

RESEARCH ON MACROLEPIDOPTERA SPECIES (INSECTA: *Lepidoptera*) COLLECTED IN DUMBRAVA SIBULUI FOREST (ROMANIA) IN CONDITIONS OF THE YEAR 2011 AND THEIR STATUS LINE IN IUCN 2001 SYSTEM

Cristina MOISE*, Camelia SAND*

*“Lucian Blaga” University of Sibiu, Faculty of Faculty of Agricultural Sciences, Food Industry and Environmental Protection, Sibiu, Romania
Corresponding author: Cristina Moise, “Lucian Blaga” University of Sibiu, Faculty of Agricultural Sciences, Food Industry and Environmental Protection, 5-7 Ion Ratiu, 550371 Sibiu, Romania, phone: 0040269234111, fax: 0040269234111, e-mail: cristinamoise1@yahoo.com

Abstract. Macrolepidoptera fauna of Sibiu and its surroundings is studied for over 124 years by the naturalists Saxons. The collected material is preserved in the form of individual collections at the Natural History Museum in Sibiu. In addition to our material collected by us since 2001, data from these collections were a valuable documentary material for the present work. Our considerations on Macrolepidoptera flight periods are based on research conducted during the year 2011 from March to November in the protected area Dumbrava Sibiului. The natural conditions and the characteristics of the investigated area were revealed in several previous articles that could be found in the reference list. This paper lists the species collected systematically in the climatic conditions of the year 2011. Every species is presented besides collecting date day and month, to facilitate national and international comparisons, also the endangered degree conform established data recommended by IUCN in 2000 and 2001.

Keywords: Forest "Dumbrava Sibiului", butterflies, biodiversity, IUCN 2001.

INTRODUCTION

Sibiu county's natural areas have been extensively investigated in terms of flora and fauna since the nineteenth century. Sibiu, through its geographical position, is a well defined region. In addition to many common elements with adjacent territories, there are some characteristic species, which until now continues to maintain the status of "endemism" [23]. In this area were reported over time by naturalists Saxons from Transsylvania and mostly from Sibiu, of many important species of Lepidoptera from point of view scientific and biogeographic. In our study of Museum collections of Lepidoptera by Dr. D. Czekelius [4, 5, 14], Eugen Worell [16], Viktor Weidell [17], Henrich von Hannenheim, Rolf Weyrauch, we reported that many species of Macrolepidoptera were collected in the Forest Dumbrava Sibiului [3, 19, 27, 29-32].

The Natural Protected Area The Forest Dumbrava Sibiului is composed of a oak forest with an area of 109 ha. Thus, in the NV, in the Valley of lakes and Poplăcii way, portions of forest are young, also the end of the forest Rășinari, where can be found an old oak scattered tree. At the end of the town, near the Hilton Hotel, in the SE to Sevis area position of forest young and middle-aged and some patches of old forest. In the current fund these forests are also found samples of *Quercus robur*, remaining as evidence of an occupying plain old oak forest foothills, trees whose age is estimated to 700-800 years. Such trees are still inside the zoo, the textile company, Valea Aurie lakes and they are protected by law [29].

In addition to this species *Quercus robur* that are considered dominant, they are also other species of the mixture as: *Cerasus avium*, *Acer campestre*, *Fraxinus excelsior*, *Populus tremula*, *Ulmus minor*, *Tilia platyphyllos*. The shrub layer is the main species *Crataegus monogyna* Jacq. and *Ligustrum vulgare*., *Prunus spinosa* also cathartic and *Cornus sanguinea* and *Rhamnus*. More rarely in the bush are: *Rosa canina*, *Frangula alnus*, *Viburnum lantana*. In the

deforested areas in the install stage of reforestation are *Coryllus avellana* bushes.

In the mosaic of herbaceous species composition of oaks forests State stands a group of mezohigro and hydrophilic species, characteristic to a heavier soil, clay or loam-clay, to varying soil moisture regime, and some for depletion and soil acidification as: *Carex pallescens*, *Lysimachia vulgaris*, *L. nummularia*, *Carex brizoides*, *Concrete officinalis*, *Orchis maculata*, *Potentilla erecta*, rarely *Molina coerulea*, *Deschampsia caespitosa*, etc. [29], which differs from oaks forest piedmont.

This paper presents research results on daytime Macrolepidoptera fauna collected in Dumbrava Sibiului Forest Sibiu, in 2011. The theme of the work is included in a study on biodiversity Lepidoptera and is a result of field observations and collection begun by the author since 2001 [2, 11, 20, 33, 34, 36, 38-49].

MATERIALS AND METHODS

The material presented in this paper was collected from different areas at the edge of the oak Forest Dumbrava Sibiului. Research has been conducted in the climate of 2011, processed and the material was preserved in an entomological collection. This paper treats only the diurnal lepidopteran species and also species of diurnal behavior of the *Actiidae*, *Geometridae* and *Noctuidae*, collected with an entomological net. Gathering material was performed weekly by cutting the vegetation with an entomological net in the period between March and November. Species are listed in systematic order, with collecting data: day and month. In order to facilitate the collection between national and international data, we adopted different types of degrees concerning endangerment recommended by IUCN in 2000 and 2001 [25]: EX - Extinct, CR-Critical Endangered, EN-Endangered, VU-Vulnerable, NT-Near threatened. For the species that

are not in any mentioned category we use the phrase "not applicable".

Below we present a systematic list of species of Macrolepidoptera collected in the oak Forest Dumbrava Sibiului, in the year 2011 [13, 15]. We accepted the classification that was used in the *Checklist of Romanian Lepidoptera* [25], each taxon was found in the number of the list (Ro₁), and serial number as: (K. & R.₂) [24].

RESULTS

The butterflies like also other insects, are integrated in different types of ecosystems and they are represented in a large number of species in the studied area oak Forest Dumbrava Sibiului [12, 28, 50]. In the climatic conditions of the year 2011, between March and November were collected and studied 131 species of Macrolepidoptera, belonging to 98 Genus and 38 Families respectively. Some of the reported species are considered as ubicviste with large ecological valence, being spread over regions of plains, hills and at altitudes above 2000 m [1, 6-10, 21, 26]. They can exist in several types of biocoenosis. In the case of the studies species, reported in the oak Forest Dumbrava Sibiului study can be seen that they may be in many ecosystems, but rather in more characteristic of a particular habitat type of ecosystem [23], linked either larval host plant or local climatic conditions [13, 18, 37].

The importance of Macrolepidoptera studied in the oak Forest Dumbrava Sibiului follows in the meadows edge of forests, thus having contributed to the pollination of flowering plants from spontaneous flora of grassland but also of vegetables and herbs grown on agricultural land area Rasinari, Poplaca and Cisanadioara [18, 35]. Some eggs, larvae, adults and chrysalids are consumed by birds that live in inside the forest and around trees and shrubs from ist outskirts. Below we present a systematic list of 131 species of Macrolepidoptera collected in the year 2011, inclusive their collecting data and the endangered degree recommended by IUCN in 2000 and 2001.

LIST OF SPECIES COLLECTED FROM FOREST DUMBRAVA SIBIULUI MACROLEPIDOPTERA, IN THE YEAR 2011

CLASA INSECTA (HEXAPODA)* Order LEPIDOPTERA SUPRAFAMILY BOMBYCOIDEA

FAMILY LASIOCAMPIDAE (3306 Ro, K. & R.6722)

Genus *Poecilocampa* Stephens, 1828 (3308
Ro, K. & R.6726)

1. *Poecilocampa populi* Linnaeus, 1758 (3309 Ro¹,
6728 K. & R.²)

* They used the classification: László Rákósy, Marin Goia, Zoltan Kovács, *Checklist of Romanian Lepidoptera*, Lepidopterologica Romanian Society, Cluj Napoca 2003

2♂♂, 10. XI. 2011; 1♀, 10. XI. 2011, *Degree of hazard*: Not applicable

Genus *Malacosoma* Hübner, [1820] (3317 Ro, K. & R. 6742)

2. *Malacosoma neustria* Linnaeus, 1758 (3318 Ro, K. & R.6743)

1♂, 13.VI.2011 CM; *Degree of hazard*: NT

3. *Malacosoma castrensis castrensis* Linnaeus, 1758 sin. *M. castrensis shardaghi* Daniel, Foster & Osthelder, 1951 (3319 Ro, K. & R. 6744)

1 ♂, 13.VI. 2011 P"DS"; *Degree of hazard*: CR

Genus *Lasiocampa* Schrank, 1802 (3320 Ro, K. & R.6748)

4. *Lasiocampa quercus quercus* Linnaeus, 1758 (3323 Ro, 6752 K. & R. 6752)

1♂, 4.VIII.2011; *Degree of hazard*: Not applicable

Genus *Macrothylacia* Rambur, 1866 (3324 Ro, K. & R.6754)

5. *Macrothylacia rubi* Linnaeus, 1758 (3325 ro, K. & R. 6755)

1♂, 8.VI.; 1♀, 19.V.2011; *Degree of hazard*: NT

Genus *Dendrolimus* Germar, 1812 (3326 Ro, K. & R. 6762)

6. *Dendrolimus pini montana* Staudinger, 1871 (3327 Ro, K. & R. 6763)

2 ♂♂, 10.VI.; 20.VII.2011; *Degree of hazard*: Not applicable

Genus *Cosmotriche* Hübner, 1820 (3330 Ro, K. & R. 6768)

7. *Cosmotriche lunigera* Esper, 1784 (sin. *C. lobulina* Denis & Schiffermüller, 1775) (3331 Ro, K. & R. 6769)

1♂, 20.VII.2011; *Degree of hazard*: Not applicable

Genus *Phylloidesma* Hübner, 1820 (3332 Ro, K. & R.6770)

8. *Phylloidesma tremulifolia* Hübner, 1810 (3334 Ro, K. & R. 6773)

1♂, 26.IV.2011; *Degree of hazard*: NT

Genus *Gastropacha* Ochsenheimer, 1810 (3335 Ro, K. & R.6776)

9. *Gastropacha quercifolia* Linnaeus, 1758 (3336 Ro, K. & R. 6777)

2 ♂♂, 10. VII; 21.VI.2011; *Degree of hazard*: NT

Genus *Odonestis* Germar, 1812 (3338 Ro, K. & R. 6779)

10. *Odonestis pruni pruni* Linnaeus, 1758 (3339 Ro, K. & R. 6780)

2 ♂♂, 23.VI; 20.VI.2011; *Degree of hazard*: NT

FAMILY LEMONIIDAE (3357 RO, K. & R. 6830)

Genus *Lemonia* Hübner, 1820 (3357 Ro, K. & R. 6804)

11. *Lemonia balcanica* Herrich-Schäffer, 1847 (3360 Ro, K. & R. 6808)
1♂, 2.X. 2011 CM; *Degree of hazard*: CR

FAMILY SATURNIINAE (3348 RO, K. & R. 6789)

Genus **Saturnia** Schrank, 1802 (3349 Ro, K. & R. 6792)

(sin. *Eudia* Jordan, 1911)

12. *Saturnia pyri pyri* Denis & Schiffermüller, 1775 (3350 Ro, K. & R. 6793)

♂9.V.2011, ♂9.VI.2011; *Degree of hazard*: VU

13. *Saturnia pavonia* Linnaeus, 1758 (3351 Ro, K. & R. 6794) (sin. *S. carpini* Denis & Schiffermüller, 1775)
1♂ 20. IV. 2011; *Degree of hazard*: VU

Genus **Agliia** Oschenheimer, 1810 (3346 Ro, K. & R. 6787)

(sin. *Tachyptena* Germar, 1811)

14. *Agliia tau* Linnaeus, 1758 (3347 Ro, K. & R. 6788)

2♂♂, 1.V, 14.V.2011, ♀14.V.2011; *Degree of hazard*: Not applicable

SUPRAFAMILY GEOMETROIDEA

FAMILY DREPANIDAE (3720 RO, K. & R. 7478)

Genus **Falcaria** Haworth, 1809 (3742 Ro, K. & R. 7500)

(sin. *Prionia* Hübner, [1820])

15. *Falcaria lacertinaria* Linnaeus, 1758 (3743, K. & R. 7501)

1♂, 30.VI.2011; *Degree of hazard*: NT

Genus **Watsonalla** Minet, 1985 (3744 Ro, K. & R. 7502)

16. *Watsonalla binaria* Hufnagel, 1767 (3745 Ro, K. & R. 7503)

1♀, 17.V, 1♂ 31.VII.2011; *Degree of hazard*: Not applicable

17. *Watsonalla cultraria* Fabricius, 1775 (*W. hanula* Denis & Schiffermüller, 1775, *W. unguicula* Hübner, 1803) (3746 Ro, K. & R. 7505)

1♂, 22.VI.2011; *Degree of hazard*: Not applicable

Genus **Drepana** Schrank, 1802 (3747 Ro, K. & R. 7506)

18. *Drepana falcata* Linnaeus, 1758 (sin. *D. sicula* Denis & Schiffermüller, 1775, *D. falcata* Denis & Schiffermüller, 1775) (3749 Ro, K. & R. 7508)

1♂, 22.VI.2011, *Degree of hazard*: NT

Genus **Sabra** Bode, 1907 (3750 Ro, K. & R. 7509)

19. *Sabra harpagula* Esper, 1786 (3751 Ro, K. & R. 7510)

1♂ 2.VII.2011; 1♀, 27. VI. 2011; *Degree of hazard*: NT

Genus **Cilix** Leach, 1815 (3752 Ro, K. & R. 7511)

20. *Cilix glaucata* Scopoli, 1763 (sin. *C. spinula* Denis & Schiffermüller, 1775) (3753 Ro, K. & R. 7512)

1♂ 9.IV.2011, 1♀ 2.V.2011; *Degree of hazard*: Not applicable

FAMILY THYATRINAE (3721 RO, K. & R. 7479)

Genus **Thyatira** Ochseneimer, 1816 (3722 Ro, K. & R. 7480)

21. *Thyatira batis* Linnaeus, 1758 (3723 Ro, K. & R. 7481).

1♂ 2.VIII.2011, 1♀ 4.VII.2011; *Degree of hazard*: Not applicable

Genus **Habrosyne** Hübner, [1821] (3724 Ro, K. & R. 7482)

(sin. *Gonophora* Bruand, 1845, nec Dejean, 1835)

22. *Habrosyne pyritoides* Hufnagel, 1766 (3725 Ro, K. & R. 7483) (sin. *H. derasa* Linnaeus, 1787)

1♀ 4.V.2011, 1♂ 2 VII. 2011; *Degree of hazard*: Not applicable

Genus **Tethea** Ochseneimer, 1816 (3726 Ro, K. & R. 7484)

23. *Tethea ocularis* Linnaeus, 1767 (3727 Ro, K. & R. 7485) (sin. *Cymatophora octogesima* Hübner, 1796)

1♀ 2. V. 2011, 1♂ 4. V. 2011; *Degree of hazard*: NT

24. *Tethea or* Denis & Schiffermüller, 1775 (3728 Ro, K. & R. 7486)

1♂ 3.VII.2011, ♀ 4.VII.2011; *Degree of hazard*: NT

Genus **Tetheella** Werny, 1966

25. *Tetheella fluctuosa* Hübner, 1803 (3739 Ro, K. & R. 7488) 1♂ 3.VII.2011; *Degree of hazard*: NT

Genus **Cymatophorima** Spuler, 1908 (3733 Ro, K. & R. 7491)

26. *Cymatophorima diluta* Denis & Schiffermüller, 1775 (3734 Ro, K. & R. 7492)

1♂ 8.VI.2011; 1♀ 7.VII.2011; *Degree of hazard*: NT

FAMILY GEOMETRIDAE (3755 RO, K. & R. 7514)

Subfamily ARCHIEARINAE (3756 RO, K. & R. 7515)

(sin. *Brephinae*)

Genus **Archiearis** Hübner, 1823 (3757 Ro, K. & R. 7516)

27. *Archiearis puella* Esper, 1787 (3760 Ro, K. & R. 7519)

1♂ 2.III.2011; *Degree of hazard*: VU

FAMILY ALSOPHILINAE (3995 Ro)

Genus **Alsophila** Hübner, 1825 (3996 Ro, K. & R. 7952)

28. *Alsophila aescularia* Denis & Schiffermüller, 1775 (3997 Ro, K. & R. 7953)

1♂ 3.III.2011, 1♂ 3. IV.2011; *Degree of hazard*: Not applicable

29. *Alsophila quadripunctaria* Esper, 1801 (3998 Ro, K. & R. 7954) (sin. *Anisopteryx aceraria* Denis & Schiffermüller, 1775)

1♂ 10.XI.2011; *Degree of hazard*: NT

Subfamily GEOMETRINAE

Genus **Geometra** Linnaeus, 1758 (4007 Ro, K. & R. 7968)

30. *Geometra papilionaria* Linnaeus, 1758 (4008 Ro, K. & R. 7969)
2 ♂♂, 7.VII, 2.VIII.2011; *Degree of hazard*: NT
Genus *C o m i b e n a* Hübner, [1823] (4009 Ro, K. & R. 7970)

31. *Comibena pustulata* Hufnagel, 1767 (4010, K. & R. 7971) (sin. *C. bajularia* Denis & Schiffermüller, 1775)
2 ♂♂ 31.V.2011, *Degree of hazard*: NT

Genus *T h e t i d i a* Boisduval, 1840 (4011 Ro)
(sin. *Euchloris* Hübner, 1823, nec *Billberg*, 1820)

32. *Thetidia smaragdaria* Fabricius, 1787 (4013 Ro, K. & R. 7975)
1 ♂ 12.VI.2011; 1 ♀ 24.VII.2011; *Degree of hazard*: Not applicable

Genus *H e m i t h e a* Duponche, 1829 (4014 Ro, K. & R. 7979)

33. *Hemithea aestivaria* Hübner, 1789 (4015 Ro, K. & R. 7980) (sin. *H. strigata* Müller, 1764)
1 ♀ 24.V.2011, 1 ♂ 15.VI.2011; *Degree of hazard*: Not applicable

Genus *C h l o r i s s a* Stephens, 1831 (4016 Ro, K. & R. 7981)
(sin. *Nemoria* auct.)

34. *Chlorissa viridata* Linnaeus, 1758 (4017 Ro, K. & R. 7982)
2 ♂♂ 2.V, 3.VI.2011; *Degree of hazard*: Not applicable

35. *Chlorissa cloraria* Hübner, 1813 (sin. *C. porrinata* Zeller, 1848) (4018 Ro, K. & R. 7983)
1 ♂ 4.V.2011; *Degree of hazard*: NT

Genus *P h a i o g r a m m a* Gumpfenberg, 1877 (4019 Ro)

36. *Phaiogramma pulmentaria* Guenée, 1858 (sin. *P. etruscaria* Zeller, 1849) (4020 Ro, K. & R. 7984)
1 ♀ 23.V.2011; *Degree of hazard*: NT

Genus *H e m i s t o l a* Warren, 1893 (4025 Ro, K. & R. 7999)

37. *Hemistola chrysoprasaria* Esper, 1795 (4026 Ro, K. & R. 8000) (sin. *H. immaculata* auct.)
1 ♀ 3.VII.2011; *Degree of hazard*: Not applicable

Genus *C y c l o p h o r a* Hübner, 1822 (4031 Ro, K. & R. 8011)

(sin. *Cosymbia* Hübner, 1823; *Leucophthalmia* Hübner, 1823)

Codonia Hübner, 1825; *Ephyra* Duponchel, 1829; *Zonosoma* Lederer, 1853)

38. *Cyclophora annulata* Schulze, 1775 (sin. *C.annularia* Fabricius, 1775, *C. omicronaria* Denis & Schiffermüller, 1775) (4034 Ro., K. & R. 8014)
1 ♂ 31.V.2011, 1 ♀ 7.VII.2011; 1 ♂ 24.VII.2011;
Degree of hazard: NT

39. *Cyclophora ruficiliaria* Herrich & Schäffer, 1855 (4037 Ro, K. & R. 8018)
1 ♀ 22.VI.2011; 1 ♂ 17.VIII.2011; *Degree of hazard*: VU

40. *Cyclophora punctaria* Linnaeus, 1758 (4040 Ro, K. & R. 8022)
1 ♀ 5.V.2011; *Degree of hazard*: NT

41. *Cyclophora linearia* Hübner, 1799 (sin. *C. trilinearis* Borkhausen, 1794, nec. Hübner, 1787)
1 ♀ 3.VII.2011, *Degree of hazard*: Not applicable

Genus *P a l e o d r e p a n a* Inoue, 1962

42. *Paleodrepana macularia* Linnaeus, 1758
2 ♂♂ 2.V, 8.V.2011; *Degree of hazard*: Not applicable

Genus *L i t h o s t e g e* Hübner, 1825 (4396 Ro, K. & R. 8637)

43. *Lithostege farinata* Hufnagel, 1767 (4398 Ro, K. & R. 8639) (sin. *L. illibata* Denis & Schiffermüller, 1775, *L. nivearia* Hübner, 1799)
6 ♂♂ 5.V, 18.V, 26.V. 2011; *Degree of hazard*: Not applicable

Genus *L o m o g r a p h a* Hübner, 1825 (3770 Ro, K. & R. 7531)

(sin. *Stegania* Guenée, 1845)

44. *Lomographa dilectaria* Hübner, 1790 (3772 Ro, K. & R. 7534)
1 ♂ 8.V.2011; *Degree of hazard*: NT

Genus *A n g e r o n a* Duponchel, 1829 (3850 Ro, K. & R. 7664)

45. *Angerona prunaria* Linnaeus, 1758 (3851 Ro, K. & R. 7665)
♂ 2.VII.2011; *Degree of hazard*: NT

Genus *L y c i a* Hübner, 1825 (3855 Ro, K. & R. 7673)

(*Nyssia* Duponchel, 1829; *Poecilopsis* Harrison, 1910)

46. *Lycia hirtaria hirtaria* Clerck, 1759 (3856 Ro, K. & R. 7674)
1 ♂ 4.IV.2011; *Degree of hazard*: NT

Subfamily B O A R M I N A E

Genus *B o a r m i a* Treitschk, 1825 (3902 Ro, K. & R. 7782)

(*Hypomecis* Hübner, 1825)

47. *Boarmia roboraria* Denis & Schiffermüller, 1775 (3903 Ro, K. & R. 7783)

(*Hypomecis* Hübner, 1821)

4.IV.2011; *Degree of hazard*: Not applicable

Genus *E m a t u r g a* Lederer, 1853 (3919 Ro, K. & R. 7803)

48. *Ematurga atomaria atomaria* Linnaeus, 1758 (3920 Ro, K. & R. 7804)

1 ♂ 2.V.2011; ♂ 2.VII.2011; *Degree of hazard*: Not applicable

SUPRAFAMILY SPHINGOIDEA

FAMILY SPHINGIDAE (3361 RO, K. & R. 6812)

Genus *A g r i u s* Hübner, 1819 (3372 Ro, K. & R. 6827)

(sin. *Herse* Oken, 1815, *Herse* Agassiz, 1846)

49. *Agrius convolvuli* Linnaeus, 1758 (3374 Ro, K. & R. 6828)
6 ♂♂, 21.VIII, 22.VIII, 8.X.2011, 1 ♀ 22.VIII.2011
CM; Degree of hazard: Not applicable

Genus *Acherontia* Laspeyres, 1809
(sin. *Brachyglossa* Boisduval, 1828)

50. *Acherontia atropos* Linnaeus, 1758 (3375 Ro, K. & R. 6830)
1 ♂ 7.XI.2011; Degree of hazard: VU

Genus *Laothoe* Fabricius, 1807 (3369 Ro, K. & R. 6832)
(*Amorpha* Hübner, 1809)

51. *Laothoe populi* Linnaeus, 1758 (3370 Ro, K. & R. 6824)
1 ♂ 2.VIII.2011; Degree of hazard: Not applicable

Subfamily MACROGLOSSINAE

Genus *Macroglossum* Scopoli, 1777 (3387 Ro, K. & R. 6842)

52. *Macroglossum stellatarum* Linnaeus, 1758 (3388 Ro, 6843)
3 ♂♂ 17.IX, 7.X, 10.X.2011; Degree of hazard: Not applicable

Genus *Deilephila* Laspeyres, 1809

53. *Deilephila porcellus* Linnaeus, 1758 (3401 Ro, K. & R. 6863)
1 ♂ 27.V.2011; Degree of hazard: Not applicable

Genus *Mimas* Hübner, 1819 (3365 Ro, K. & R. 6819)

54. *Mimas tiliae* Linnaeus, 1758 (3366 Ro, K. & R. 6819)
1 ♂ 29.VII. 2011; Degree of hazard: Not applicable

SUPRAFAMILY NOTODONTOIDEA FAMILY NOTODONTIDAE (4429 RO, K. & R. 8686)

Genus *Notodonta* Ochsenheimer, 1810

55. *Notodonta ziczac* Linnaeus, 1758 (4455 Ro, K. & R. 8719)
1 ♂ 2.VII.2011; Degree of hazard: Not applicable
Degree of hazard: Not applicable

Genus *Arctornis* Germar, 1811 (5467 Ro, K. & R. 10415)

56. *Arctornis l-nigrum l-nigrum* Müller, 1764 (5468 Ro, K. & R. 10416)
1 ♂ 30. VII.2011; Degree of hazard: NT

Subfamily ARCTIINAE (5537 Ro, K. & R. 10524)

Genus *Diacrisia* Hübner, 1819 (5571 Ro, K. & R. 10582)
(*Euthemonia* Stephens, 1828; *Rhyparioides* Butler, 1877)

57. *Diacrisia sannio* Linnaeus, 1758 (5572 Ro, K. & R. 10583)

(sin. *D. russula* Linnaeus, 1758, *D. vulpinaria* Linnaeus, 1758)

3 ♂♂ 15.V, 2 ♀♀ 18.V. 2011; 2 ♂♂ și 1 ♀ 18.VIII.2011; Degree of hazard: Not applicable

Genus *Rhyparia* Hübner, 1825 (5567 Ro, K. & R. 10579)

48. *Rhyparia purpurata* Linnaeus, 1758 (5568 Ro, K. & R. 10579) (sin. *R. purpurea* Linnaeus, 1758)
1 ♂ 14.V.2011; Degree of hazard: Not applicable

Subfamily CALLIMORPHINAE

Genus *Callimorpha* Latreille, 1809 (5581 Ro, K. & R. 10602)

(*Euplagia* Hübner, 1820; *Panaxia* Tams, 1939)

59. *Callimorpha quadripunctaria* Poda, 1761 (5584 Ro, K. & R. 10605) (sin. *Euplagia hera* Linnaeus, 1767)
2 ♀♀ 9.VIII.2011, ♀ 18.VIII. 2011; Degree of hazard: Not applicable

FAMILY NOCTUIDAE

Subfamily NOCTUINAE (TRIFINAE)

Genus *Orthosia* Ochsenheimer, 1816 (5162 Ro, K. & R. 10036)

(sin. *Orthoa* Billberg, 1820; *Monima* Hübner, 1821; *Cuphanoa* Hübner 1821; *Semiophora* Stephens, 1829; *Taeniocampa* Guenée, 1839)

60. *Orthosia cruda* Denis & Schiffermüller, 1775 (5168 Ro, K. & R. 10039) (sin. *Monima pulverulenta* Esper, 1786)
2 ♂♂ 12.V.2011; Degree of hazard: Not applicable

SUPRAFAMILY HESPERIOIDEA

FAMILY HESPERIIDAE

Genus *Erynnis* Schank, 1801 (3409 Ro, K. & R. 6878)

(sin. *Thymele* Fabricius, 1807; *Astycus* Hübner, 1822; Nisoniades auct., *Thanaos* Boisduval, 1834)

61. *Erynnis tages tages* Linnaeus, 1758 (3410 Ro, K. & R. 6879)
3 ex.; 18.V.2011; Degree of hazard: Not applicable

Genus *Spialia* Swinhoe, 1912

(sin. *Powellia* Tutt, 1906, nec. Maskell, 1879)

62. *Spialia sertorius sertorius* Hoffmannsegg, 1804 (3417 Ro, K. & R. 6891) (sin. *S. sao* Hübner, 1803)
2 ♂♂ 6.V, 8:VII.2011; Degree of hazard: DD

Genus *Pyrgus* Hübner, 1819 (3422 Ro, K. & R. 6898)

(sin. *Syrichtus* auct.; *Hemiteleomoepha* Warren, 1926)
63. *Pyrgus (P) malvae malvae* Linnaeus, 1758 (3427 Ro, K. & R. 6904)
(*P. althaeae* Esper, 1783)
1 ♂ 7.V.2011; Degree of hazard: Not applicable

Subfamily HESPERIINAE (3437 RO, K. & R. 6921)

Genus *Thymelicus* Hübner, 1819 (3437 Ro, K. & R. 6922)
(sin. *Adopaea* Billberg, 1820)

64. *Thymelicus lineola* Ochsenheimer, 1808 (3438 Ro, K. & R. 6923)
2♂♂ 15.VII.2011; 1♀ 26.VIII.2011; *Degree of hazard*: Not applicable

65. *Thymelicus sylvestris* Poda, 1761 (3439 Ro, K. & R. 6924) (sin. *T. thaumas* Hufnagel, 1766, *T. linea* Müller, 1764)

3♂♂, 10,12,22.VII.2011; *Degree of hazard*: NT

66. *Thymelicus acteon acteon* Rottemburg, 1775 (3440 Ro, K. & R. 6925)

1♀ 10.VII.2011, 1♂ 12.VII.2011; *Degree of hazard*: NT

Genus *Ochlodes* Scudder, 1872 (3443 Ro, K. & R. 6929)

67. *Ochlodes venatus faunus* Turati, 1905 (3444 Ro, K. & R. 6930) (sin. *O. sylvanus* Esper, 1779)

2♂♂ 26,27.VII.2011; *Degree of hazard*: Not applicable

SUPRAFAMILY PAPILIONOIDEA (3445 RO, K. & R. 6938)

FAMILY PAPILIONIDAE (3446 RO, K. & R. 6939)

Subfamily PAPILIONINAE

Genus *Papilio* Linnaeus, 1758 (3459 Ro, K. & R. 6959)

(sin. *Pterourus* Scopoli, 1777; *Aernauta* Berge, 1842)

68. *Papilio machaon machaon* Linnaeus, 1758 (3469 Ro, K. & R. 6960)

♂1.X.2011; *Degree of hazard*: EN

Genus *Iphiclides* Hübner, 1819 (3457 Ro, K. & R. 6957)

69. *Iphiclides podalirius podalirius* Scopoli, 1763 (3458 Ro, K. & R. 6958)

♂ 1.V.2011; ♀ 9.VI.2011; ♀ 22.VII.2011; 3♂♂ 2,4,16.VIII.2011; *Degree of hazard*: VU

Family PIERIDAE (3461 RO, K. & R. 6963)

Subfamily DISMORPHINAE

Genus *Leptidea* Billberg, 1820 (3463 Ro, K. & R. 6956)

(sin. *Leucophasia* Stephens, 1827; *Leptosia* auct; Letidia erreur)

70. *Leptidea sinapis diniensis* Boisduval, 1839

♂8.IV.2011; 2♀♀9,10.V.2011; ♂15.V.2011; 2♂♂11,12.VII.2011; ♂15.VII.2011; ♀ 18.VIII.2011; ♂26.VIII.2011, *Degree of hazard*: Not applicable

71. *Leptidea reali* Reissinger, 1989 (3465 Ro, K. & R. 6967)

11♂♂, 4 ex. 9.V; 18.V, 26.VII; 2 ex. 2.VII, 10.VII, 11.VII, 26.VIII.2011; 3♀♀, 2, 10, 18.VII.2011; *Degree of hazard*: DD

72. *Leptidea morsei major* Grund, 1907 (3466 Ro, K. & R. 6969)

3♂♂, 1.V; 10.V; 15.V. 2011; *Degree of hazard*: EN

Genus *Aporia* Hübner, 1819 (3473 Ro, K. & R. 6992)

73. *Aporia crataegi crataegi* Linnaeus, 1758 (3474 Ro, K. & R. 6993)

9♂♂, 8 ex. 31.V; 9.VI.2011; *Degree of hazard*: NT

Subfamily PIERINAE

Genus *Pieris* Schrank, 1801 (3475 Ro, K. & R. 6994)

(sin. *Ganoris* Dalman, 1816; *Andropodum* Hubner, 1822; *Tachyptera* Berge, 1842)

74. *Pieris brassicae brassicae* Linnaeus, 1758 (3476 Ro, K. & R. 6995)

6 ex. 2.VIII; 6.VIII; 5 ex. 11.VIII; 3 ex. 18.VIII; 3 ex. 26.VIII; 17.IX; 11 ex. 22.IX; 24 ex. 23.IX; 1.X; 2 ex. 7.X. 2011; *Degree of hazard*: VU

75. *Pieris rapae* Linnaeus, 1758 (3478 Ro, K. & R. 6998)

45♂♂: 3.IV; 1.V; 31.V; 9.VI; 7 ex. 26.VI; 2.VII; 6.VII; 4 ex. 11.VII; 12.VII; 15.VII; 4 ex. 2.VIII; 2 ex. 6.VIII; 3 ex. 11.VIII; 3 ex. 18.VIII; 6 ex. 26.VIII; 3 ex. 22.IX; 6 ex. 23.IX. 2011; 41♀♀, 8.V; 2 ex. 9.VI; 7 ex. 26.VI; 3 ex. 2.VII; 11.VII; 3 ex. 12.VII; 2.VIII; 5 ex. 11.VIII; 9 ex. 18.VIII; 2 ex. 26.VIII; 5 ex. 22.IX; 7.X; 8.X. 2011; *Degree of hazard*: Not applicable

76. *Pieris napi meridionalis* Heyne, 1895 (3480 Ro, K. & R. 7000)

2♂♂, 2.VII; 26.VIII. 2011; 8♀♀, 3 ex. 26.VIII; 22.IX; 2 ex. 23.IX; 7.X; 8.X.. 2011; *Degree of hazard*: Not applicable

77. *Pieris bryoniae wolenskyi* Berger, 1925

3♂♂, 9.V; 26.VII; 26.VIII. 2011; *Degree of hazard*: Not applicable

Genus *Pontia* Fabricius, 1807 (3483 Ro, K. & R. 7003)

(sin. *Leucochloë* Röber, 1907)

78. *Pontia daplidice daplidice* Linnaeus, 1758 (3484 Ro)

4♂♂, 26.V; 9.VI; 6.VIII; 22.IX. 2011; 4♀♀, 3.IV; 20.VI; 22.IX; 23.IX. 2011; *Degree of hazard*: Not applicable

Genus *Anthocharis* Boisduval, Rambur & Graslin 1833 (3468 Ro, K. & R. 6972)

79. *Anthocharis cardamines meridionalis* Verity, 1908 (3469 Ro, K. & R. 6973)

5♂♂, 2 ex. 1.V; 2 ex. 5.V; 31.V. 2011, 10♀♀, 3 ex. 1.V; 5.V; 7.V; 2 ex. 10.V; 26.V; 2 ex. 27.V. 2011; *Degree of hazard*: Not applicable

Subfamily COLIADINAE (3485 Ro, K. & R. 7009)

Genus *Colias* Fabricius, 1807 (3486 Ro, K. & R. 7010)

(sin. *Zerene* Hubner, 1819; *Eurymus* Horsfield, nec.Rafinesque, 1815)

80. *Colias erate erate* Esper, 1805 (3488 Ro, K. & R. 7014)

1♂, 15.VII. 2011; *Degree of hazard*: VU

81. *Colias hyale hyale* Linnaeus, 1758 (3492 Ro, K. & R. 7021)

5♂♂, 11.VII; 22.VII; 15.VIII.1903 VW; 18.VIII; 23.VIII; 9.X. 2011; 4♀♀, 2 ex. 15.VII; 23.IX; 7.X. 2011; *Degree of hazard*: Not applicable

82. *Colias crocea crocea* Geoffroy in Fourcoy, 1785 (3489 Ro, K. & R. 7015) (sin. *C. edusa* Fabricius, 1787)

23♂♂, 2 ex. 2.VIII; 6.VIII; 3 ex. 9.VIII; 2 ex. 11.VIII; 7 ex. 18.VIII; 22.VIII; 26.VIII. 2011; 4 ex. 9.X. 2011; 5♀♀, 2 ex. 7.VII; 9.VIII; 23.IX; 9.X. 2011; *Degree of hazard*: Not applicable

83. *Colias myrmidone myrmidone* Esper, 1780 (3490 Ro, K. & R. 7017)

3♂♂ 6.VIII; 18.VIII; 22.VIII. 2011; 2♀♀, 15.VII; 18.VIII. 2011; *Degree of hazard*: VU

84. *Colias alfacariensis* Ribbe, 1905 (3493 Ro, K. & R. 7022) (sin. *C. australis* Verity, 1911)

5♂♂, 2 ex. 11.VII; 15.VII; 2 ex. 23.IX. 2011; 4♀♀, 9.V; 12.VII; 22.VII; 2.VIII. 2011; *Degree of hazard*: NT

85. *Colias crocea crocea f. helice* Geoffroy in Foercoy, 1758

5♀♀, 9.VI; 16.VIII; 18.VIII; 2.X; 9.X. 2011; *Degree of hazard*: Not applicable

86. *Colias crysotheme* Esper, 1780

4♂, 18.VII; 22.IX; 23.IX; 9.X. 2011; 2♀, 18.VII; 7.X. 2011; *Degree of hazard*: Not applicable

Genus *Gonepteryx* Leach, 1815 (3494 Ro, K. & R. 7023)

(sin. *Rhodocera* Duponchel & Leconte, 1830; *Earina* Speyer, 1839; *Goniapteryx* Westwood, 1840 nec. Perty, 1833)

87. *Gonepteryx rhamni rhamni* Linnaeus, 1758 (3495 Ro, K. & R. 7024)

11♂♂, 4 ex. 1.V; 5.V; 2.VII; 15.VII; 23.IX; 2 ex. 10.X; 13.X. 2011; 2.VII; 4.VII; 7.VII; 22.VII; 23.IX. 2011; *Degree of hazard*: Not applicable

Family NYMPHALIDAE (3587 Ro, K. & R. 7196)

Subfamily NYMPHALINAE

Genus *Apatura* Fabricius, 1807 (3655 Ro, K. & R. 7296)

(sin. *Aeola* Billberg, 1820)

88. *Apatura iris* Linnaeus, 1758 (3658 Ro, K. & R. 7299)

♂, 15.VII. 2011; *Degree of hazard*: VU

Genus *Limenitis* Fabricius, 1807 (3647 Ro, K. & R. 7285)

(sin. *Nymphalus* Boitard, 1828; *Ladoga* Moore, 1898)

89. *Limenitis populi* Linnaeus, 1758 (3648 Ro, K. & R. 7286)

12.VI.2011; *Degree of hazard*: VU

Genus *Neptis* Fabricius, 1807 (3651 Ro, K. & R. 7289)

90. *Neptis rivularis* Scopoli, 1763 (3653 Ro, K. & R. 7291) (sin. *N. coenobita* Stoll, 1782; *N. lucilla* Denis & Schiffermüller, 1775)

3♀♀, 26.VIII. 2011; *Degree of hazard*: NT

Genus *Inachis* Hübner, 1819 (3618 Ro, K. & R. 7247)

91. *Inachis io* Linnaeus, 1758 (3619 Ro, K. & R. 7248)

2♂♂, 7.VII; 22.VIII. 2011; *Degree of hazard*: Not applicable

Genus *Vanessa* Fabricius, 1807 (3615 Ro, K. & R. 7242)

(sin. *Pyrameis* Hübner, 1819)

92. *Vanessa atalanta* Linnaeus, 1758 (3616 Ro, K. & R. 7243) (sin. *V. amiralis* Retzius, 1783)

24♂♂, 18.VII; 22.VII; 16.VIII; 23.VIII; 10 ex. 26.VIII; 17.IX; 3 ex. 22.IX; 4 ex. 23.IX; 1.X; 8.X; . 2011, 5♀♀, 10.V; 27.V; 2 ex. 15.VII; 23.IX. 2011; *Degree of hazard*: Not applicable

93. *Vanessa cardui* Linnaeus, 1758 (3617 Ro, K. & R. 7245)

5♂♂, 18.V; 9.VI.; 26.VIII; 2 ex. 8.X; 13.X. 2011; 2♀♀, 9.IV; 18.V. 2011; *Degree of hazard*: Not applicable

Genus *Aglais* Dalman, 1816 (3620 Ro, K. & R. 7249)

(sin. *Ichnusa* Reuss, 1939)

94. *Aglais urticae* Linnaeus, 1758 (3621 Ro, K. & R. 7250)

7,9,21.X.2011; *Degree of hazard*: NT

Genus *Polygonia* Hübner, 1819 (3622 Ro, K. & R. 7251)

(sin. *Eugonia* Hübner, 1819)

95. *Polygonia c-album* Linnaeus, 1758 (3623 Ro, K. & R. 7252)

7♂♂, 15.VII; 2.VIII; 18.VIII; 23.VIII; 3 ex. 23.IX. 2011; 11♀♀, 18.IV; 8 ex. 26.VIII; 23.IX.; 1.X. 2011; *Degree of hazard*: NT

Genus *Araschnia* Hübner, 1819 (3625 Ro, K. & R. 7254)

96. *Araschnia levana levana* Linnaeus, 1758 (3626 Ro, K. & R. 7255)

1♀ 10.IV.2011; *Degree of hazard*: NT

Genus *Argynnis* Fabricius, 1807 (3592 Ro, K. & R. 7201)

Subgenus *Mesoacidalia* Reuss, 1926

97. *Argynnis (Mesoacidalia) aglaja aglaja* Linnaeus, 1758 (3595 Ro, K. & R. 7204) (sin. *M. charlotta* Haworth, 1803)

18.VII.2011, *Degree of hazard*: Not applicable

98. *Argynnis (Fabriciana) niobe niobe* Linnaeus, 1758 (3597 Ro, K. & R. 7206)

♂ 10.VII. 2011, 2♀♀, 4.VII; 10.VII. 2011; *Degree of hazard*: NT

Subgenus *Argynnis* Fabricius, 1807

99. *Argynnis (Argynnis) paphia paphia* Linnaeus, 1758 (3593 Ro, K. & R. 7202)
10♂♂, 26.VI; 2 ex. 9.VIII; 5 ex. 18.VIII; 2 ex. 26.VIII. 2011; 2♀♀, 9.VIII; 18.VIII. 2011; *Degree of hazard*: NT

Genus *Clossiana* Reuss, 1920 (3606 Ro, K. & R. 7219)

100. *Clossiana selene* Denis & Schiffermüller, 1775 (3609 Ro, K. & R. 7222)
4♂♂, 10.VII; 11.VII; 2 ex. 18.VIII. 2011; 2♀♀, 2 ex. 18.VIII. 2011; *Degree of hazard*: NT

101. *Clossiana euphrosyne* Linnaeus, 1758 (3607 Ro, K. & R. 7220)
2♂♂, 10.VII; 9.VIII. 2011; 1♀, 18.VIII. 2011; *Degree of hazard*: VU

102. *Clossiana dia dia* Linnaeus, 1767 (3619 Ro, K. & R. 7228)
14♂♂, 2 ex. 7.VII; 10.VII; 11.VII; 12.VII; 9.VIII; 2 ex. 11.VIII; 6 ex. 18.VIII. 2011; 7♀♀, 1.V; 7.VII; 10.VII; 2 ex. 11.VII; 2 ex. 18.VII. 2011; *Degree of hazard*: Not applicable

Genus *Issoria* Hübner, 1819 (3599 Ro, K. & R. 7209) (sin. *Rathora* Moore, 1900)

103. *Issoria lathonia* Linnaeus, 1758 (3600 Ro, K. & R. 7210) (sin. *Argynnis lathoria* Linnaeus, 1758)
7.X.2011; *Degree of hazard*: Not applicable

Genus *Melitaea* Fabricius, 1807 (3635 Ro, K. & R. 7269)

(sin. *Schoenis* Hübner, 1819; *Cinclidia* Hübner, 1819; *Didymaeformis* Verity, 1950; *Mellicta* Billberg, 1820)

104. *Melitaea cinxia cinxia* Linnaeus, 1758 (3636 Ro, K. & R. 7270)
7♂♂, 3 ex. 10.V; 4 ex. 15.V. 2011; 59♂♂ 10.VI; 5 ex. 4.VII; 26 ex. 7.VII; 10 ex. 10.VII; 4 ex. 11.VII; 12.VII; 15.VII; 18.VII.2011, 75♀♀, 7 ex. 4.VII; 16 ex. 7.VII; 8.VII; 14 ex. 10.VII; 11.VII; 12.VII; 6 ex. 15.VII; 8 ex. 18.VII; 12 ex. 22.VII; 4.VIII; 4 3♀♀, 2 ex. 15.V; 18.V. 2011 *Degree of hazard*: NT

105. *Melitaea phoebe* Denis & Schiffermüller, 1775 (3637 Ro, K. & R. 7271)

♂, 9.IV. 2011; *Degree of hazard*: NT

106. *Melitaea athalia athalia* Rottenburg, 1775 (3645 Ro, K. & R. 7283)
4♀♀, 2 ex. 15.V; 18.V; 9.VIII. 2011; *Degree of hazard*: NT

Family SATYRIDAE

Genus *Melanargia* Meigen, 1828 (3703 Ro, K. & R. 7413)

(sin. *Agapetes* Billberg, 1820, nom. reject. 1956)

107. *Melanargia galathea scolis* Fruhstorfer, 1917
59♂♂ 10.VI; 5 ex. 4.VII; 26 ex. 7.VII; 10 ex. 10.VII; 4 ex. 11.VII; 12.VII; 15.VII; 18.VII.2011, 75♀♀, 7 ex. 4.VII; 16 ex. 7.VII; 8.VII; 14 ex. 10.VII; 11.VII; 12.VII; 6 ex. 15.VII; 8 ex. 18.VII; 12 ex. 22.VII; 4.VIII; 4 ex. 6.VIII; 11.VIII; 23.VIII.2011, *Degree of hazard*: Not applicable

108. *Melanargia galathea f. procida* Linnaeus, 1758 (3704 Ro, K. & R. 7413)

59♂♂ 4 ex. 4.VII; 16 ex. 7.VII; 6 ex. 10.VII; 4 ex. 11.VII; 12.VII; 15.VII; 3 ex. 18.VII; 22.VII; 18.VIII.2011; *Degree of hazard*: Not applicable

Genus *Pararge* Hübner 1819 (3664 Ro, K. & R. 7306)

SubGenus *Pararge* Hübner, 1819

109. *Pararge (Pararge) aegeria tircis* Butler, 1867 (3665 Ro, K. & R. 7307) (sin. *P. aegeria* Linnaeus, 1758, *P. aegeria egerides* Staudinger, 1871)
12♂♂, 1.V; 10.V; 23.V; 9 ex. 26.VIII. 2011; 4♀♀, 9.V; 3 ex. 26.V. 2011; *Degree of hazard*: Not applicable

SubGenus *Lasiommata* Humphreys & Westwood, 1841 (3666 Ro, K. & R. 7308)

110. *Pararge (Lasiommata) megera megera* Linnaeus, 1767 (3667 Ro, K. & R. 7309)

3 ex. 26.V. 2011; *Degree of hazard*: Not applicable

Subgenus *Minois* Hübner, 1819 (3705 Ro, K. & R. 7426)

111. *Minois dryas* Scopoli, 1763 (3706 Ro, K. & R. 7427)

♂, 22.VII. 2011; 3♀♀, 9.VIII; 18.VIII; 22.VIII. 2011; *Degree of hazard*: NT

Genus *Erebia* Dalman, 1816 (3688 Ro, K. & R. 7359)

112. *Erebia aethiops aethiops* Esper, 1777 (3695 Ro, K. & R. 7372) (sin. *E aethiops fogarasica* Warren, 1931, *E. aethiops jigodini* Popescu-Gorj, 1955, *E. f. mesorubria*, Popescu-Gorj, 1955)

2 ex. 26.VIII.2011; *Degree of hazard*: NT

113. *Erebia medusa brigobanna* Fruhstorfer, 1917
12♂♂, 5.V; 2 ex. 9.V; 2 ex. 10.V; 15.V; 18.V; 4 ex. 26.V. 2011; 2♀♀, 15.V; 26.V. 2011; *Degree of hazard*: Not applicable

Genus *Maniola* Schrank, 1801 (3683 Ro, K. & R. 7345)

(sin. *Epinephle* Hübner, 1819)

114. *Maniola jurtina jurtina* Linnaeus, 1758 (3684 Ro, K. & R. 7350)

16♂♂, 2 ex. 7.VII; 10.VII; 15.VII; 22.VII; 2 ex. 2.VIII; 3 ex. 9.VIII; 2 ex. 11.VIII; 2 ex. 18.VIII; 2 ex. 22.VIII. 2011; 29♀♀, 2 ex. 7.VII; 2 ex. 12.VII; 4 ex. 22.VII; 2.VIII; 9.VIII; 4 ex. 11.VIII; 7 ex. 18.VIII; 2 ex. 22.VIII; 2 ex. 26.VIII; 23.IX; 3 ex. 22.IX. 2011; *Degree of hazard*: Not applicable

Genus *Aphantopus* Wallengren, 1853 (3681 Ro, K. & R. 7343)

115. *Aphantopus hyperanthus* Linnaeus, 1758 (3682 Ro, 7344)

18♂♂, 3 ex. 2.VII; 4.VII; 2 ex. 7.VII; 4 ex. 11.VII; 4 ex. 12.VII; 2 ex. 15.VII; 2 ex. 22.VII.2011; 18♀♀, 3 ex. 2.VII; 4.VII; 2 ex. 10.VII; 4 ex. 11.VII; 2 ex. 12.VII; 2 ex. 15.VII; 18.VII; 2 ex. 22.VII; 2011; *Degree of hazard*: Not applicable

Genus *Caenonympha* Hübner, 1819 (3671 Ro, K. & R. 7320)

(sin. *Chortobius* Dunning & Pickard, 1858; *Sicca* Verity, 1953)

116. *Caenonympha pamphilus* Linnaeus, 1758 (3677 Ro, K. & R. 7334) (sin. *C. lyllus* Esper, 1805)

36♂♂, 3 ex. 2.V; 4 ex. 5.V; 3 ex. 8.V; 5 ex. 9.V; 3 ex. 10.V; 3 ex. 11.V; 3 ex. 10.VII; 4 ex. 21.VI; 4 ex. 17.VI; 26.VIII; 2.X; 2 ex. 9.X. 2011; 3♀♀, 2.V; 2 ex. 8.V.2011; *Degree of hazard*: Not applicable

117. *Caenonympha glycerion glycerion* Borkhausen, 1788 (3675 Ro, K. & R. 7326) (sin. *C. iphis* Denis & Schiffermüller, 1775, homonim invalidat)

3♂♂, 15, 18, 25.V.2011; 1♂18.VIII.2011; *Degree of hazard*: NT

Family LYCAENIDAE (3496 RO, K. & R. 7027)

Subfamily RIODININAE

Genus *Strymonidia* Tutt, 1908 (3519 Ro, K. & R. 7061)

(sin. *Satyriun* Scudder, 1876)

118. *Strymonidia pruni* Linnaeus, 1758 (3521 Ro, K. & R. 7063) (sin. *Satyriun pruni* Linnaeus, 1758)

1♂, 31.V.2011; *Degree of hazard*: NT

Subfamily LYCAENIDAE (3496 RO, K. & R. 7027)

Genus *Lycaena* Fabricius, 1807 (3501 Ro, K. & R. 7033)

(sin. *Heodes* Dalman, 1816; *Chrysophanus* Hübner, 1816; *Palaeochrysophanus* Verity, 1943)

119. *Lycaena dispar* Haworth, 1802 (3504 Ro, K. & R. 7036) (sin. *L. dispar rutila* Wernebung, 1864)

1♀, 15.V.2011 CM, 2♂♂, 27, 31.V.2011; *Degree of hazard*: VU

120. *Lycaena thersamon* Esper, 1784 (3510 Ro, K. & R. 7043)

1♀ 31.V.2011; *Degree of hazard*: VU

Subfamily PLEBEJINAE

Genus *Glaucopsyche* Scudder, 1872 (3546 Ro, K. & R. 7106)

(sin. *Apelles* Hemming, 1931)

121. *Glaucopsyche alexis* Poda, 1761 (3547 Ro, K. & R. 7107) (sin. *Lycena cyllarus* Rottenburg, 1775)

1♂, 27.V.2011; *Degree of hazard*: Not applicable

Genus *Maculinea* von Ecke, 1915 (3550 Ro, K. & R. 7111)

(sin. *Argus* Boisduval, 1832, nec Scopoli, 1763)

122. *Maculinea rebeli* Hirschke, 1904 (3555 Ro, K. & R. 7116) (sin. *M. xerophila* Berger, 1946)

1♀ 11.VII.2011; *Degree of hazard*: VU

123. *Maculinea telejus* Bergsträsser, 1779 (3552 Ro, K. & R. 7113)

1♂, 18.VIII. 2011; 2♀♀, 22.VII; 2.VIII. 2011; *Degree of hazard*: EN

124. *Maculinea nausithous* Bergsträsser, 1779 (3553 Ro, K. & R. 7114)

1♀, 26.V.2011; *Degree of hazard*: CR

Genus *Plebejus* Kluk, 1802 (3556 Ro, K. & R. 7121)

Subgenus *Plebejus* Kluk, 1802

125. *Plebeius argus argus* Linnaeus, 1758 (3560 Ro, K. & R. 7127) (sin. *P. aegon* Denis & Schiffermüller, 1775)

2♂♂, 10.V; 11.V. 2011; *Degree of hazard*: Not applicable

Subgenus *Lycaedes* Hübner, 1823 (3559 Ro, K. & R. 7126)

126. *Lycaedes (Plebeius) argyrognomon* Bergsträsser, 1779 (3562 Ro, K. & R. 7129) (sin. *L. ismenias* Meigen, 1830)

6♂♂, 8.V; 10.V; 14.V; 2 ex. 26.V; 22.VII. 2011; *Degree of hazard*: Not applicable

Genus *Aricia* Rechenbach, 1817 (3565 Ro, K. & R. 7142)

Subgenus *Aricia* s. str.

127. *Aricia agestis agestis* Denis & Schiffermüller, 1775 (3567 Ro, K. & R. 7145) (sin. *A. astrarche* Bergsträsser, 1779)

2♂♂, 9.X. 2011; 5♀♀, 1.VI; 3.VII; 4.VII; 11.VII; 13.VII; 2 ex. 9.X. 2011; *Degree of hazard*: Not applicable

Genus *Polyommatus* Latreille, 1804 (3574 Ro, K. & R. 7155)

128. *Polyommatus icarus* Rottentburg, 1775 (3578 Ro, K. & R. 7163)

7♂♂ 26.V; 22.VII; 31.V; 16.VIII; 2 ex. 26.VIII; 28.VIII; 17.IX; 22.IX.2011; *Degree of hazard*: Not applicable

129. *Polyommatus amadus amandus* Schneider, 1792 (3576 Ro, K. & R. 7160)

3♀♀ 3.V; 15.V.2011; *Degree of hazard*: EN

130. *Polyommatus thersites* Cantener, 1835 (3577 Ro, K. & R. 7162)

1♀, 26.V; 17.IX; 2 ex. 22.IX.2011; *Degree of hazard*: DD

131. *Polyommatus eroides* Frivaldszky, 1835

5♂♂ 18.V; 8.VII, 10.VII.2011; *Degree of hazard*: Not applicable

DISCUSSIONS

Following research carried out to collect species from Forest "Dumbrava Sibiului" Macrolepidoptere in climatic conditions of 2011 we were able to identify 131 species. This paper is part of a very comprehensive study on the biodiversity of Lepidoptera fauna of forest biotope. In addition to material collected great importance in the study were pooled data after consultation and analysis of existing species and collected from the forest area in the following collections naturalists locals: *Daniel Czekelius*: 5 Families, 28 Genus, 35 Species, 42 Copies [14], *Eugene Worell*: 11 Families, 35 Genus, 51 Species and 176 Copies, [16], *Viktor Weindel*: 12 Families, 110 Genus, 142 Species and 408 Copies, *Heinrich von Hann Hannenheim*: 3 Families, 6 Genus, 7 Species and

12 Copies [15], *Rolf Weyrauch*: 1 Family, 2 Genus, 2 Species and 2 Copies [32].

Following the centralization of all data can be said that until now have been reported in Forest "Dumbrava Sibiului" 243 Species belonging to 162 Genus and 28 Subfamilies, 18 Families and 7 Superfamilies. This material comes mostly 54% of personal collections and 46% of species collected in the same area and existing entomological collection above.

I found a continuation of the collection of Macrolepidoptera in Forest "Dumbrava Sibiului" staggered over the past 134 years. The oldest existing collection data collections Daniel Czekelius studied belong to the late nineteenth century such as *Pericalia matronula* L. existing species in a single collection from 29.VI.1888, species was not found to far by any other collector.

Also in the study area are a number of rare species such as: *Pyrgus alveolus* Hub., *Hesperia coma coma* L., *Neptis rivularis rivularis* Scop., *Neptis sappo Pallas*, *Nymphalis xanthomelas D.&S.*, *Pararge achine achine* Scop., *Minois dryas* Scop., *Strymonidia pruni* L., *Lycaena tityrus* Poda.

Of the 10 studied species are migratory as: *Agrius convolvuli* L., *Acherontia atropos* L., *Macroglossum stellatarum* L., *Agrotis segetum* L., *Pieris brassicae* L., *Pontia daplidice daplidice* L., *Colias crocea crocea f. helice* Geoff.&Foerc., *Vanessa atalanta* L., *Vanessa cardui* L., *Aglais urticae* L.

As recommendations regarding protection in Forest "Dumbrava Sibiului" Lepidoptero fauna suggest the following: Taking special measures in order to protect wild flora which serves as the basis trophic larvae, and in case of very rare plant species already extinct in the area to be cultivated in introducing conducted itself in spontaneous flora for its recovery.

Using electric lighting in Forest "Dumbrava Sibiului" area classic Sibiu where there are many tourist attractions and leisure, avoiding fluorescent light bulbs to attract some species of Lepidoptera especially *Noctuidae* found that his death knowing that they have an affinity for that light. Using the neighboring forest roads at night or use of vehicles to avoid collision with dipped beam *Noctuidae* species [22] are attracted to light sources. Never using chemical plant control in Forest "Dumbrava Sibiului" and neighboring forest areas that are today plots. Breeding in captivity of species that today are reported missing in other parts of the country for restocking the study area.

Acknowledgements. This research is supported by the European Social Fund, through the Human Resources Development Operational Programme 2007-2013, the project POSDRU/89/1.5/S/63258 Postdoc School for Zootechnical Biodiversity and Food Biotechnology based on Ecoeconomy and Bioeconomy Required by Ecosanogenesis.

REFERENCES

- [1] Capinera, J.L., (2008): Butterflies and moths. Encyclopedia of Entomology, Springer, 4(2): 626-672.
- [2] Ciochia, V., Stancă-Moise, C., (2000): Contribuții la studiul structurii și activității entomofaunei epigeice într-o

pădure de stejar Dumbrava Sibiului. Proceedings of 5th National Conference on Environmental Protection in Biological and Biotechnical Methods and Means and the 2nd National Conference Ecosanogeneză, (in romanian). 26-27 May 2000 Braşov. pp. 320-328.

- [3] Ciochia V., Stancă-Moise C., (2002): Contributions to the knowledge of the Macrolepidoptera from Natural Complex "Dumbrava Sibiului". Scientific session dedicated to celebrating 75 years since the establishment of Marine Biological Station "Prof. Dr. Ioan Borcea" Agigea-Constanta. 19-20 october 2001. Analele Ştiinţifice ale Universităţii „Al.I.Cuza” Iaşi. s. Biologie Animală, Tom XLVIII: 29-43.
- [4] Czekelius, D., (1897): Kritisches Verzeichnis der Schmetterlinge Siebenbürgens. Verhandlungen und Mitteilungen des siebenbürgischen Vereins für Naturwissenschaften zu Hermannstadt, (47): 1-78.
- [5] Czekelius, D., (1917): Beiträge zur Schmetterlingsfauna Siebenbürgens. Verhandlungen und Mitteilungen des siebenbürgischen Vereins für Naturwissenschaften zu Hermannstadt, 67(1-6): 1-56.
- [6] Douglas, H., (2011): Lepidoptera. The Online Etymology Dictionary. In press (retrieved: 8 February 2011).
- [7] Dziekanska, I., Sielezniew, M., (2008): Butterflies (Lepidoptera: Hesperioidea, Papilionidae) of the Kampions National Park and its butter zone, Museum and Institute of Zoology, fragmenta Faunistica, PL. 51(2): 107-118.
- [8] Eaton, E.R., Kaufman, K., (2007): Kaufman field guide to insects. Houghton Mifflin Harcour, 391 p.
- [9] Frąckiel, K., (1999): Motyle dzienne (*Lepidoptera: Papilionoidea, Hesperioidea*) Biebrzańskiego Parku Narodowego. Wiadomości Entomologiczne (18): 85-98.
- [10] Jantzen, B., Eisner, T., (2008): Hindwings are unnecessary for flight but essential for execution of normal evasive flight in Lepidoptera. Proceedings of the National Academy of Sciences, 105(43): 16636-16640.
- [11] Koch, M., (1991): Wir bestimmen Schmetterlinge. Press Neumann Verlag Radebeul, (17): 171-174.
- [12] Moise, C., (2011): The protected species of Lepidoptera in the oak forest "Dumbrava Sibiului", Romania. Buletin USAMV Agriculture, 68(1): 216-223.
- [13] Moise, C., (2011): Macrolepidoptera (Insecta: Lepidoptera) indicator of climate changes. Buletin USAMV Agriculture, 68(1): 420.
- [14] Moise, C., (2011): Lepidoptera (Insecta: Lepidoptera) in the Collection of Daniel Czekelius from Natural History Museum of Sibiu. collected from "Dumbrava Sibiului" Forest, Romania. Analele Universitatii din Oradea, Fascicula Biologie, 18(2): 104-110.
- [15] Moise C., (2011): Study on contributions to the knowledge of the fauna siebenbürger saxons of lepidoptera in siebenbürger and around Sibiu, entomology collections of the Museum of Natural History in Sibiu ". 18 th International Economic Conference -Iecs 2011, Sibiu, pp: 179-187.
- [16] Moise, C., (2011): Lepidoptera (Insecta: Lepidoptera) in the Collection of Eugen Worell from Natural History Museum of Sibiu, collected from "Dumbrava Sibiului" forest. Lucrari stiintifice, seria Horticultura, "Ion Ionescu de la Brad". Iaşi, 54(2): 571-576.
- [17] Moise, C., (2011): Study on the Macrolepidoptera Collected from the Dumbrava Sibiului forest existing within the Collection of Dr. Viktor Weindel. Muzeul Olteniei Craiova, Studii și comunicări, Ştiinţele Naturii, 27(2): 96-104.
- [18] Moise, C., (2011): Impact of climate factors and anthropogenic on Macrolepidoptera activity of the Forest

- Dumbrava Sibiu, Romania. Proceedings of the 7th International Conference. Integrated Systems for Agri-Food Production. SIPA 11, November 10-12 2011, Nyiregyhaza Hungary, pp. 95-99.
- [19] Popescu-Gorj, A., (1970): Hundert Jahre Schmetterlingsforschungen im Rahmen des Siebenburgischen Vereins für Naturwissenschaften. *Studii și Comunicări. Științele Naturii Muzeul Brukenthal*, (15): 91-96.
- [20] Popescu-Gorj, A., (1980): Actualizarea clasificării și nomenclaturii sp. de Macrolepidoptere din fauna României. *Științele Naturii. Cumidava*, 12(4): 101-149.
- [21] Powell, J.A. (2009): Lepidoptera. pp. 557–587. In: Resh, V.H.,; Cardé, Ring T. *Encyclopedia of Insects*. Academic Press.
- [22] Rákosy, L., (1996): Die Noctuiden Rumaniens (Lepidoptera, Noctuidae). *Staphia*, 46, Linz: 648 p.
- [23] Rákosy, L., (1997): Die endemischen Lepidopteren Rumäniens. *Entomologica Romanica*, Cluj-Napoca, 2: 59-81.
- [24] Rákosy, L., (2002): Lista rosie pentru fluturii diurni din România. *Buletinul Informativ Societatea Lepidopterologica Română*. Cluj-Napoca, 13(1-4): 9-26.
- [25] Rákosy, L., Goia, M., Kovács, Z., (2003): Catalogul lepidopterelor României. *Societatea Lepidopterologica Română*, Cluj-Napoca, 446 p.
- [26] Redd, J.T., Voorhees, R.E., Török, T.J., (2007): Outbreak of lepidopterism at a Boy Scout camp. *Journal of the American Academy of Dermatology*, 56(6): 952-955.
- [27] Schneider, E., (1996): Zur Schmetterlingsforschung in Hermannstadt in der Jahren 1945 bis 1985, Beiträge zur naturwissenschaftlichen Erforschung Siebenbürgens (IV). *Lienzer Tagung- Mai 1994*. Stapfia 45 p.
- [28] Schneider, E., (1971): Zur Verbreitung von *Argynis laodice* Pall. (Lep. Nymphalidae) in Roumanien, *Studii și Comunicări, Științele Naturii Muzeul Brukenthal*, (26): 209-214.
- [29] Schneider-Binder, E., (1973): Pădurile din Depresiunea Sibiului și dealurile marginale. *Studii și Comunicări, Muzeul Brukenthal, Sibiu*, (18): 71-100.
- [30] Schneider, E., (1984): Die Gross-schmetterlinge der Sammlung "Dr. V. Weindel" – Ein Beitrag zur Faunistik der Lepidopteren Südsiebenbürgens und angrenzender Gebiete. *Studii și Comunicări, Științele Naturii, Muzeul Brukenthal Press, Sibiu*, (26): 289-316.
- [31] Stanca, C., (2000), *Catalogul colecției de lepidoptere a Universității "Lucian Blaga" din Sibiu*, Pentru Viața Press, 178 p.
- [32] Stancă-Moise, C., (2002): The entomologists from Sibiu their contribution to the knowledge of the Lepidoptero fauna of Sibiu-Surroundings collections. *Lepidoptera. Macrolepidoptera. Analele Științifice ale Universității "Al. I. Cuza" Iasi. Secțiunea I Biologie Animala*, TOM XLVIII: 7-12.
- [33] Stancă-Moise C., (2003): Structura și dinamica Macrolepidopterelor din Complexul Natural Dumbrava Sibiului. *Proceedings of 6th National Conference on Environmental Protection in Biological and Biotechnical Methods and Means and the 3rd National Conference Ecosanogenese*, (in romanian) 31 of May 2003, Brașov. pp:293-301.
- [34] Stancă-Moise, C., (2003): Propunere în vederea realizării listei roșii a Macrolepidopterelor din Complexul Natural Dumbrava Sibiului. *Proceedings of 6th National Conference on Environmental Protection in Biological and Biotechnical Methods and Means and the 3rd National Conference Ecosanogenese*, (in romanian) 31 of May 2003, Brașov. pp: 301-309.
- [35] Stancă-Moise, C., (2003): Influența factorilor antropici asupra evoluției Macrolepidopterelor din Pădurea Dumbrava Sibiului. *Proceedings of 6th National Conference on Environmental Protection in Biological and Biotechnical Methods and Means and the 3rd National Conference Ecosanogenese* (in romanian), 31 of May 2003, Brașov, pp. 309-311.
- [36] Stancă-Moise, C., (2004): Importanța Macrolepidopterelor în cadrul ecosistemului Pădurii de stejar „Dumbrava Sibiului”. *Oltenia. Studii și Comunicări Științele Naturii, Press Sitech Craiova*, (20): 190-222.
- [37] Stancă-Moise C., (2005): Date privind speciile de Macrolepidoptere pereclitate semnalate în Pădurea „Dumbrava Sibiului” și problema ocrotirii acestora. *Proceedings of 7th National Conference on Biotechnology and Environmental Protection by 4-Ecosanogenese National Conference*, (in romanian) 27-28 of May 2005. Brașov. (2): 827-834.
- [38] Stancă-Moise C., (2005): The phenology of the Macrolepidoptera (Lepidoptera: Insecta) from the natural Park „Dumbrava Sibiului”. *Jubilee Conference with international participation "Science. Processes and Technologies Agro-Food.*(in romanian) 12-13 May 2005, Sibiu, pp: 565-568.
- [39] Stancă-Moise C., (2005): Ecological study about the evolution of the species *Papilio machaon machaon* L., 1758 (Lepidoptera, papilionidae) in ecosystem of the oak forest „Dumbrava Sibiului” and the importance of its protection. *Jubilee Conference with international participation "Science. Processes and Technologies Agro-Food.*(in romanian). 12-13 of May 2005 Sibiu, pp: 569-572.
- [40] Stancă-Moise C., (2005): A preliminary study on ecological diversity of the Lepidoptero fauna in the Natural Reservation „Dumbrava Sibiului” by means of the specific indexes. *Biotehnologie și Biodiversitate, Agroprint Press, Timișoara*, pp: 165-169.
- [41] Stancă-Moise C., (2005): Dinamica zborului la Macrolepidoptere (Insecta, Lepidoptera) din pădurea „Dumbrava Sibiului” în perioada 2001-2004, *Fam. Nymphalidae. Muzeul Olteniei. Craiova. Oltenia Studii și Comunicări Științele Naturii* (21): 87-97.
- [42] Stancă-Moise, C., (2005): Studiu ecologic privind diversitatea lepidopterelor din Pădurea „Dumbrava Sibiului” cu ajutorul indicilor specifici. *Proceedings of 7th National Conference on Biotechnology and Environmental Protection by 4-Ecosanogenese National Conference with international participation. în romanian*", 27-28 of May 2005, Brașov, (2): 835-836.
- [43] Stancă-Moise C., (2006): Date privind prezenta papilionidelor (Insecta: Lepidoptera: Papilionidae) in fauna Padurii Dumbrava Sibiului in perioada 2001-2005. *Muzeul Olteniei, Craiova, Oltenia Studii și Comunicări Științele Naturii*, (22): 203-206.
- [44] Stancă-Moise, C., (2006): A preliminary study on ecological diversity of the Lepidoptero fauna in the Natural Reservation „Dumbrava Sibiului” by means of the specific indexes, *Biotehnologie și Biodiversitate. Press Agroprint Timișoara*: pp:165-169.
- [45] Stancă-Moise, C., (2007): Biodiversitatea faunei de Macrolepidoptere (Insecta, Lepidoptera), din ecosistemul Pădurii „Dumbrava Sibiului” în perioada anilor 2001-2006, *The works of the 8th National Conference for Biotechnology and Environmental Protection by 5-Ecosanogenese National Conference* (in romanian). 26-27 of May 2007, pp: 64-66.

- [46] Stancă-Moise C., (2007): Noi contribuții la cunoașterea Macrolepidopterelor din complexul forestier „Dumbrava Sibului”. The works of the 8th National Conference for Biotechnology and Environmental Protection by 5-Ecosanogenese National Conference (in romanian). 26-27 of May 2007, pp: 59-63.
- [47] Stancă-Moise C., (2007): The specific index in view of ecological diversity analisis of the lepidopterofauna populations in the natural Reservation „Dumbrava Sibului”. Proceeding of the Internationl Cenerence „Agricultural anf Food Sciences, Process and Technologies” with theme „Agriculture and food Industry within the Context of European Integration”, April 26-28 2007. pp: 439-442.
- [48] Stancă-Moise, C., (2010): The study about the evolution of species *Papilio machaon machaon* L., 1758 (Lepidoptera, Papilionidae) in the Ecosystem “ The Natural Reservation Dumbrava Sibului” Between 2000-2010 and necessity of its protection. Scietific Coferenes with International Participation “Durable Agriculture-Agriculture of the Future”, the 6th Edition. The National Mycology Symposium. The 22nd Edition. Craiova 19-21 November 2010. ISSN CD-ROM 2066-950X
- [49] Stancă-Moise C., (2010): Studies about Macrolepidoptera's biodiversity in the Natural Reservation “Pădurea Dumbrava Sibului” in the last ten years, Scietific Coferenes with International Participation “Durable Agriculture-Agriculture of the Future”, the 6th Edition, The National Mycology Symposium, The 22nd Edition, Craiova 19-21 November 2010, ISSN CD-ROM 2066-950X.
- [50] Winiarska, G., (2003): Butterflies and moths (Lepidoptera) in urban habitats: II The butterflies (Rhopalocera) of Warsaw. *Fragmenta Faunistica*, (46): 56-67.

Received: 22 January 2012

Accepted: 23 March 2012

Published Online: 25 March 2012

Analele Universității din Oradea – Fascicula Biologie

<http://www.bioresearch.ro/revistaen.html>

Print-ISSN: 1224-5119

e-ISSN: 1844-7589

CD-ISSN: 1842-6433