

THE CRITICAL ENDANGERED TAXA WITHIN THE LEPIDOPTERA COLLECTION OF THE "LUCIAN BLAGA" UNIVERSITY IN SIBIU

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Abstract. The present paper is an analysis of the Lepidoptera species having the statute of critical endangered taxa within the Lepidoptera Collection of the "Lucian Blaga" University in Sibiu. After the last inventory, this collection contains 1,195 samples with 660 ♂♂ and 357 ♀♀, that belong to 21 families, 334 genera and 560 species. This paper presents a list with 6 species with the statute of critical endangered taxa. There are analysed the data and the collecting place of every species, the height of the zone and its framing into the zoogeographical regions of Romania, and also the flight period, host plants that constitute the food sources for larvae, the development stage when they enter in the stage of hibernial diapause, in case of migratory species. The analysis of this material represents an important contribution to the knowledge of these species in the fauna of Romania because it is presented the data from the speciality literature with a scientific value for the natural patrimony.

Keywords: Lepidoptera, Collection of the "Lucian Blaga" University in Sibiu, critical endangered taxa, protection status, habitat.

Rezumat. Taxoni critic periclitați existenți în cadrul Colecției de Lepidoptere a Universității „Lucian Blaga” din Sibiu. Prezenta lucrare este o analiză a speciilor de lepidoptere cu statutul de taxoni critic periclitați existenți în cadrul Colecției de Lepidoptere a Universității "Lucian Blaga" din Sibiu. Analiza materialului prezentat reprezintă o contribuție importantă la cunoașterea acestor specii de lepidoptere din fauna României, prezentând date din literatura de specialitate cu valoare științifică pentru patrimoniului natural. În colecția de lepidoptere a Universității "Lucian Blaga" din Sibiu, după ultima inventariere, se găsesc 1.195 exemplare din care 660 ♂♂ și 357 ♀♀, aparținând la 21 familii, 334 genuri, 560 specii. Prezenta lucrare descrie lista celor 6 specii care au statutul de taxoni critic periclitați. Sunt prezentate datele și locul de colectare ale fiecărei specii, altitudinea, denumirile zonei și încadrarea în regiunile geografice ale României, precum și aspecte legate de: perioada de zbor, plantele gazdă care constituie surse de hrană pentru larve, stadiul de dezvoltare în care intră în diapauză hibernală, dacă sunt specii migratoare.

Cuvinte cheie: Lepidoptera, Colecția Universității "Lucian Blaga" din Sibiu, taxoni critic periclitați, statutul de protecție, habitat.

INTRODUCTION

The present paper is a part of a study about the protective statute of the Lepidoptera species within the Collection of the "Lucian Blaga" University in Sibiu and numerous collections kept in museums in Romania (POPESCU-GORJ, 1964; NEMEȘ & VOICU, 1973; KÖNIG, 1975; CIOCHIA & BARBU, 1980; CIOCHIA & STANCĂ, 2000; MARCU & RÁKOSY, 2002; SZÉKELY & CERNEA, 2007; ANTOFIE & SAVA SAND, 2015), from amateur collectors or educational institutions. Of the 560 common species, Lepidoptera Collection of Lucian Blaga University contains also rare and endemic fauna of Romania (STANCĂ-MOISE, 2015a, b; 2016 a, b; 2017). The critical endangered taxa from this collection have their importance to the knowledge of the Lepidoptera in Romania. They complete in this way the speciality literature with faunal data of a latest actuality for the value of the natural patrimony (NICULESCU & KÖNIG, 1970; KOCH, 1991; SZÉKELY, 1995, 1996, 1999a, b; 2003, 2006, 2008; WEIDEMANN & KÖHLER, 1996; KARLSHOLT & RAZOWSKI, 1996; WINIARSKA, 2003; ANTOFIE, 2015).

This paper presents a list with 6 species with this statute from the zoogeographical regions of Romania. The framing in the IUCN categories has a distinct documentary value.

MATERIALS AND METHOD

The present paper was elaborated on the basis of existent data within the Lepidoptera Collection of the "Lucian Blaga" University in Sibiu. There are presented 6 Lepidoptera species having the statute of the critical endangered taxa. The analyzed samples with this statute are presented below, being described every species with the information about their spreading in Romania, their preferred ecosystems, protective statute in accordance with IUCN (International Union for Conservation of Nature) and the EU legislation (RÁKOSY, 2002; RÁKOSY et al., 2003; RÁKOSY, 2003; RÁKOSY, 2005), the flight height, period of flight, the host plants that constitute the food sources for larvae, the development stage when they enter in the hibernial diapause, in case of a migratory species, the number of collected samples, with data in accordance with their labels in collection.

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

Biogeographic region: Present in all provinces of Romania (TR, MM, OT) (RAKOSY & SZEKELY, 1996).

Habitat type(s): pastures and hay fields.

Statute: rare and common.

Altitude: 400- 1000 m.

Flight period: ½ VI- VIII.

Protection statute: Critical endangered.

Feed plants for larvae: *Euphorbia cyparissias*, *Sanguisorba minor*.

Overwintering stage: Hibernates in egg stage.

Migratory statute: non migratory.

No. specimens collected: 1♂, Canaraua Fetii (DB), June 13, 1997, 150 m alt., Leg. Szekely L.

2. *Ourapteryx sambucaria* Linnaeus, 1758 (72, 3844 Ro, K. & R. 7659)

Biogeographical region: It is present in all the provinces of Romania (BT, CR, TR, MM, OT, MT, MD; DB).

Habitat type(s): marshy forests, wet hay-lands, wet grasslands.

Statute: rare and common.

Altitude: 800- 1200 m.

Flight period: V- ½ VIII.

Protection statute: Critical endangered.

Feed plants for larvae: *Ourapteryx sambucaria*.

Overwintering stage: It hibernates in the pupa stage.

Migratory statute: non migratory.

No. of collected specimens: 2♂♂, Timișul de Jos (Bv), July 25, 1994, 750 m alt., Săcele (Bv.), July 5, 1999, 650 m alt., Leg. Szekely L.

3. *Zerynthia cerisyi ferdinandi* Stichel, 1907 (436, 3452 Ro, K. & R. 6947)

Biogeographical region: Present in Southern Dobrogea.

Habitat type(s): limestone gorges, karst canyons, steppe meadows, limestone areas, bush areas, wooded steppe.

Statute: very local and common.

Altitude: 0- 200 m.

Flight period: ½ V-½ VI.

Protection statute: Critical endangered.

Feed plants for larvae: *Aristolochia pistolochia*.

Overwintering stage: Hibernates in pupa stage.

Migratory statute: non migratory.

No. of collected specimens: 3♂♂, Canaraua Fetii (DB), May 1, 1978, May 24, 1997, 150 m alt., Șipotele (DB), May 21, 1994, 120 m alt., Leg. Szekely L.

Records: Oltina, Băneasa, Canaraua Fetii, Valea Iortmac, Esehioi, Bugeac, Șipotele, Negureni (SZEKELY, 2008).

4. *Lycaena helle* (Denis & Schiffermüller, 1775) (456, 3503 Ro, K. & R. 7035)

Biogeographical region: It is present in all the provinces of Romania (BT, TR, MM, OT, MT, MD), except the: Rodna and Muntenia Mountains.

Habitat type(s): marshy forests, marshes, moorlands, wet hay-lands, wet grasslands.

Statute: rare and common (SZEKELY, 2008).

Altitude: 200- 1000 m.

Flight period: IV- ½ VI, ½ VII- ½ VIII.

Protection status: Critical endangered.

Feed plants for larvae: *Rumex acetosella*, *R. acetosa*, *Polygonum bistorta*, *P. viviparum*.

Overwintering stage: It hibernates in the pupa stage.

Migratory statute: non migratory.

No. of collected specimens: 1♂, Mujdeni (Satu Mare county), May 3, 1996, Leg. Szekely L.

5. *Boloria titania transsylvanica* Tiltscher, 1913 (491, 3608 Ro, K. & R. 7221)

Biogeographical region: It is present in Eastern Carpathians.

Habitat type(s): forest edges, sylvan glades, mountain meadows, grasslands (SZEKELY, 2008).

Statute: rare and common.

Altitude: 600- 1800 m.

Flight period: ½ VII- ½ VIII.

Protection status: Critical endangered.

Feed plants for larvae: *Polygonum bistorta*.

Overwintering stage: It hibernates in the larval stage.

Migratory statute: non migratory.

No. of collected specimens: 1♂, West-Les-Dialerets (Switzerland), June 9, 1997, Leg. Szekely L.

6. *Hyponephele lupines lupines* (O. Costa, 1836) (519, 3687 Ro, K. & R. 7354)

Biogeographical region: Present in Danube Delta (SZEKELY, 2008).

Habitat type(s): sandy wastelands.

Statute: common.

Altitude: 0- 400 m.

Flight period: ½ VII- ½ VIII.

Protection status: Critical endangered.

Feed plants for larvae: *Poa* sp.

Overwintering stage: It hibernates in the larval stage.

Migratory statute: non migratory.

No. of collected specimens: 1♂, Letea Forest (DD), July 19, 1997, Leg. Szekely L.

Records: Brănești (București), Cerneți (Mehedinți), Danube Delta, C. A. Rosetti, Letea, Periprava, Caraorman, Chilia Veche (SZEKELY, 2006).

RESULTS AND DISCUSSIONS

After the processing data, of a total of 560 species, there are recorded a number of 6 species with a statute of critical endangered taxa that there were collected from different bio-geographical regions of Romania: Dobrogea (Canaraua Fetii, Pădurea Letea, Șipotele), Brașov county (Timișul de Jos and Săcele), Mjdeni (Satu Mare county), but also one species collected outside of Romania, in West-Les-Dialerets (Switzerland).

The species were collected in the period between 1994-1997.

CONCLUSIONS

In accordance with the obtained results, the number of species with the statute of critical endangered taxa are six.

Although the proceeded data from sporadic collections among the years 1994-1997, it is completed the knowledge of the presence, diversity and distribution of Lepidoptera species known for the Romanian territory.

For a better knowledge of this diversity group and for reconfirmation or information about the presence of some species in Romania, there are necessary methodical studies. The presence of critical endangered species existent in the "Lucian Blaga" Collection of the University in Sibiu, beside with other protected species, rare or menaced with the disappearance, increase its scientific value and reconfirm the importance of insect collections for the knowledge of the biodiversity and the species distribution.

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