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DATA CONCERNING BUTTERFLIES (ORD. LEPIDOPTERA, S.ORD. RHOPALOCERA) OF NANDRU VALLEY (POIANA RUSCĂ MOUNTAINS, WESTERN CARPATHIANS, ROMANIA)

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Rezumat

Date privind fluturii diurni (Ord. Lepidoptera, S.ord. Rhopalocera) din Valea Nandrului (Munții Poiana Ruscă, Carpații Occidentali, România)

Pe baza cercetărilor efectuate în anii 1988 şi 2007 în diferite habitate naturale situate în Valea Nandrului, una dintre cele mai spectaculoase zone carstice ale Munților Poiana Ruscă (Carpații Occidentali) au fost semnalate 82 specii de fluturi diurni. În condițiile unor temperaturi foarte ridicate față de media normală a lunilor mai-august şi a unei vegetații afectate de seceta prelungită, au fost colectate un număr relativ mare de specii, caracteristice mai ales pajiştilor din lungul văii, lizierei pădurilor de foioase, arinişurilor şi stâncăriilor. Specii frecvente şi foarte frecvente au fost: *Melitaea didyma*, *Melitaea cinxia*, *Argynnis paphia*, *Argynnis adippe*, *Aphantopus hyperanthus*, *Maniola jurtina*, *Coenonympha arcania*, *Coenonympha pamphilus*, *Melanargia galathea*, *Vanessa atalanta*, *Vanessa cardui*, *Pieris napi*, *Pieris rapae rapae*. Specii rare şi foarte rare în zona cercetată sunt *Branthis daphne*, *Brenthis hecate*, *Maculinea arion*, *Maculinea alcon*, *Thymelicus acteon* şi *Satyrium pruni*. Pentru toate speciile colectate sau observate în teren sunt prezentate date referitoare la frecvență, cerințele ecologice față de habitat, distribuția geografică actuală şi categoriile de periclitare conform criteriilor IUCN.

Key words: checklist, Macrolepidoptera species, S. ord. Rhopalocera, Nandru Valley, Poiana Ruscă Mountains

INTRODUCTION

A floristical and faunistical research was accomplished in Poiana Ruscă Mountains (Western Carpathians). The western part of these mountains is situated in Hunedoara County (Romania).

A moderate altitude characterizes the relief of these mountains: 500 m -1000 m. Crystalline schists, andesits and other magmatic rocks are prevailed. But, in some regions, especially on the basin of Cerna Valley, calcareous areas are predominates. Nandru Valley is situated in the area of the deciduous forests but at the entrance in this valley, calcareous rockies are present (Fig. 2, 3).

The aim of the study is to emphasize the diversity of entomofauna (especially Lepidoptera, Rhopalocera) of some natural habitats situated in the Valley of Cerna River and its affluents.

In the past years (2000-2006) we have studied the flora and butterflies of some habitats situated in Zlaşti Valley, Govăjdie Valley and Runc Valley (BURNAZ SILVIA 2000, 2002) and (BURNAZ SILVIA & BALAZS MARCELA 2001, 2002).

In 1988 and 2007, we have researched the Rhopalocera fauna of Nandru Valley, affluent of Cerna River, one of the most important calcareous areas of Poiana Ruscă Mountains.

MATERIAL AND METHODS

The study has been made on the basis of field surveys. The specimens have been collected or observed in the following habitats:

1. Rocky habitats with mezophilous and xerothermophilous vegetation As. *Asplenio-Cystopteridetum fragilis* OBERD. (1939) 1949; As. *Melico-Phleetum montani* BOŞCAIU et al. 1966;

2. Lawns and pastures: *Festucetum pratensis* Soó (1938), 1955, 1966; As. *Agrosteto-Festuceto valesiacae* ARDELEAN 1983; As. *Anthoxantho-Agrostietum capillaris* SILLINGER 1933; As. *Agrosti stoloniferae-Deschampsietum cespitosae* UJVÁROSI 1941; As. *Festuco rubrae-Agrostietum capillaris* HORV. (1951);

3. Forest edge and shrubs phytocoenoses: As. *Prunus spinosae-Crataegetum* (SOÓ 1927) HUECK. 1931; As. *Sambucetum racemosae* Oberd. 1973; As. *Sambucetum ebuli* (KAISER 1926) FELFÖLDY 1942; As. *Coryletum avellanae* SOÓ 1927;

4. As. *Aegopodio-Alnetum glutinosae* Karpati & Jurko 1961; As. *Salicetum albae-fragilis* Issler 1924 em Soó 1957; *Tussilaginetum farfarae* OBERD. 1949; *Senecioni silvatici-Epilobietum angustifolii* (HUECK 1931) Tx. 1950; As. *Petasitetum hybridi (*DOST. 1933) SOÓ 1940, along the Nandru river.

In June and July meadows and lawns are covered by *Galium verum*, *Centaurium umbellatum*, *Centaurea cyanus*, *Cychorium intybus*, *Dianthus carthusianorum*, *Galium verum* (Fig. 4, 5, 8, 9). At the edge of the forests and in Nandru Valley *Telekia speciosa* and *Epilobium angustifolium* are spread (Fig. 6,7).

The collecting and the observations were carried out in 1988 and 2007. The collecting and observations were made in May-August. The specimens were determined after SPULER (1909-1911), BERGMANN (1952), NICULESCU (1961, 1965, 1966), CHYNERY (1996), STILL (1996), FELTWELL (2001), TOLMAN & LEWINGTON (2007).

The frequency of species was established after RÁKOSY & VIEHMANN 1991: Frequent species – 6-15 specimens /day; Very Frequent species - over 16 specimens/day; Relative frequent species – 1-5 specimens/day; Rare species - 5-10 specimens /generation; Very rare species – 1-4 specimens/generation.

Ecological exigencies of species were established after RÁKOSY (1997) and MIHUȚ (2000) classification: M- Mesophilous species; Mh- Mesohygrophilous species; Mt- Mesothermophilous species; Xt- Xerothermophilous species; Mxt- Mesoxerothermophilous species; Hg- Hygrophilous species; Eu-Eurytope species.

We used the scientifical classification of Rhopalocera species after RÁKOSY (2002).

For all the identified taxons, the categories of endangerment according to IUCN criteria are presented (RÁKOSY 2002): EX- Extinct; CR- Critical endangered; EN- Endangered; VU- Vulnerable; NT- Near threatened; LC – Least concern.

RESULTS AND DISCUSSION

82 Macrolepidoptera species (S. ord. Rhopalocera) were recorded from the natural habitats of Nandru Valley (Poiana Ruscă Mountains). Species were collected or observed in different habitats of Nandru Valley.

A checklist of the butterflies and data about the fly period of the adults, the favourite habitats, larval and adult's host plants is given.

ORD. LEPIDOPTERA

S. ORD. RHOPALOCERA

HESPERIOIDEA

HESPERIIDAE

1. *Erynnis tages tages* (Linnaeus, 1758) – 11 ♂♂, 3 ♀♀ 15.05-16.07. VF; Mxt; Eua; LC. It is a species that prefers the hillsides and the edge of the forests. The adults fly in May-June. Larvae food plants are Fabaceae. The adults breed on *Potentilla erecta*, *Fragaria vesca*, *Medicago lupulina*, *Melilothus officinalis*, *Trifolium campestre*, *Hypericum perforatum*, *Leucanthemum vulgare*, *and Dianthus carthusianorum*.

2. *Pyrgus carthami* (HÜBNER, 1813) – 10 ♂♂, 3 ♀♀ 14.05-11.08. VF; Mt; Eua; LC. It is a very common species, spread especially in flowery lawns and the edge of the forests. The flight period of the adults is between May and August. Larvae breed on Carthamus, Malva and Potentilla species (STILL, 1996).

3. *Thymelicus acteon* (ROTTEMBURG, 1775) – VR; Mt; Vam; NT. This butterfly enjoys open forested areas, the edge of the forests and scrubby areas. It is a rare species in the area of Nandru Valley (2 ♂♂ 9.07.2007), at the edge of the forests). Larvae food plants are Poaceae (*Brachypodium pinnatum*, *B. sylvaticum*, *Elymus repens* and Calamagrostis sp.)

4. *Thymelicus sylvestris* (PODA, 1761) – 19♂♂, 4♀♀ 27.06-19.07. VF; M; Vam; LC. This is a very common species, recorded from all the studied areas of Poiana Ruscă Mountains. In Nandru Valley, the adults fly in June-August, in lawns and meadows. They visit the flowers of *Hypericum perforatum*, *Centaurium umbellatum*, *Geranium robertianum*, *Inula hirta*, *Senecio vulgaris*, *Leucanthemum vulgare*, *Salvia nemorosa*, *Melilothus officinalis*, *Galium verum*, *Vicia faba*, *Tanacetum vulgare*, *Viola tricolor*, *Potentilla reptans*. Larvae breed on different Poaceae (*Holcus lanatus*, *Phleum pratense*, *Brachypodium pinnatum*)

5. *Hesperia comma* (LINNAEUS, 1758) – 12♂♂, 5♀♀ 12.07-18.08. VF; M; Hol; LC. The butterfly is regulary found in lawns, edges of the forests and meadows (Fig. 21). The flight period is between July and August. As adult it frequents the flowers of *Aster amellus*, *Leucanthemum vulgare*, *Viola tricolor*, *Centaurium umbellatum*, *Mentha longifolia*, *Tanacetum vulgare*, *Lotus corniculatus*, *Vicia faba*, *Sedum hispanicum*.

6. *Ochlodes venatus faunus* (TURATI, 1905) – 9♂♂, 3♀♀ 19.06-27.08. VF; Mt; Eua; LC. It is a frequent species wich enjoys forest edges, shrub areas and lawns. Adults' fly is in June-August and visit nectar sources as *Hypericum perforatum*, *Aster amellus*, *Leucanthemum*

vulgare, *Trifolium pratense*, *Trifolium repens*, *Sambucus nigra*, *Centaurium umbellatum*, *Sambucus racemosa*, *Rosa canina*, *and Crataegus monogyna*. Larvae breed on Poaceae.

PAPILIONOIDEA

PAPILIONIDAE

7. *Parnassius mnemosyne transsylvanica* SCHMIDT, 1930 – 3♂♂ 21.06. VR; Mh; End; NT. These butterflies occur in mountainous zone of Nandru Valley, especially in meadows and forest edge. The adults fly in June and visit *Sambucus nigra*. The larvae breeds on Corydalis species.

8. *Iphiclides podalirius podalirius* (LINNAEUS, 1758) – 9♂♂ 21.06-23.07. RF; Mxt; Eua; NT. This is a common species wich prefers the forest edge and the areas of shrubs. The adults fly in June-July and often visit: *Epilobium angustifolium*, *Eupatorium cannabinum*, *Mentha longifolia*, *Aster amellus*, *Sambucus racemosa*. Larvae breed on Rosaceae (especially Prunus).

9. *Papilio machaon machaon* (LINNAEUS, 1758) – 3♂♂, 2♀♀ 9-21.07. RF; Mt; Eua; NT. The adults fly in April-August, in two generation and visit the flowers of *Cirsium canum*, *Crataegus monogyna*, *Telekia speciosa*, *Verbascum thapsus*, *Dipsacus fullonum*, *Rosa canina*, *Sambucus nigra*, *Sambucus racemosa*.

PIERIDAE

10. *Leptidea sinapis sinapis* (LINNAEUS, 1758) – 18♂♂, 11♀♀ 18.05-12.08. VF; M; Eua; LC. This very common species prefers forest edges and lawns. The adults fly in May-June and July-August and visit the following plants-nectar sources: *Lotus corniculatus*, *Salvia pratensis*, *Trifolium pratense*, *Aster amellus*, *Centaurium umbellatum*, *Scabiosa columbaria*, *Eupatorium cannabinum*, *Mentha longifolia*. Larvae breed on Fabaceae.

11. *Anthocharis cardamines* (LINNAEUS, 1758) - 8♂♂ 24.05. VF; M; Eua; LC. The adults fly in April and visit the preferred plants: *Viola tricolor*, *Ranunculus acer*, *Dentaria bulbifera*, *Hesperis tristis*, *Lathyrus vernus*, *Viola odorata*, *Vinca minor*.

12. *Aporia crataegi crataegi* (LINNAEUS, 1758) - 4 ♂♂ 26.06. RF; M; Eua; LC. This is a relative frequent species. The adults fly in April-June and visit the flowers of *Sambucus racemosa*, *Berberis vulgaris*, *Crataegus monogyna*, *Prunus spinosa*. Larvae breed on: Rosaceae (Prunus and Crataegus).

13. *Pieris brassicae brassicae* (LINNAEUS, 1758) - 5♂♂ 26.06-12.07. F; M; Eua; LC. It is a frequent species wich frequents forest edges and visits *Melittis melissophyllum*, *Sinapis arvensis*, *Sambucus racemosa*, *Alchemilla vulgaris*, *Centaurium umbellatum*, *Epilobium*

montanum, *Salvia glutinosa*, *Verbascum phlomoides* and *Lamium album*. Larvae breed on Brassicaceae.

14. *Pieris rapae* (LINNAEUS, 1758) - 24♂♂, 5♀♀ 27.05-1.10. VF; M; Hol; LC. It is a very frequent species wich occurs in all the habitats (lawns, forest edge, shrub areas, rocky habitats, etc.). The adults fly in May-October and visit the flowers of *Telekia speciosa*, *Lamium maculatum*, *Origanum vulgare*, *Cirsium vulgare*, *Lathyrus vernus*, *Campanula persicifolia*, *Aster amellus*, *Galium odoratum*, *Galium verum*, *Salvia pratensis*, *Leucanthemum vulgare*, *Hypericum perforatum*, *Anthyllis vulneraria*. Larvae breed on Brassicaceae.

15. *Pieris napi napi* (LINNAEUS, 1758) – 14♂♂, 4♀♀ 27.05-1.10. VF; M; Vam; LC. It is a very frequent species, found in all the studied habitats. The adults fly in May-October and visit the flowers of: *Sinapis arvensis*, *Alchemilla vulgaris*, *Lamium maculatum*, *Telekia speciosa*, *Hypochoeris maculata*, *Dianthus carthusianorum*, *Centaurium umbellatum*, *Cardamine pratensis*, *Trifolium pratense*, *Sanguisorba officinalis*, *Mentha longifolia*, *Succisa pratensis*, *Centaurea phrygia*, *Centaurea biebersteinii* (=micranthos), *Salvia nemorosa*, *Valeriana officinalis*, *Echium rubrum*.

16. *Pontia edusa* (FABRICIUS, 1777) - 9♂♂, 4♀♀ 29.04-14.09. VF; Mt; Eua; LC. This species is very common in the habitats of Nandru Valley. Adults' fly is in 2-3 broods, from April to September and prefers flowery lawns and hedgerows. They enjoy visiting *Viola tricolor*, *Viola canina*, *Lotus corniculatus*, *Medicago lupulina*, *Scabiosa ochroleuca*, *Dianthus carthusianorum*, *Teucrium chamaedrys*, *Centaurea micranthos*, *Viola hirta*, *Lathyrus vernus*, *Cirsium arvense*, *Melittis melisophyllum*, *Stachys sylvatica* and *Origanum vulgare*

17. *Colias croceus* (FOURCROY, 1785) - 19♂♂, 4♀♀ 29.04-14.09. F; Mt; E-Vam; LC. It is a very frequent species wich prefers flowery lawns and forest edges. The adults fly in April-September (in two generations) and visit the flowers of *Salvia pratensis*, *Leucanthemum vulgare*, *Dianthus carthusianorum*, *Sanguisorba officinalis*, *Coronilla varia*, *Onobrychis viciifolia*, *Symphytum officinale*, *Thymus comosus*, *Centaurea nigrescens*, *Knautia arvensis*. Larvae breed on Fabaceae.

18. *Colias hyale* (LINNAEUS, 1758) - 18♂♂, 5♀♀ 21.05-24.09. VF; M; Eua; LC. It is a very common species and regulary found in flowery meadows. The adults fly in two broods, in May-June and August-September. Nectar sources are: *Veronica teucrium*, *Cytisus nigricans*, *Medicago lupulina*, *Scabiosa ochroleuca*, *Dianthus carthusianorum*, *Teucrium chamaedrys*, *Centaurea micranthos*, *Viola hirta*, *Centaurium umbellatum*, ***Dipsacus silvester***, *Lathyrus vernus*, *Cirsium arvense*, *Melittis melisophyllum*, *Stachys sylvatica, Calamintha vulgaris* and *Origanum vulgare*.

19. *Gonepteryx rhamni rhamni* (LINNAEUS, 1758) - 18♂♂, 5♀♀ 29.04-4.09. RF; M; Vam; LC. The adults fly in April- September in forest edges. Sometimes they visit *Sambucus racemosa*, *Crataegus monogyna*, *and Prunus* spinosa. Larvae breed on: *Rhamnus catharticus*.

LYCAENIDAE

20. *Hamearis lucina* (LINNAEUS, 1758) - 16♂♂, 5♀♀ 29.05-4.09. VF; M; E; LC. It prefers forest edges and open woodlands. The adults fly in April-June and July-September and visit the flowers of Taraxacum officinale, Fragaria vesca, Salvia pratensis. Larvae feed on Primula species.

21. *Lycaena phlaeas phlaeas* (LINNAEUS, 1761) - 16♂♂, 5♀♀ 29.05-12.08. VF; M; Eua; LC. This is a very frequent species in the area of Nandru Valley. The adults fly in May-August, especially in forest edges and flowering lawns *Dianthus carthusianorum*, *Teucrium chamaedrys*, *Centaurea micranthos*, *Viola hirta*, *Centaurium umbellatum*, ***Dipsacus silvester***, *Lathyrus vernus*, *Cirsium arvense*, *Melittis melisophyllum*, *Stachys sylvatica, Calamintha vulgaris* and *Origanum vulgare*; Larvae feed on Polygonaceae.

22. *Lycaena dispar rutila* (WERNEBURG, 1864) - 16♂♂, 3♀♀ 9-19.07. VF; Hg; Eua; VU. It is a very common species, found especially in mesohygrophilous meadows. Adult plant resources are especially *Epilobium angustifolium*, *Menta longifolia*, *Eupatorium cannabinum*, *and Sambucus racemosa*.

23. *Lycaena virgaureae virgaureae* (LINNAEUS, 1758) - 18♂♂, 3♀♀ 19.07-3.08. VF; Mh: Eua; NT. It is a very common species, found especially in mesohygrophilous lawns situated in Nandru Valley. The adults prefer *Eupatorium cannabinum*, *Epilobium hirsutum*, *Geranium robertianum* and *Mentha longifolia* as nectar source. Larvae feed on Rumex species.

24. *Lycaena alciphron alciphron* (ROTTEMBURG, 1775) - 18♂♂, 3♀♀ 29.06-23.07. RF; Mh; Vam; VU. It is a relative common species. The adults fly in June-July and prefer mesohygrophilous lawns and search the nectar of *Epilobium hirsutum*, *Eupatorium cannabinum*, *and Menta longifolia*. The larvae feed on Rumex species.

25. *Thecla betulae* (LINNAEUS, 1758) - 6♂♂ 23.07. R; M; Eua; NT. It is a rare species in the area of Nandru Valley. The adults fly in July and August and prefer forest edge and shrub phytocoenoses. The host plant of larvae is *Prunus spinosa*. Ants attend chrysalides.

26. *Callophrys rubi* (LINNAEUS, 1758) - 6♂♂, 3♀♀ 26.06-23.07. F; Mt; Eua; LC. It is a very common species. Larvae breed on Calluna, Rubus. The adults fly in May-July, especially in clearings, open woodland and forest edges. They visit especially *Rosa canina*, *Sambucus nigra*, *and Sambucus racemosa*.

27. *Satyrium w-album* (KNOCH, 1782) - 6♂♂ 21.07. VR; Mxt; Eua; VU. It is found only in the clearings and forest edges. In June and July, the butterflies are attracted to bramble flowers. Larvae feed on elm flowers (*Ulmus glabra*) in the early stages, moving to leaves later. Ants attend the larvae of this species.

28. *Satyrium pruni* (LINNAEUS, 1758) - 4♂♂ 9.07. VR; Mt; Eua; NT. This species is rare in the area of Nandru Valley. The adult's fly in June-July, especially at the edge of the forests and anywhere is *Prunus spinosa*, the host plant of the larvae. The most visited plants are: *Ligustrum vulgare*, *Sambucus racemosa*, *Rubus fruticosus*. Larvae feed on *Prunus spinosa* and related trees.

29. *Cupido minimus minimus* (FUESSLY, 1775) - 6♂♂, 3♀♀ 26.06-23.07. F; M; Eua; NT. It is a very common species in Nandru Valley. The butterflies fly in June and July and frequent flowering lawns and visit a lot of plants for nectar. The most visited plants are: *Lotus corniculatus*, *Medicago sativa*, *Trifolium pratense*. Larvae host plant is *Anthyllis vulneraria*.

30. *Everes argiades (*PALLAS, 1771) - 11♂♂, 3♀♀ 26.05-23.06; 11.07-3.08. RF; M; Eua; LC. It is a bivoltine species (May-June and July-August), found in flowering meadows, lawns and forest edges. Adults enjoy visiting *Potentilla recta*, *Leucanthemum vulgare*, *Galium verum*, *Filipendula vulgaris*, *Polygala major*, *Medicago lupulina*, *Potentilla arenaria*, *Scabiosa ochroleuca*, *Agrimonia eupatoria*, *Linum tenuifolium*, *Prunella vulgaris.* Larvae feed on Fabaceae.

31. *Celastrina argiolus* (LINNAEUS, 1758) - 11♂♂, 2♀♀ 26.05; 11.07-3.08. RF; M; Eua; LC. The butterflies are regulary found in lawns and forest hedges. The adults fly in May and July-August and visit *Mercurialis perennis*, *Salvia pratensis*, *Stellaria holostea*, *Lysimachia nummularia, Ajuga reptans*, *Veronica chamaedrys*. Larvae are attended by *Lasius niger*, *L. alienus* and Myrmica species.

32. *Scoliantides orion lariana* FRUHSTORFER, 1910 - 8 ♂♂, 2♀♀ 26.06-11.08. RF; Xt; Eua; NT. The adults fly in May-August in rocky calcareous areas. Larvae breed on Sedum. They are attended by *Lasius alienus*, *Formica pratensis*, *Formica cinerea*, *Camponotus aethiops*.

33. *Glaucopsyche alexis* (PODA, 1761) - 9 ♂♂, 1♀ 26.06-21.07. RF; Mh; Eua; LC. The adults fly in June-July and prefer flowery lawns like *Prunella vulgaris*, Potentilla reptans, Veronica chamaedrys, *Thymus comosus*, *Origanum vulgare*, *Galium verum*. Larvae feed on Fabaceae.

34. *Maculinea arion* (LINNAEUS, 1758) - 4♂♂, 1♀ 11.21.07. VR; M; Eua; NT. The butterfly is rare in the calcareous area of Nandru Valley, especially in lawns and forest edges (Fig. 20). The adults fly in June-July and visit *Filipendula ulmaria*, *Agrimonia eupatoria*,

Leucanthemum vulgare, *Linum flavum*, *Thymus serpyllum*. In the early stages larvae feed on Thymus. Ants attend them in the following stages.

35. *Maculinea alcon* (DENIS & SCHIFFERMÜLLER, 1775) - 4♂♂ 21.07. VR; Mh; Eua; EN. It is a very rare species, which prefers meadows and grasslands. In the early stage, larvae feed on Gentiana. Ants (*Myrmica sabuleti*) attend them in the following stages. Pupation takes places in ant nests.

36. *Plebeius argus argus* (LINNAEUS, 1758) - 11♂♂, 3♀♀ 11.06-21.07. VF; M; Eua; LC. It is a very common species which prefers sunny areas, flowery meadows and forest edges. The adults fly in May- August and visit *Lotus corniculatus*, *Potentilla recta*, *Viola tricolor*, *Medicago lupulina*.

37. *Plebejus argyrognomon* (BERGSTRÄSSER, 1779) - 11♂♂, 3♀♀ 29.06-21.07. VF; M; Eua; LC. It prefers lawns and forest edges. Flight period is between May and August. Adults prefer *Lotus corniculatus*, *Viola tricolor*, *Viola canina*, *Fragaria vesca*, *Medicago lupulina*, *Genista tinctoria*. Larvae breed on Fabaceae.

38. *Aricia agestis agestis* (DENIS & SCHIFFERMÜLLER, 1775) - 7♂♂, 3♀♀ 29.05-27.08. VF; M; Eua; LC. The butterfly is most common in lawns, flowery meadows and forest edges. The fly period is from May to September. Favoured flowers include *Lotus corniculatus*, *Medicago sativa*, *Trifolium pratense*. Ants attend larvae but in the early stages they feed on Helianthemum and Geranium.

39. *Polyommatus semiargus semiargus* (ROTTEMBURG, 1775) - 7♂♂, 3♀♀ 29.05-7.09. F; M; Eua; LC. It is a very common species found in flowery lawns and forest edges. The fly period is May-June and August-September. Adults visit *Lotus corniculatus*, *Genista tinctoria*, *Viola tricolor*, *Taraxacum officinale*, *Agrimonia eupatoria*, *Viola canina*, *Leucanthemum vulgare*, *Medicago sativa*, *Trifolium pratense* Larvae feed on *Trifolium pratense*. Ants attended them, in the following stages.

40. *Polyommatus icarus* (ROTTEMBURG, 1775) - 18♂♂, 6♀♀ 29.05-17.09. VF; M; Eua; LC. It is a very common species wich prefers meadows, flowering hillsides, forest edges and scrubby phytocoenoses. The adults fly in April-September and visit the flowers of *Genista tinctoria*, *Aster amellus*, *Viola tricolor*, *Potentilla recta*, *Leucanthemum* ***vulgare*****,** ***Galium verum*****,** ***Filipendula vulgaris*****,** ***Polygala major*****,** ***Medicago lupulina*****,** ***Potentilla arenaria*****,** ***Scabiosa ochroleuca*****,** ***Agrimonia eupatoria*****,** ***Linum tenuifolium*****,** ***Prunella vulgaris*****.**

41. *Polyommatus daphnis* (DENIS & SCHIFFERMULLER, 1775) - 6♂♂, 1♀ 19.06-17.07. R; Xt; Eua; LC. The species is characteristic for calcareous areas of Nandru Valley. The adults fly in June-July and visit the flowers of *Hypericum hirsutum*, *Leucanthemum vulgare*,

Sedum hispanicum, *Aster amellus*, *Genista tinctoria*, *Inula hirta*. Host plants of larvae are *Thymus comosus* and Astragalus sp.

42. *Polyommatus bellargus* (ROTTEMBURG, 1775) - 5 ♂♂ 27.07.2007. VR; Mt; Eua; LC. It is a rare species in Nandru Valley and found only in flowery lawns. Adults visit the following plants: *Sedum hispanicum*, *Leucanthemum vulgare*, *Linum tenuifolium*, *Scabiosa ochroleuca*, *Onions spinosa*, *and Salvia pratensis*. Larvae feed on Fabaceae.

43. *Polyommatus coridon* (PODA, 1761) - 7♂♂, 1♀ 29.06-19.07. R; Xt; Eua; LC. The species is characteristic for calcareous areas of Nandru Valley. The adults fly in June-July and visit the flowers of *Dianthus carthusianorum*, *Prunella vulgaris*, *Scabiosa ochroleuca*, *Hypericum perforatum*, *Sedum hispanicum*. Host plant of larvae is *Hippocrepis comosa*. *Lasius niger*, *Lasius alienus*, *Formica rufa*, *Myrmica sabuleti* and other ants species attend caterpillars of this species.

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44. *Argynnis paphia paphia* (LINNAEUS, 1758) - 11♂♂, 4♀♀ 24.06-23.07. VF; M; Eua; LC. It is a very common species. The adults fly in June-August at the edge of the forest and visit especially *Cirsium arvense*, *Dipsacus fullonum*, *Telekia speciosa* and *Sambucus racemosa* flowers. Larvae breed on Viola.

45. *Argynnis aglaja* (LINNAEUS, 1758) - 10♂♂, 3♀♀ 24.06-27.07. VF; M; Eua; LC. The butterfly is found in meadows and clearings, in June-July. Larvae breed on Viola species. Adults prefer *Leucanthemum vulgare*, *Salvia pratensis*, *Hypericum perforatum*, *Agrimonia eupatoria*, *Origanum vulgare*, *Thymus comosus*, *Senecio nemorensis*, *Dianthus carthusianorum*, *Erigeron annuus*.

46. *Argynnis adippe* (DENIS & SCHIFFERMÜLLER, 1758) - 9♂♂, 5♀♀ 24.06-22.07. VF; M; Eua; LC. It is characteristic for meadows, lawns and forest edges. The adults fly in June-July and visit the following plants: *Leucanthemum vulgare*, *Cirsium arvense*, *Senecio vulgare*, *Dianthus carthusianorum*, *Sambucus racemosa*, *Eryngium planum*, *Galium verum*, *Agrimonia eupatoria*, *Salvia pratensis*, *Salvia nemorosa*, *Aster amellus*, *Telekia speciosa*.

47. *Argynnis niobe niobe* (LINNAEUS, 1758) - 9♂♂, 5♀♀ 19.06-25.07. VF; M; Eua; LC. It is a common species in the studied area. The adults fly in June-July and prefer clearings and meadows. They visit *Leucanthemum vulgare*, *Galium verum*, *Origanum vulgare*, *Prunella vulgaris*, *Filipendula hexapetala*, *Agrimonia eupatoria*, *Teucrium montanum*, *Eryngium campestre*, *Dianthus carthusianorum*, *Euphorbia cyparissias*, *Salvia pratensis*, *Hypericum perforatum*. Larvae breed on Viola species.

48. *Issoria lathonia* (LINNAEUS, 1758) - 15♂♂, 5♀♀ 19.06-15.08. VF; Mxt; Eua; LC. It is a very common species found especially in meadows, lawns and forest edges. The adults fly in June-August and visit *Leucanthemum vulgare*, *Telekia speciosa*, *Aster amellus*, *Senecio nemorensis*, *Senecio vulgare*, *Solidago virgaurea*, *Tanacetum vulgare*, *Dianthus carthusianorum*. Larvae breed on Viola species.

49. *Brenthis daphne* (DENIS & SCHIFFERMÜLLER, 1775) - 5♂♂, 2♀♀ 29.06-25.07. R; M; Eua; VU. The adults fly at the edge of the forests in June-July and visit *Aster amellus*, *Leucanthemum vulgare*, *Dianthus carthusianorum*, *Tanacetum vulgare*, *Linum tenuifolium* (Fig. 18). Larvae host plants are *Rubus fruticosus* and *Rubus idaeus*.

50. *Brenthis hecate* (DENIS & SCHIFFERMÜLLER, 1775) - 4♂♂, 1♀ 29.06-25.07; VR; M; Eua; VU. It is a very rare species found especially in meadows and forest edges. The adults fly in June-July and frequent *Leucanthemum vulgare*, *Telekia speciosa*, *Galium verum*, *Mentha longifolia*. Larvae host plant is *Filipendula ulmaria*.

51. *Clossiana euphrosyne* (LINNAEUS, 1758) - 16♂♂, 4♀♀ 25.05-25.07; VR; M; Eua; LC. It is very frequent in forest edges and meadows. The adults fly in May-July and visit *Trifolium pratense*, *Lathyrus pratensis*, *Rosa canina*, *Centaurea phrygia*, *Veronica chamaedrys*, *Lysimachia nummularia*, *Medicago sativa*, *Medicago lupulina*, *Silene dubia*, *Scabiosa ochroleuca*, *Genista tinctoria*, *Galium mollugo*, *Cichorium intybus*, *Galium verum*, *Salvia pratensis*, *Prunella vulgaris*, *Filipendula hexapetala*. Larvae breed on Viola species.

52. *Clossiana selene* (DENIS & SCHIFFERMÜLLER, 1775) - 19♂♂, 4♀♀ 25.05-15.09. VF; M; Eua; LC. It prefers forest edges, lawns and meadows. The adults fly in May-August and visit *Galium verum*, *Leucanthemum vulgare*, *Aster amellus*, *Lotus corniculatus*, *Medicago lupulina*, *Lathyrus pratensis*, *Linum catharticum*, *Myosotis palustris*, *Cychorium intybus*, *Ajuga reptans*, *Centaurea phrygia*, *Trifolium repens*, *Thymus comosus*, *Prunella vulgaris*, *Telekia speciosa*. Larvae breed on Viola species.

53. *Clossiana dia dia* (LINNAEUS, 1767) - 19♂♂, 4♀♀ 20.05-29.07. VF; M; Eua; LC. It is very frequent in May-July and it is found especially in lawns, meadows and clearings. The adults visit *Aster amellus*, *Galium verum*, *Ajuga reptans*, *Lysimachia nummularia*, *Fragaria vesca*, *Leucanthemum vulgare*, *Prunella vulgaris*, *Genista tinctoria*, *Ajuga reptans*, *Centaurea phrygia*, *Lotus corniculatus*, *Vicia cracca*, *Polygala vulgaris*, *Trifolium campestre*, *Galium verum*, *Potentilla reptans*, *Artemisia vulgaris*, *Hypericum perforatum*. Larvae breed on Viola.

54. *Vanessa atalanta* (LINNAEUS, 1758) - 11♂♂, 2♀♀ 20.06-29.07. VF; Cosm; Eu; Mg; LC. It is a very frequent species especially found in July and August in open habitats and

forest edges. It is rarely observed on flowers but prefers damp ground (fig. 21). Larvae host plants are Urtica species.

55. *Vanessa cardui* (LINNAEUS, 1758) - 10♂♂, 2♀♀ 20.06-2.08. VF; M; Eua; LC. The adults fly in June-August at the edge of the forest and visit especially *Cirsium arvense*, *Telekia speciosa*, and *Dipsacus fullonum*. Larvae breed on Carduus and Urtica.

56. *Inachis io* (LINNAEUS, 1758) - 8♂♂, 2♀♀ 29.05-2.08. F; M; Eua; LC. It prefers forest edges and clearings. The adults fly in May-August and visit *Leucanthemum vulgare*, *Rubus caesius*, Rosa canina, Berberis vulgaris, *Crataegus monogyna*, *Rubus fruticosus*, *Sambucus racemosa*, *Telekia speciosa*. Larvae breed on Urtica.

57. *Aglais urticae* (LINNAEUS, 1758) - 5♂♂, 2♀♀ 19.06-22.07. F; Eu; Mg; Eua; LC. It is a strong migrant and a frequent species in the studied area, found in all sorts of habitats from lawns to forest edges. The adults fly in June-July and visit *Cirsium arvense*, *Sambucus racemosa* and *Dypsacus fullonum*. Larvae breed on Urtica.

58. *Polygonia c-album* (LINNAEUS, 1758) - 5♂♂, 2♀♀ 19.06-2.08. VF; Eu; Eua; LC. It is a very common species wich prefers forest edges and shrubs phytocoenoses. The adults fly in June-August and visit *Sambucus nigra*, *Sambucus racemosa*, *Telekia speciosa*, *Rubus fruticosus*. Larvae breed on Urtica and Humulus.

59. *Araschnia levana* (LINNAEUS, 1758) - 15♂♂, 5♀♀ 29.05-2.08. F; Mh; Eua; LC. It is a common species, found in open woodland and forest edges (Fig. 10). The adults fly in May-August and rarely visit *Crataegus monogyna*, *Prunus spinosa*, *Telekia speciosa*, *Sambucus racemosa*, *Sambucus nigra*, *Urtica dioica*. Larvae breed on Urtica.

60. *Nymphalis antiopa* (LINNAEUS, 1758) - 3♂♂ 22.07. R; Mh; Eua; LC. It is a rare species in the studied area. The adults fly in May-July and rarely visit flowers, feeding on tree-sap and rotten fruits. Larvae breed on Salix.

61. *Melitaea cinxia cinxia* (LINNAEUS, 1758) - 25♂♂, 5♀♀ 29.05-22.08. VF; M; Eua; LC. This species frequents open flowery places, meadows, lawns and the edge of the forests. The adults fly in May-August and visit many flowers like: *Leucanthemum vulgare*, *Galium verum*, *Thymus comosus*, *Lotus corniculatus*, *Medicago sativa*, *Medicago lupulina*, *Trifolium pratense, Melilotus officinalis*, *Linaria vulgaris*, *Lysimachia vulgaris*, *Vicia cracca*, *Polygala vulgaris*, *Taraxacum officinale*, *Hypericum perforatum*, *Tanacetum vulgare*.

62. *Melitaea phoebe* (DENIS & SCHIFFERMULLER, 1775) - 21♂♂, 9♀♀ 24.05-2.09. VF; Mt; Eua; LC. The adults fly in May-September in the clearings of the forests, lawns, meadows and frequent many flowers for searching nectar: *Lotus corniculatus*, *Trifolium pratense*, *Lysimachia vulgaris*, *Salvia pratensis*, *Galium verum*, *Mentha longifolia*, *Taraxacum officinale*, *Linaria vulgaris*, *Genista tinctoria*, *Ajuga reptans*, *Centaurea phrygia*,

Galium uliginosum, *Medicago sativa*, *Hypericum perforatum*, *Leucanthemum vulgare*, *Tanacetum vulgare*.

63. *Melitaea didyma* (ESPER, 1778) - 18♂♂, 8♀♀ 29.05-2.09. VF; M; Eua; LC. This species is very common in flowery meadows, lawns and forest edges. The adults fly in May-September and visit *Coronilla varia*, *Lysimachia nummularia*, *Sanguisorba officinalis*, *Galium verum*, *Genista tinctoria*, *Taraxacum officinale*, *Ajuga reptans*, *Veronica chamaedrys*, *Centaurea phrygia*, *Medicago lupulina*, *Filipendula vulgaris*, *Trifolium repens*, *Hypericum perforatum*. Larvae breed especially on Plantago.

64. *Melitaea athalia athalia* (ROTTEMBURG, 1775) - 19♂♂, 6♀♀ 26.05-5.09. VF; M; Eua; LC. It is a very common species. Butterflies frequent open flowery places, forest edges and meadows. The most preferred flowers are: *Galium odoratum*, *Salvia pratensis*. Larvae breed on Plantago and Melampyrum.

65. *Neptis hylas* (LINNAEUS, 1758) - 9♂♂, 3♀♀ 26.05-5.08. F; Mt; Eua; VU. Bivoltine species. The adults fly in May-June and July-August. They prefer damp habitats situated in the valley of the river and rarely visit the flowers of *Sambucus racemosa* (Fig. 16). Larvae breed on Fabaceae

66. *Neptis rivularis* (SCOPOLI, 1763) - 8♂♂, 2♀♀ at 19-27.07. RF; M; Eua; LC. It is a relative common species. The most species we collected in July. The adults fly at the edges of the deciduous forests and rarely visit the flowers of *Sambucus racemosa* and *Eupatorium cannabinum*. Larvae host plants are *Spiraea chamaedryfolia* and *Filipendula ulmaria*.

67. *Apatura ilia ilia* (DENIS & SCHIFFERMÜLLER, 1775) - 8♂♂, 2♀♀ 11-27.07. F; Mh; Eua; VU. It is a frequent species, characteristic for willows phytocoenoses. Adults feed especially tree sap and carrion. Larvae breed on Salix and Populus.

68. *Apatura iris* (LINNAEUS, 1758) - 11♂♂, 2♀♀ 11-27.07. VF; Mh; Eua; VU. This species, very common, was collected especially in the area of willow trees – the host plants of the larvae. The adults fly in July-August and search dung, tree sap and carrion (Fig.11)

69. *Pararge aegeria tircis* BUTLER, 1867 - 18♂♂, 7♀♀ 11.06. -27.08. VF; M; E-Vam; LC. It is a very common species, found at the edge of the forests and clearings. The adults fly in May-September and visit some plants like *Telekia speciosa*, *Eupatorium cannabinum*, *Epilobium angustifolium*. Larvae host plants are Poaceae.

70. *Lasiommata megera megera* (LINNAEUS, 1767) - 9♂♂, 2♀♀ 11.06. -27.07. RF; M; E-Vam; LC. It is relative frequent species in June-July and rarely visits *Telekia speciosa*. Larvae host plants are Poaceae.

71. *Lasiommata maera maera* (LINNAEUS, 1758) - 8♂♂, 2♀♀ 21.06. -27.07. RF; M; Eua; LC. The adults fly in June-July and frequent the edge of the forests and clearings. Larvae host plants are Poaceae.

72. *Coenonympha arcania arcania* (LINNAEUS, 1761) - 18♂♂, 6♀♀ 21.05. -27.08. VF; Mh; Eua; LC. It is a very frequent species that prefers lawns and the edge of the forests. The adults fly in May-September and visit *Leucanthemum vulgare*, *Prunella vulgaris*, *Aster amellus*, *Ajuga reptans*, *Lathyrus pratensis*, *Lysimachia nummularia*, *Galium verum*, *Ajuga reptans*, *Centaurea phrygia*. Larvae host plants are Poaceae.

73. *Coenonympha glycerion glycerion* (BORKHAUSEN, 1788) - 7♂♂, 2♀♀ 21.07. - 7.08. RF; M; Eua; LC. The adults fly in open flowery places, forest edges and clearings in July-August. They enjoy visiting *Mentha longifolia*, *Leucanthemum vulgare*, *Aster amellus*, *Thymus comosus*, and *Galium verum*. Larvae breed on Poaceae.

74. *Coenonympha pamphilus* (LINNAEUS, 1758) - 17♂♂, 7♀♀ 21.05. -7.08. VF; M; Eua; LC. It is a very frequent species in all the habitats of Nandru Valley. The adults fly in May-August and visit *Leucanthemum vulgare*, *Viola tricolor*, *Taraxacum officinale*, *Aster amellus*, *Lysimachia nummularia*, *Lathyrus vernus*, *Galium verum*, *Mentha longifolia*, *Urtica dioica*, *Trifolium pratense*, *Inula hirta*, *Melampyrum arvense*, *Linum hirsutum*, *Artemisia austriaca*, *Coronilla varia*, *Teucrium chamaedrys*, *Filipendula vulgaris*.

75. *Pyronia tithonus tithonus* (LINNAEUS, 1767)- RF; Xt; Eua; EN. It is a relative frequent species that prefers the edge of the forests and clearings. Larvae breed on Poaceae.

76. *Aphantopus hyperanthus* (LINNAEUS, 1758) - 10♂♂, 4♀♀ 23.05. -27.07. VF; M; Eua; LC. It is a very frequent species collected in forest edges and shrub associations. The adults fly in May-September. They enjoy visiting *Rosa canina*, *Crataegus monogyna*, *Sambucus nigra*, *Sambucus racemosa*, *Galium verum*, *Telekia speciosa*, *Urtica dioica*, *Taraxacum officinale*, *Centaurea phrygia*, *Cichorium intybus*, *Medicago lupulina*, *Trifolium pratense*, *Trifolium campestre, Salvia pratensis*, *Galium mollugo*, *Melilotus officinalis*, *Artemisia austriaca*, *Linaria vulgaris*. Larvae breed on Poaceae.

77. *Maniola jurtina jurtina* (LINNAEUS, 1758) - 11♂♂, 2♀♀ 21.05. -7.09. VF; M; E-Vam; LC. It is a very frequent species, specific to the edge of the forests and clearings. The adults fly in May-September and visit *Telekia speciosa*, *Sambucus racemosa*, *Leucanthemum vulgare*, *Epilobium angustifolium*, *Taraxacum officinale*, *Galium verum*, *Linaria vulgaris*, *Salvia pratensis, Geranium robertianum*, *Melica uniflora*, *Urtica dioica*, *Geranium phaeum*, *Origanum vulgare*, *Mentha longifolia*, *Myosotis palustris*, *Eupatorium cannabinum*, *Melilotus officinalis*, *Urtica dioica*, *Senecio nemorensis*. Larvae host plants are Poaceae.

78. *Erebia aethiops* (ESPER, 1777) - 11♂♂, 2♀♀ 21.07. -7.08. VF; M; Eua; LC. It is a mountainous species, very frequent in the area of Nandru Valley. The adults visit nectar sources in forest edges and scrubby phytocoenoses. The most visited plants are: *Telekia speciosa*, *Sambucus racemosa*, *Leucanthemum vulgare*, *Epilobium angustifolium*, *Eupatorium cannabinum* (Fig. 12-13). Larvae host plants are Poaceae.

79. *Melanargia galathea* (LINNAEUS, 1758) - 11♂♂, 2♀♀ 21.06. -27.07. VF; M; Eua; LC. It prefers meadows, lawns and the edge of the forests (Fig. 14). The adults fly in June-July and visit *Leucanthemum vulgare*, *Aster amellus*, *Salvia pratensis*, *Origanum vulgare*, *Senecio nemorensis*, *Scabiosa ochroleuca*, *Inula hirta*, *Centaurea phrygia*, *Cichorium intybus*, *Centaurium umbellatum*, *Galium verum*, *Cirsium arvense*, *Carduus nutans*, *Dianthus carthusianorum*. Larvae host plants are Poaceae.

80. *Minois dryas* (SCOPOLI, 1763) - 7♂♂, 2♀♀ 9.07. -7.08. RF; Mt; Eua; LC. It prefers forest edges. The adults fly in July-August and rarely visit *Sambucus racemosa*. Larvae host plants are Poaceae.

81. *Hipparchia fagi* (SCOPOLI, 1763) - 8♂♂, 1♀ 9.07. -27.07. RF; M; Eua; LC. This is a relative frequent species that prefers the edge of the forests. The adults fly in June-July. We never see this species on the flowers. The adults prefer to rest on the leaves and trunks of the trees. Larvae host plants are Poaceae.

82. *Brinthesia circe pannonica* FRUHSTORFER, 1911 - 6♂♂, 1♀ 9.07. -25.07. F; Mt; Eua; NT. It is a common species characteristic for the edge of the forest. The adults fly in July and rarely visit the flowers of *Sambucus racemosa*. Larvae host plants are Poaceae.

The analyse of the lepidopterological material show us that the majority of the species belongs to Nymphalidae (38 species) and Lycaenidae (24 species) (Tab. 1).

Tab. 1- Number of species in comparison with the families of Lepidoptera (S.ord. Rhopalocera)

Families	Number of species
Hesperiidae	6
Papilionidae	3
Pieridae	10
Lycaenidae	24
Nymphalidae	38

The analyse of the ecological exigencies points out that most of species are mesophilous (57%), mesothermophilous (17%) and mesohygrophilous (11%). Xerothermophilous species (5% from all the species) are *Scoliantides orion*, *Polyommatus coridon*, *Polyommatus daphnis* and *Pyronia tithonus* (Fig. 1).

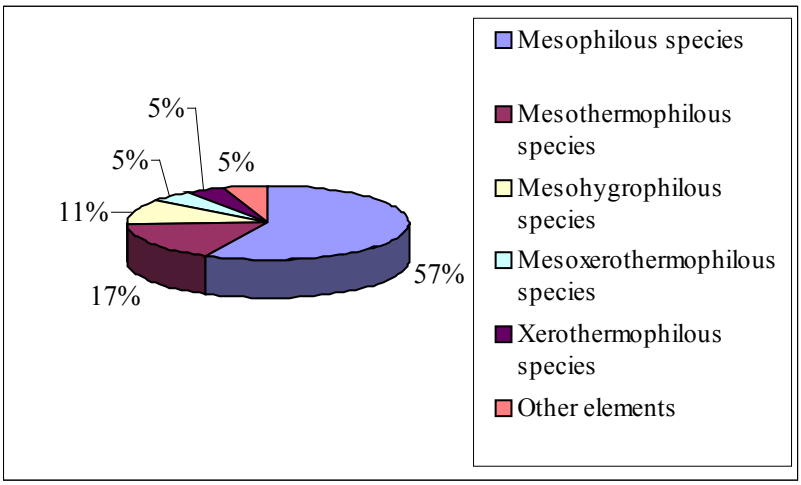

Fig. 1- The analysis of the ecological exigencies of the Macrolepidoptera species (S. ord. Rhopalocera) of Nandru Valley

The analysis of the geographical distribution points out that the majority of the species has an euroasiatic spreading. Westasiatic-mediterranean species are *Thymelicus sylvestris*, *Thymelicus acteon*, *Gonepteryx rhamni*, etc. Endemic taxon is *Parnassius mnemosyne transsylvanica*.

The analysis of the categories of endangerment according to IUCN criteria points out that *Satyrium pruni*, *Scoliantides orion lariana*, *Maculinea arion*, *Thecla betulae*, *Lycaena virgaureae*, *Parnassius mnemosyne transsylvanica*, *Papilio machaon*, and *Brinthesia circe* are classed as near threatened. *Lycaena dispar rutila*, *Satyrium w-album*, *Brenthis daphne*, *Brenthis hecate*, *Neptis hylas*, *Apatura ilia ilia* and *Apatura iris* are classed as vulnerable species. Endangered species are *Maculinea alcon* and *Pyronia tithonus*.

CONCLUSIONS

The habitats of Nandru Valley are rich in Lepidoptera species. This is due to the microclimate conditions and a rich flora and vegetation. Some vulnerable and endangered species in the fauna of Lepidoptera of Romania were recorded: *Maculinea alcon*, *Lycaena dispar rutila*, *Satyrium w-album*, *Brenthis daphne*, *Brenthis hecate*, *Apatura ilia ilia* and *Apatura iris*. Adults enjoy visiting a lot of plant species as nectar source. The most visited plants are *Leucanthemum vulgare*, *Telekia speciosa*, *Sambucus racemosa*, *Thymus comosus*,

Salvia pratensis, *Galium verum*, *Origanum vulgare*, *Rosa canina*, *Rubus caesius*, *Rubus fruticosus*, *Medicago lupulina*, *Genista tinctoria*, *Eupatorium cannabinum*, *Epilobium angustifolium*, *Dianthus carthusianorum*, Trifolium pratense, *Cirsium arvense*, *Centaurea phrygia*, *Veronica chamaedrys*, *Lysimachia nummularia*, *Silene dubia*, *Scabiosa ochroleuca*, and *Cichorium intybus*.

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Fig. 2. Deciduous forests in Nandru Valley

Fig. 3. Rocky Hills and pastures in Nandru Valley

Fig. 4. Lawns with Centaurea cyanus

Fig. 5. Lawns with Centaurium umbellatum

Fig. 6. Epilobium angustifolium at the forest road

Fig. 7. Telekia speciosa in Nandru Valley

Fig. 8. Lawns with Dianthus carthusianorum

Fig. 9. Lawns with Galium verum

Fig. 10. Araschnia levana

Fig. 11. Apatura iris

Fig. 12, 13. Erebia aethiops

Fig. 14. Melanargia galathea

Fig. 15. Polygonia c-album

Fig. 16. Neptis hylas

Fig. 17. Lycaena virgaureae

Fig. 18. Brenthis daphne

Fig. 19. Hesperia comma

Fig. 20. Maculinea arion

Fig. 21. Vanessa atalanta

Foto: Marcela Balazs, Dorin Cărăbeț, Silvia Burnaz