

STUDY ON THE MACROLEPIDOPTERA COLLECTED FROM PĂLTINIȘ (SIBIU COUNTY), EXISTING WITHIN THE COLLECTION OF DR. VIKTOR WEINDEL

STANCĂ-MOISE Cristina

Abstract. The present paper is an important contribution to the knowledge of Lepidoptera heritage in Romania, thus, completing literature data fauna of great interest for the natural heritage. In Dr. Viktor Weindel's collection of Lepidoptera, containing a total of 573 species and 3,490 specimens, after analyzing all the material, we identified 49 species belonging to 10 families, collected during 1905-1955 from Păltiniș-Sibiu. At present, 2017, this collection of Lepidoptera is in the collection of the Museum of Natural History in Sibiu, being invaluable from the historical, documentary and scientific, national and even global point of view. The systematic classification is updated according to the lepidoptera catalog in Romania.

Keywords: Lepidoptera, Dr. V. Weindel collection, Păltiniș.

Rezumat. Studiu asupra macrolepidopterelor colectate din Păltiniș (județul Sibiu), existente în Colecția lui Dr. Viktor Weindel. Prezenta lucrare reprezintă o contribuție importantă la cunoașterea patrimoniului lepidopterelor din România, completând astfel literatura de specialitate cu datele faunistice de mare actualitate pentru valoarea patrimoniului natural. În colecția de lepidoptere a Dr. Viktor Weindel, care conține 573 specii, totalizând 3490 de exemplare, am identificat după analiza întregului material 49 de specii, aparținând la 10 familii, colectate în perioada 1905-1955 din stațiunea Păltiniș. În prezent această colecție de lepidoptere a Dr. V. Weindel se găsește în cadrul patrimoniului Muzeului de Istorie Naturală din Sibiu, fiind de o valoare inestimabilă din punct de vedere istoric, documentar-științific, național și chiar mondial. Încadrarea sistematică este actualizată conform Catalogului lepidopterelor României.

Cuvinte cheie: lepidoptere, colecție Dr. V. Weindel, Păltiniș.

INTRODUCTION

Previous decades were very important for the development of lepidopterological research in the town of Sibiu and Transylvania, in the postwar years. The richness of fauna and, in particular, the great number of Lepidoptera species, the knowledge of this Order of insects raised the curiosity of many researchers since the mid-19th century.

Since the establishment of the "Transylvanian Society of Natural Sciences" in 1849, Sibiu has become a center of naturalistic research activity in Transylvania, Carpathian area and surrounding areas. The company, with its members and network of relations with institutions of Natural Sciences and personalities from around the world, favoured cultural exchange and scientific research for the development of local and regional naturalists. In the first half of the last century, it was developed an entomological research, especially for Lepidoptera and Coleoptera species because of their wealth and multitude of forms, but also for their appearance.

In 1849, there was established "The Transylvanian Naturalist Society of Sibiu" (Siebenbürgischer Verein für Naturwissenschaften zu Hermannstadt), a scientific structure that contributed, in a decisive way, to the affirmation of the city as a scientific center (VLAD ANTONIE & CIOBANU, 2004a). As a pressorgan was the publication "Debates and Communications of the Transylvanian Society of Natural Sciences in Sibiu" (Verhandlungen und Mitteilungen des siebenbürgischen Vereins für Naturwissenschaften zu Hermannstadt) (ANTONIE, 2016).

Dr. Viktor Weindel (3.XI.1887- 27.V.1966) is closely linked to the history of medicine in Sibiu. After graduating the medical school in Cluj-Napoca, Budapest, Munich, he was especially chosen as secondary physician in Franz-Joseph hospital. He took part in the war between 1914 and 1918, from the first to the last day, as an army doctor, while continuing also his work at the hospital. He worked for nine years in the Medicine Department of the Transylvanian Society of Natural Sciences, being one of the last members during 1942-1945. He had an extremely varied activity both in medicine and in the Society of Natural Sciences. Born in Sibiu, he graduated the Evangelical gymnasium in the city. As a lepidopterist collector, he began as a child. The oldest specimens of the collection come from the century. Although not a large collection that was born in Sibiu, containing specimens of an extended period of time (60 years) and many gathering places in the surroundings remotest of Sibiu in Transylvania southern and eastern part from Pasul Turnu Roșu to the hills area. In a note entitled "Source of my butterfly" he says: "The cardinal points of my work collection are: Sibiu, Gușterița vineyards of Sibiu, Cîsnădioara, Sibiu Forest Grove, Sadu, Cîsnădie, Păltiniș, Măgura Cîsnădiei".

After his retirement due to a serious illness, he did not have time to order and process his collection. Thus, it arrived at the Museum in a less ordered state. Here, there were ordered 4,322 specimens of Macro- and Microlepidoptera that were collected between 1900 and 1959 from Transylvania (Sibiu and its neighbourhoods), but also from other geographical regions of Romania and published as a list (SCHNEIDER, 1996). In a manuscript of Weindel, there are listed over 42 species in his paper. This collection (Table 1) contains rare and very interesting species in terms of collecting biogeographical areas. The Microlepidoptera collection still waits for processing, updating and publication.

Table1. Lepidoptera collection of Dr. Viktor Weindel.

Superfamily	Family	No. sp.	No. ex.
I. BOMBYCOIDEA	Lasiocampidae	11	62
	Lemoniidae	1	9
	Saturniidae	3	9
II. DREPANOIDEA	Drepanidae	3	12
	Thyatridae	4	9
III. GEOMETROIDEA	Geometridae	170	773
IV. SPHINGOIDEA	Sphingidae	19	52
V. NOTODONTOIDEA	Notodontidae	17	49
	Dilobidae	1	1
	Thaumatopoeidae	1	2
VI. NOCTUIDEA	Lymantriidae	10	62
	Arctiidae	26	102
	Ctenuchidae	2	16
	Nolidae	1	2
	Noctuidae	178	634
VII. HESPERIOIDEA	Hesperiidae	12	117
VIII. PAPILIONOIDEA	Papilionidae	6	88
	Pieridae	13	307
	Nymphalidae	38	420
	Satyridae	22	359
	Riodinidae	1	12
	Lycaenidae	34	393
TOTAL 8		573	3.490

MATERIAL AND METHODS

The entomologic collection was studied by many specialists, entomologists, such as: ANTONIE, 2007, 2015, 2016; MOISE, 2011a, b, c, d; RÁKOSY, 2003, 2005; SCHNEIDER, 1996; STANCĂ-MOISE, 2015a, b, c, d, e, 2016a, b; SZÉKELY, 1994, 1996, 1999a, b, 2003, 2008, 2010, 2011, 2014; VLAD-ANTONIE, 2000, 2004b; VLAD – ANTONIE & CIOBANU, 2004a;

The species in this study were collected from the mountains, Păltiniș Resort (Cindrel), located 35 km South-West of Sibiu, at an altitude of 1,440 m. The nomenclature is given according to the systematic list from The Catalog of Lepidoptera of Romania (RÁKOSY et al., 2003). For each species, there are written collecting data, (date, month and year), as it was found in Dr. Viktor Weindel Collection.

RESULTS

The following presentation is a systematic list of the species of Lepidoptera collected between 1904 and 1955 from Păltiniș Sibiu, present in Dr. Victor Weindel's Lepidoptera collection.

Family LASIOCAMPIDAE

1. *Lasiocampa quercus quercus* (Linnaeus, 1758): July 3, 1913; July 8, 1913 (3323 Ro, 6752 K & R).
2. *Cosmotriche lunigera* Esper, 1784: October 12, 1922 (3331 Ro, 6769 K & R).

Family HESPERIIDAE

3. *Ochlodes venatus* (Bremer & Grey, 1853): August 22, 1955 (3444 Ro, 6930 K & R).

Family PAPILIONIDAE

4. *Leptidea sinapis sinapis* (Linnaeus, 1758): July 2, 1950 (3464 Ro, 6966 K & R)
5. *Pieris rapae* (Linnaeus, 1758): March 7, 1922 (3 ex.), March 14, 1922, August 17, 1922, July 2, 1950 (3478 Ro, 6998 K & R).
6. *Pieris napi napi* (Linnaeus, 1758): March 14, 1922, August 15, 1922, July 3, 1950 (3480 Ro, 7000 K & R).
7. *Colias hyale* (Linnaeus, 1758): August 7, 1922 (3492 Ro, 7021 K & R).
8. *Colias croceus* (Fourcroy, 1785): August 1, 1925 (3489 Ro, 7015 K & R).

Family LYCAENIDAE

9. *Lycaena phlaeas phlaeas* (Linnaeus, 1761): August 16, 1922 (3502 Ro, 7034 K & R).
10. *Polyommatus icarus* (Rottemburg, 1775): August 15, 1922 (3578 Ro, 7163 K & R).

Family NYMPHALIDAE

11. *Issoria lathonia* (Linnaeus, 1758): July 3, 1950 (3600 Ro, 7210 K & R).
12. *Nymphalis polychloros* (Linnaeus, 1758): July 13, 1923 (3629 Ro, 7258 K & R).
13. *Nymphalis xanthomelas* (Esper, 1781): August 8, 1922 (3630 Ro, 7259 K & R).
14. *Nymphalis vaualbum* ([Denis & Schiffermüller], 1775): August 8, 1922 (3631 Ro, 7260 K & R).
15. *Vanessa cardui* (Linnaeus, 1758): August 12, 1922 (3617 Ro, 7245 K & R).
16. *Aglaia urticae* (Linnaeus, 1758): July 21, 1922, July 32, 1922, July 8, 1923, July 2, 1930 (3621 Ro, 7250 K & R).
17. *Polygonia c-album* (Linnaeus, 1758): July 22, 1922 (3623 Ro, 7252 K & R).
18. *Apatura iris* (Linnaeus, 1758): August 4, 1923 (3658 Ro, 7299 K & R).

Family SATYRIDAE

19. *Lasiommata maera* (Linnaeus, 1758): July 14, 1908 (3668 Ro, 7312 K & R).
20. *Erebia ligea carthusianorum* Fruhstorfer, 1909: July 22, 1922 (2 spm.), July 7, 1950, July 2, 1950, (3689 Ro, 7360 K & R).
21. *Erebia euryale syrmia* Fruhstorfer, 1919: July 18-27, 1922 (2 spm.), July 7, 1950, July 2, 1950 (3690 Ro, 7361 K & R).
22. *Erebia medusa posodea* (Hübner, [1804]): July 8, 1922.

Family GEOMETRIDAE

23. *Macaria signaria* (Hübner, 1809): July 6, 1923 (3778 Ro, 7541 K & R).
24. *Alcis repandata* (Linnaeus, 1758): July 18, 1922 (3897 Ro, 7777 K & R).
25. *Alcis maculata* Staudinger, 1892, nec Moore, 1868 (August 13, 1904) (3898 Ro, 7778 K & R).
26. *Campaea margaritata* (Linnaeus, 1767): July 21, 1922 (3937 Ro, 7836 K & R).
27. *Hylaea fasciaria fasciaria* (Linnaeus, 1758): August 4, 1923 (3939 Ro, 7839 K & R).
28. *Puengeleria capreolaria* ([Denis&Schiffermüller], 1775): August 14, 1904 (3941 Ro, 7844 K & R).
29. *Parietaria sordaria mendicaria* Herrich-Schäffer, 1852: July 2, 1923 (3968 Ro, 7893 K & R).
30. *Scopula ternata* (Schrank, 1802): July 22, 1922, July 1, 1923 (5 spm.) (4063 Ro, 8067 K & R).
31. *Idaea ochrata* (Scopoli, 1763): July 22, 1922 (4077 Ro, 8099 K & R).
32. *Scotopteryx chenopodiata* (Linnaeus, 1758): July 22, 1922 (2 ex.) (4128 Ro, 8236 K & R).
33. *Xanthorhoe montanata* ([Denis&Schiffermüller], 1775): July 21, 1922, July 22, 1922, July 1-4, 1923 (4143 Ro, 8255 K & R).
34. *Xanthorhoe incurvata* (Hübner, 1813): May 2, 1923 (4146 Ro, 8259 K & R).
35. *Entephria flavicinctata* (Hübner, 1813): July 3, 1923 (4166 Ro, 8299 K & R).
36. *Entephria caesiata* ([Denis&Schiffermüller], 1775): July 22, 1922 (6 spm.), July 31, 1922, August 7, 1922, July 1-4, 1923 (16 spm.) (4168 Ro, 8302 K & R).
37. *Eulithis populata* (Linnaeus, 1758): August 14, 1904, August 4, 1922 (5 spm.), August 10, 1922, August 15, 1922, August 16, 1922, August 27, 1922 (4192 Ro, 8332 K & R).
38. *Thera variata* ([Denis&Schiffermüller], 1775): July 5, 1925 (4211 Ro, 8357 K & R).
39. *Thera stragulata* Hübner, [1809]: July 18, 1922, July 23, 1922 (4213, 8360 K & R).
40. *Hydromena furcata* (Thunberg, 1784): August 4, 1923 (4228 Ro, 8391 K & R).
41. *Spargania luctuata* ([Denis&Schiffermüller], 1775): July 1, 1923 (4247 Ro, 8417 K & R).
42. *Rheumaptera hastata* (Linnaeus, 1758): July 14, 1923 (4249 Ro, 8419 K & R).
43. *Eupithecia icterata icterata* (Villers, 1789): July 3, 1950 (4337 Ro, 8538 K & R).
44. *Aplocera plagiata* (Linnaeus, 1759): August 4, 1922 (4386 Ro, 8620 K & R).
45. *Venusia cambric* Curtis, 1839: July (4403 Ro, 8652 K & R).
46. *Minoa murinata* (Scopoli, 1763): July 1, 1923 (4413 Ro, 8663 K & R).

Family SPHINGOIDEA

47. *Macroglossum stellatarum* (Linnaeus, 1758): July 27, 1922, August 15, 1922 (3388 Ro, 6843 K & R).

Family NOTODONTIDAE

48. *Hypena proboscidalis* (Linnaeus, 1758): July 3, 1950 (4633 Ro, 8994 K & R).

Family ARCTIIDAE

49. *Parasemia plantaginis* (Linnaeus, 1758): July 4, 1925 (2 spm.), (5554 Ro, 10557 K & R).

CONCLUSIONS

Transylvania, according to its geographical location, is a region where flora and fauna are well defined, whereby, in addition to many elements in common with its neighboring areas, there are also some characteristic species, which, so far, continue to maintain the status of "endemic".

At present, 2017, Dr. V. Weindel's collection of Lepidoptera is in the collection of the Museum of Natural History in Sibiu, being of priceless from the history, documentary and scientific, national and even global point of view.

In terms of history, the value lies in the fact that it is among the oldest entomological collections in Romania, some of the specimens dating from 1827 (PASCU & SCHNEIDER, 1998). Documents and scientific value is exceptional for this collection of bio-geographical nature of Transylvania, which illustrates Lepidoptera, in general, and Paltinis resort, in particular, where the species presented in this paper were collected.

REFERENCES

- ANTONIE IULIANA. 2007. Systematischer Katalog der bisher in Rumänien verzeichneten Rhynchitidae und Attelabidae (Coleoptera: Curculionoidea). *Entomologica romanica*. Published by "Babeş-Bolyai" University. Cluj-Napoca. **12**: 61-76.
- ANTONIE IULIANA. 2015. The Curculionidae (Coleoptera) in the Entomological Collections of the Natural History Museum of Sibiu. *Brukenenthal Acta Musei*. Sibiu. **10**(3): 403-410.
- ANTONIE IULIANA. 2016. Karl Robert Petri and the transylvanian naturalism. *Oltenia. Studii şi comunicări. Ştiinţele Naturii*. Muzeul Olteniei Craiova. **32**(2): 205-210.
- MOISE CRISTINA. 2011a. Lepidoptera (Insecta: Lepidoptera) in the collection of Daniel Czekelius from Natural History Museum of Sibiu, collected from "Dumbrava Sibiului" Forest, Romania. *Analele Universităţii Oradea. Fascicola Biologie*. **18**(2): 104-110.
- MOISE CRISTINA. 2011b. Lepidoptera (Insecta: Lepidoptera) in the Collection of Eugen Worell from Natural History Museum of Sibiu, Collected from "Dumbrava Sibiului" Forest. *Lucrări ştiinţifice. Seria Horticultură*. Sibiu. **54**(2): 571-576.
- MOISE CRISTINA. 2011c. Study on the Macrolepidoptera Collected from the Dumbrava Sibiului Forest existing within the Collection of Dr.Viktor Weindel. *Oltenia. Studii şi comunicări. Ştiinţele Naturii*. Muzeul Olteniei Craiova. **27**(2): 96-104.
- MOISE CRISTINA. 2011d. 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*. Sibiu: 179-187
- PASCU MARIANA & SCHNEIDER E. 1998. Colecţii entomologice ale Muzeului de Ştiinţe Naturale din Sibiu. *Studii şi Comunicări. Ştiinţe naturale*. Edit. Imago. Sibiu. **27**: 201-218.
- RÁKOSY L., GOIA M., KOVACS L. 2003. *Catalogul lepidopterelor României*. Societatea Lepidopterologică Română. Cluj-Napoca. 446 pp.
- RÁKOSY L. 2003. Lista roşie pentru fluturii diurni din România (Rote Liste der Tagfalter Rumäniens) *Buletin informativ. Societatea. lepidopterologilor. români*. Cluj-Napoca. **13**(1-4): 7-18.
- RÁKOSY L. 2005. U.E. şi legislaţia pentru protecţia lepidopterelor din România. *Buletin informative entomologic*. Published by "Babeş-Bolyai" University. Cluj-Napoca. **16**(3-4): 89-96.
- SCHNEIDER E. 1996. *Zur Schmetterlingsforschung in Hermannstadt in den Jahren 1945 bis 1985*. Stapfia. Linz. **45**: 357-379.
- STANCĂ-MOISE C. 2015a. Information on the Macrolepidoptera fauna of "Dumbrava Sibiului" oak forest (Sibiu, Romania). *The Annals of Oradea University. Biology fascicle*. Oradea. **22**(1): 33-46.
- STANCĂ-MOISE C. 2015b. *The collection Lepidoptera preserved at the "Lucian Blaga" University Sibiu (Note 1)* *Oltenia. Studii şi comunicări. Ştiinţele Naturii*. Muzeul Olteniei Craiova. **31**(2): 101-114.
- STANCĂ-MOISE C. 2015c. *The collection Lepidoptera preserved at the "Lucian Blaga" University Sibiu (Note 2)* *Oltenia. Studii şi comunicări. Ştiinţele Naturii*. Muzeul Olteniei Craiova. **31**(2): 115-128.
- STANCĂ-MOISE C. 2015d. Lepidoptera collected from Dumbrava Sibiu forest, preserved in collections of Museum of Natural History in Sibiu. *The Annals of Oradea University. Biology fascicle*. Oradea. **22**(2): 81-95.
- STANCĂ-MOISE C. 2015e. In memory of Academician, Professor, PhD in biology Victor CIOCHIA Zoologist Entomologist, Ornithologist. *North-Western Journal of Zoology*. University of Oradea Publishing House, Oradea, Romania. **11**(2): 377-378.
- STANCĂ-MOISE C. 2016a. The collection Lepidoptera preserved at the "Lucian Blaga" University Sibiu (Note 2). *Oltenia. Studii şi comunicări. Ştiinţele Naturii*. Muzeul Olteniei Craiova. **32**(2): 79-94.
- STANCĂ-MOISE C. 2016b. The butterflies species from the Carpathian Mountains present in the collection of "Lucian Blaga" University, Sibiu. *Oltenia. Studii şi comunicări. Ştiinţele Naturii*. Muzeul Olteniei Craiova. **32**(2): 95-98.
- SZÉKELY L. 1994. Lepidopterele din zona subalpină şi alpină a Munţilor Bucegi. *Buletin. Informativ. Societatea. Lepidopterologilor. Români*. Cluj-Napoca. **5**(3-4): 187-200.

- SZÉKELY L. 1996. *Lepidopterele (Fluturii) din sud-estul Transilvaniei (România)*. Edit. Disz-Tipo. Săcele. Sibiu. 78 pp.
- SZÉKELY L. 1999a. Actualizarea sistematiei fluturilor diurni din România. (Lepidoptera, Rhopalocera). *Buletin Informativ. Societatea Lepidopterologilor Români*. Cluj-Napoca. **10**(1-4): 225-226.
- SZÉKELY L. 1999b. Macrolepidopterele cu statut incert în lista faunistică a României (Lepidoptera: Macrolepidoptera). *Buletin Informativ. Societatea Lepidopterologilor Români*. Cluj-Napoca. **10**(1-4): 71-78.
- SZÉKELY L. 2003. Istoricul cercetărilor lepidopterologice din sud-estul Transilvaniei. *Lucrările celei de a 6-a Conferințe Naționale pentru Protecția Mediului prin Metode și Mijloace Biologice și Biotehnice și a celei de a 3-a Conferințe Naționale de Ecosanogeneză*. Sibiu: 318-322.
- SZÉKELY L. 2008. *The Butterflies of Romania-Fluturii de zi din România*. Edit. Brastar Print. Brașov. 305 pp.
- SZÉKELY L. 2010. *Moths of Romania 1 – Fluturi de noapte din Romania 1, - Hepialidae, Limacodidae, Cossidae, Thyrididae, Lasiocampidae, Endromidae, Saturniidae, Lemoniidae, Sphingidae, Drepanidae, Thaumetopoeidae, Notodontidae, Pantheidae, Lymantriidae, Arctiidae*. Edit. Disz-Tipo. Săcele. Sibiu. 264 pp.
- SZÉKELY L. 2011. *Moths of Romania 2 – Fluturi de noapte din Romania 2, - Geometridae – I- Archiearinae, Ennominae, Alsophilinae, Orthostixinae, Geometrinae*. Edit. Disz-Tipo. Săcele. Sibiu. 196 pp.
- SZÉKELY L. 2014. *Istoria Lepidopterologiei din România*. Edit. Brastar Print. Brașov. 297 pp.
- VLAD-ANTONIE I. 2000: Karl Fuss, der Begründer der Entomologie in Siebenbürgens. *Entomologica Basiliensis*. Basel. Switzerland. **22**: 9-14.
- VLAD-ANTONIE I. & CIOBANU RODICA. 2004a. *Der Arzt Viktor Weindel als Insektenkundler (1887-1966), Siebenbürgisch Sächsische Naturwissenschaftler*. In: Edit. Universității „Lucian Blaga”. Sibiu: 139-143.
- VLAD-ANTONIE I. 2004b. *Eugen Worell, Militärarzt und Entomologe. (Ein außergewöhnlicher Lebensweg) Siebenbürgisch Sächsische Naturwissenschaftler*. Edit. Universității „Lucian Blaga”. Sibiu: 144-159.

Stancă-Moise Cristina

“Lucian Blaga” University of Sibiu, Faculty of Agricultural Sciences,
Food Industry and Environmental Protection, Sibiu, Romania.
E-mail: cristinamoisel@yahoo.com.

Received: March 30, 2017

Accepted: June 12, 2017