photedes captiuncula delattini (VARGA, 1970)

Material: 10 ♂♂ Retezat Mts. 30.07.1927 (3ex.), leg. Diószeghy; Ciucaş Mts., 20.07.1993 (4 ex.), leg. Burnaz; Şureanu Mts.,1300 m, 26.07.1996 (3 ex.), leg. Burnaz.

Geographical spreading: Euroasiatic species found from N, Central and S part of Europe to Small Asia. The subspecies *delattini* was described by VARGA (1970). It is widespread in S Europe. This subspecies is characteristic of the mountainous level of Carpathian Mountains (RÁKOSY 1996).

Habitat and Flight Period: The adults fly in mountainous lawns, in June-August.

Larval food: Poaceae.

2. Rare species of Lepidoptera

SPHINGIDAE

Proserpinus proserpina (PALLAS 1772) (Fig. 4)

Material: 1♂ 8.06.1994 Laz Gorges (Şureanu Mts., Alba County); 1♂ Taia Gorges (Şureanu Mts.) 28.05.1994, leg. Burnaz.

Geographical spreading: Vestasiatic-mediterranean species, recorded from the central and S Europe, S-W Asia. This species is locally distributed in W, S-W and S-E Romania (KÖNIG 1975; RÁKOSY & SZÉKELY 1996; RÁKOSY & NEUMANN 1997).

Habitat and flight period: This species prefers xeric habitats (grasslands) and the edge of the deciduous forests. The adults fly in May-June.

Larval food: *Oenothera biennis, Chamaenerion angustifolium*, *Lythrum salicaria.*

HESPERIIDAE

Heteropterus morpheus morpheus (PALLAS 1771) (Fig. 1)

Material: 7♂♂ Sasca, Nera Gorges 23.06.1975 (2 ex.), leg. König; Crivadia Gorges 20.07.1995 (2 ex.); 3.07.1992 (2 ex.); 1♂ 13.07.1994, Bolii Hill (Bănița Couloir, Şureanu Mts.) (Fig. 1).

Geographical spreading: Euroasiatic species, locally common especially in the central, N and S Europe. In Romania, this rare and local species occurs only in some regions of Transylvania and Banat.

Habitat and flight period: Adults prefer open woodland, forest edges, dry or grassy meadows and fly in June-August.

Larval food: Poaceae: *Calamagrostis lanceolata*, *Brachypodium sylvaticum*, *Molinia caerulea*.

PAPILIONIDAE

Zerynthia polyxena polyxena (DENIS & SCHIFFERMÜLLER, 1775) (Fig. 2)

Material: 2♂♂, 1♀ Crăciuneşti Gorges (Metaliferi Mts.) 05.1992.

Geographical widespreading: The species is found in the S and S-E Europe, N-W part of Turkey, S Ural and N-W Kazakhstan. This species is local distributed in Romania. The author has collected some individuals from Crăciuneşti Gorges (Metaliferi Mts.) (BURNAZ SILVIA 1992, 2002).

Habitat and flight period: The adults prefer the rocks with xerothermophilous vegetation and shrubs of calcareous gorges.

Larval food: *Aristolochia pallida*.

LYCAENIDAE

Lycaena helle (DENIS & SCHIFFERMÜLLER, 1775) (Fig. 6)

Material: 2 ♂♂ Cerna Valley (Poiana Ruscă Mts) 24.05.2001; Dobra Valley (Poiana Ruscă Mts.) 29.05.2002. leg. Burnaz.

Geographical spreading: This species is locally common in Central and N Europe, W Russia, Central and S Siberia, Mongolia, Amur, but everywhere in small colonies. This species is threatened in all Europe due to intensification of the use of meadows, succession of shrub vegetation and drainage. This species is distributed in northern part of Romania and the surrounding of Braşov. We found this species in Cerna Valley and Dobra Valley (Poiana Ruscă Mts.) (BURNAZ & BALAZS 2001; BURNAZ SILVIA 2000, 2002 b).

Habitat and flight period: Its preferred habitats are wet meadows where its foodplant *Polygonum bistorta* is abundant. The adults fly in two generations (April-May and July-August) at the edge of the forests.

Larval food: *Polygonum bistorta*.

GEOMETRIDAE

Orthostixis cribraria (HÜBNER 1899)

Material: 3♂♂,1♀ Taia Gorges (Şureanu Mts.) 14.06.1989; 20.06.1993; 4♂♂, 1♀ Crivadia Gorges (Şureanu Mts.) 19.06.1994; 28.08.1995, leg. Burnaz S.

Geographical spreading: Westasiatic-Mediterranean species. It occurs in Central and S Europe, Balkan Mts., S Russia and W Asia. In Romania, this sporadic species was recorded from the calcareous zones of western and south-western part of the country (KÖNIG 1975; POPESCU-GORJ 1985; RÁKOSY & SZÉKELY 1996).

Habitat and flight period: This species is characteristic to calcareous habitats (hillocky and mountainous rocks with xerothermophilous vegetation). The adults fly in Mai-June and August-September.

Larval food: *Marrubium peregrinum*.

NOCTUIDAE

Catocala hymenea (DENIS & SCHIFFERMÜLLER, 1775)

Material: 1♂ Taia Gorges (Şureanu Mts.) 21.07.1995.

Geographical spreading: Euroasiatic species. It occurs especially in the central and S-E Europe, Minor Asia, Amur-Ussuri Basin. It is recorded from S, S-E and S-W Romania (RÁKOSY & SZEKELY 1996; RÁKOSY & NEUMANN 1997).

Habitat and fly period: Xerothermophilous species. The adults fly in June-August and prefer the xerothermophilous grasslands and the edge of the deciduous forests.

Larval food: *Prunus spinosa*.

Panthea coenobita (ESPER, 1785)

Material: 2♂♂ Şureanu Mts., 1750 m, 27.07.1996, leg. Burnaz.

Geographical spreading: Euroasiatc species. This is a sporadic species in all the chain of Carpathian Mountains.

Habitat and flight period: The adults fly in VI-VIII in the level of submontane and montane coniferous forests of Carpathian Mountains.

Larval food: coniferous species like: Picea, Abies, Pinus, Larix.

Cryphia muralis (FORSTER, 1771)

Material: 2♂♂ Laz Gorges (Şureanu Mts., Alba County) 3.07.1996; Fortress Hill of Deva (Dealul Cetății Deva) 17.07.2006, leg. Burnaz Silvia.

Geographical spreading: Mediterranean species found in central and S Europe, S Russia, N Asia Minor. This species is very rare in Romania. It is recorded mainly from Băile Herculane-Cerna Valley, Mehadia, Tecuci, Ardeoani-Bacău, Piteşti and Eforie-Sud (RÁKOSY 1996; RÁKOSY & NEUMANN 1997).

Habitat and flight period: Xerothermophilous species characteristic of hillocky and mountainous rocks. The adults fly in June-September.

Larval food: Lichenophagous species.

Hyppa rectilinea (ESPER, 1788)

Material: 2♂♂ Şureau Mts. 20.07.1994; 27.07.1996, leg. Burnaz.

Geographical spreading: This Euroasiatic species is common in the N and central part of Europe, N Asia. In S Europe, it occurs in the subalpine-alpine level of Pyrenees Mts., Southern part of Alps Mts, Carpathian and Balkan Mts. This is a sporadical species in E and S Carpathian Mountains (RÁKOSY 1996).

Habitat and flight period: Adults prefer damp mountainous and subalpine habitats and fly in June-August.

Larval food. Vaccinium, Rubus.

Lycophotia porphyrea (DENIS & SCHIFFERMÜLLER, 1775)

Material: 9 ♂♂, 1♀ Băişoara Mt. (Apuseni Mts.) 1600 m, 1.08.1978 (2 ex.), leg. Konig; Crivadia Gorges (Şureanu Mts.) 27.07.1994 (7 ex.); Ponorici – Cioclovina (Şureanu Mts.) 14.07.1994 (1 ex.), leg. Burnaz Silvia.

Geographical spreading: Atlanto-mediterranean species, especially spread in the W, central and E Europe. In Romania is locally distributed and recorded from Apuseni Mts., Păltiniş, Râu Sadului, Parâng Mts., Cindrel Mts. (RÁKOSY 1996).

Habitat and flight period: This species prefers the edge of the forests and the shrubs of Ericaceae.

Larval food: Calluna, Erica, Brukenthalia.

Gortyna borelii lunata (FREYER, 1838): 2♂♂ Bolii Hill (Şureanu Mts.) 27.09.1993; 1♀ 3.10.1993.

Geographical spreading: Westasiatic-Mediterranean species. Its areal includes S-E England, central and S Europe (France, Spain, Germany, Poland, Hungaria, Romania, Bulgaria, Italy, Portugal) (RÁKOSY 1996). In Romania, the species was recorded by KÖNIG (1961, 1965 a) from the calcareous habitats of Băile Herculane. This species prefers also salted habitats were host plant of larvae is *Peucedanum officinale*.

Habitat and Flight period: The adults fly in September-October in calcareous or salted habitats. In Hunedoara County, this species was found only in the calcareous zone of Bolii Hill (protected area situated in Şureanu Mts.).

Larval food: *Peucedanum longifolium*.

Pseudochropleura musiva (HÜBNER, 1803)

Material: 1♂ Cioclovina (Şureanu Mts.) 24.07.1995, leg. Burnaz Silvia.

Geographical spreading: Euroasiatic species spread in S Spain, Central Europe, Alpes Mts., Carpathian Mts., Asia Minor and Midle East. In Romania this is a very rare species recorded from different mountainous zones of E, W and S Carpathians (RÁKOSY 1996).

Habitat and flight period: Limestone rocks with xerothermophilous vegetation. The adults fly in July-August.

Larval food: *Dicotyledonata herbaceous* plants.

ARCTIIDAE

Coscinia cribraria pannonica DANIEL 1955

Material: 8 ♂♂, 1♀ Miniş Valley, Coronini, 9.08.1975 (1ex.); Nera Gorges 22.08.1978, leg. König; Taia Gorges (Şureanu Mts.) 18.08.1988 (2ex.); Băniţa Gorges (Şureanu Mts.) 14.07.1995 (2 ex.); 03.08.1995 (2ex.); Crivadia Gorges (Şureanu Mts.) 27.07. 1996, leg. Burnaz Silvia.

Geographical spreading: Euroasiatic species with numerous geographical races distributed in the W, central, S and S-E Europe. The subspecies *C. cribraria pannonica* was described by DANIEL (1955) after some specimens collected in N Hungary and Cibin Mountains (Southern Carpathians) (POPESCU-GORJ 1970). It was recorded from Scărişoara-Belioara (Apuseni Mts.), Cheile Turului (Trascău Mts.), Băile Herculane, Nera Gorges, Parâng Mts. and Retezat Mts. (the calcareous area of these mountains). (KÖNIG 1975; RÁKOSY & VIEHMANN 1991; RÁKOSY & NEUMANN 1997).

Habitat and flight period: Xerothermophilous species characteristic of hillocky rocks and grasslands of calcareous mountains. The adults fly in July-August.

Larval food: *Plantago* sp., *Calluna vulgaris*.

CONCLUSIONS

The high level of diversity of Lepidoptera fauna of Romania is reflected not only by different published studies, but also by the collections kept in the museums of Romania. Beside common species, the collection of Lepidoptera preserved in Deva Museum also contains rare and endemic species for Romanian fauna. These taxa are very important from scientifical and biogeographical point of view.

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Fig. 1. *Heteropterus morpheus* (PALLAS, 1771)

Fig. 2. *Zerynthia polyxena* (DENIS & SCHIFFERMÜLLER, 1775)

Fig. 3. *Euphydryas maturna partiensis* VARGA, 1973

Fig. 4. *Proserpinus proserpina* (PALLAS, 1772)

Fig. 5. *Apamea maillardi carpatobrunnea* RÁKOSY 1996

Fig. 6. *Lycaena helle* (DENIS & SCHIFFERMÜLLER, 1775)