

## NEW DATA ON THE DIVERSITY OF BUTTERFLIES (INSECTA, LEPIDOPTERA) FROM THE “FLĂMÎNDA” NATURAL FOREST RESERVE, REPUBLIC OF MOLDOVA

DERJANSCHI Valeriu, TUGULEA Cristina, TUGULEA Andrian

**Abstract.** The purpose of this paper is to highlight the current status of butterflies in ecosystems from the “Flămînda” Natural forest reserve. The Faunal diversity of butterflies consists of 60 species belonging to 47 genera and 8 families: HesperIIDae, Nymphalidae, Pieridae, Papilionidae, Lycaenidae, Noctuidae, Erebidae, Lasiocampidae.

**Keywords:** “Flămînda” Natural forest reserve, Lepidoptera, Republic of Moldova.

**Rezumat. Date noi privind diversitatea taxonomică a lepidopterelor (Insecta, Lepidoptera) din Rezervația naturală silvică „Flămînda”, Republica Moldova.** Scopul lucrării este evidențierea stării actuale a lepidopterelor în ecosistemele Rezervației naturale silvice „Flămînda”. Diversitatea faunistică a lepidopterelor este formată din 60 de specii, încadrate în 47 de genuri și 8 familii: HesperIIDae, Nymphalidae, Pieridae, Papilionidae, Lycaenidae, Noctuidae, Erebidae, Lasiocampidae.

**Cuvinte cheie:** Rezervația naturală silvică „Flămînda”, Lepidoptera, Republica Moldova.

### INTRODUCTION

The order Lepidoptera is the most representative in the class of Insecta, both by number of species and their diversity, and by their importance as critical components of all terrestrial ecosystems. The detection of a number of rare butterfly species in an area means that the natural characteristics of the area are preserved. Therefore, the monitoring of this order of insects allows keeping the situation under control, which is especially important in terms of human intervention. In specialized contemporary literature, there are few works on the fauna of Lepidoptera from different regions of the Republic Moldova. The purpose of this paper is to highlight the current status and importance of butterflies of diverse families in ecosystems from the “Flămînda” Natural forest reserve.

### MATERIAL AND METHODS

Materials for this paper were obtained as a result of research conducted during the warm period of 2013-2018 on faunal diversity, ecological and biocological aspects of Lepidoptera from the reserve. The “Flămînda” natural forest reserve (Fig. 1) ( $45^{\circ}47'26.99''N$ ,  $28^{\circ}16'56.33''E$ ) is an area with a surface of 71 ha. It belongs to the district forest Vulcănești, the State forest Cahul, plot 14, subplot 3; plot 15, subplot 4; plot 22, subplot 9, 12; plot 24, subplot 2, 7; plot 26, subplot 6, 9; plot 28, subplot 3; plot 32, subplot 5.

It is located in the Cahul administrative district in the south of Moldova ([https://ro.wikipedia.org/wiki/Rezerva%C8%9Bia\\_natural%C4%83\\_Fl%C4%83m%C3%AEnda](https://ro.wikipedia.org/wiki/Rezerva%C8%9Bia_natural%C4%83_Fl%C4%83m%C3%AEnda)).

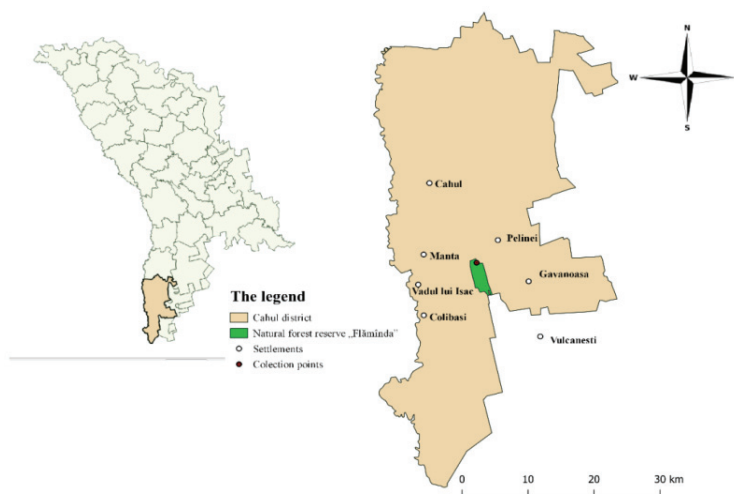


Figure 1. Scheme of the location of the “Flămînda” Natural forest reserve.

The Lepidoptera species were collected manually by "mowing" with the entomological net, using light trap with white and UV light and also the ordinary lamp light. The collected material was identified using the most recently published taxonomical keys.

## RESULTS

The taxonomic diversity of butterflies in the "Flămînda" natural reserve consists of 60 species belonging to 47 genera and 8 families: Hesperidae (3 species), Nymphalidae (9), Pieridae (10), Papilionidae (1), Lycaenidae (8), Noctuidae (21), Erebidae (7) and Lasiocampidae – 1 species.

Below, we present a systematic list of butterflies noted in the reserve.

**1. Fam. Hesperidae (three species):** *Erynnis tages* L.: June 23, 2013 – 1 specimen (spec.), selvage; June 23, 2013 – 4 specimens (specs.), glade; *Ochlodes sylvanus* Esp.: June 23, 2013 – 4 specs., May 24, 2014 – 2 specs., glade; May 24, 2014 – 1 spec., selvage; *Pyrgus malvae* L.: May 24, 2014 – 2 specs., glade; May 24, 2014 – 2 specs., selvage.

**2. Fam. Nymphalidae (nine species):** *Coenonympha glycerion* Bork.: May 19, 2013 – 2 specs., May 24, 2014 – 2 specs., selvage; *C. pamphilus* L.: May 24, 2014 – 3 specs., glade; May 24, 2014 – 1 spec., selvage; *Lasiommata megera* L.: May 24, 2014 – 7 specs., glade; May 24, 2014 – 1 spec., July 19, 2014 – 5 specs., selvage; *Melitaea phoebe* Den. & Schiff.: May 19, 2015 – 1 spec., May 24, 2014 – 5 specs., glade; May 24, 2014 – 5 specs., selvage; *Maniola jurtina* L.: June 23, 2013 – 2 specs., selvage; June 23, 2013 – 1 spec., glade; *Boloria dia* L.: June 23, 2013 – 1 spec., selvage; June 23, 2013 – 4 specs., glade; May 24, 2014 – 1 spec., selvage; *Argynnis pandora* Den. & Schiff.: June 23, 2013 – 1 spec., glade; July 19, 2014 – 2 specs., selvage; *Issoria lathonia* L.: May 24, 2014 – 2 specs., glade; May 24, 2014 – 1 spec., July 19, 2014 – 1 spec., selvage; *Vanessa cardui* L.: July 19, 2014 – 1 spec., selvage.

**3. Fam. Pieridae (ten species):** *Colias alfacariensis* Ribbe: May 19, 2013 – 1 spec., June 23, 2013 – 3 specs., glade; May 24, 2014 – 2 specs., selvage; *C. erate* Esp.: May 19, 2015 – 1 spec., June 23, 2013 – 1 spec., glade; *Pontia edusa* F.: May 19, 2015 – 1 spec., June 23, 2013 – 4 specs., selvage; *Pieris napi* L.: May 19, 2015 – 1 spec., May 24, 2014 – 6 specs., glade; *P. rapae* L.: June 23, 2013 – 1 spec., July 19, 2014 – 3 specs., selvage; *P. brassicae* L.: June 23, 2013 – 1 spec., selvage; June 23, 2013 – 5 specs., glade; *Gonepteryx rhamni* L.: June 23, 2013 – 2 specs., May 24, 2014 – 2 specs., glade; *Anthocharis cardamines* L.: May 24, 2014 – 2 specs., glade; *Leptidea morsei* Fen.: May 25, 2014 – 1 spec., selvage; *L. sinapis* L.: May 24, 2014 – 1 spec., selvage.

**4. Fam. Papilionidae (one species):** *Iphioides podalirius* L.: June 23, 2013 – 2 specs., glade.

**5. Fam. Lycaenidae (eight species):** *Polyommatus icarus* Rott.: May 19, 2013 – 7 specs., June 23, 2013 – 2 specs., glade; May 24, 2014 – 1 spec., glade; May 24, 2014 – 2 specs., selvage; *P. bellargus* Rott.: May 19, 2015 – 9 specs., May 24, 2014 – 2 specs., glade; May 24, 2014 – 2 specs., selvage; *Plebejus argus* L.: May 19, 2015 – 2 specs., June 23, 2013 – 1 spec., selvage; May 24, 2014 – 3 specs., glade; May 24, 2014 – 3 specs., selvage; *Aricia agestis* Den. & Schiff.: June 23, 2013 – 2 specs., selvage; June 23, 2013 – 9 specs., glade; May 24, 2014 – 3 specs., glade; May 24, 2014 – 5 specs., selvage; *Satyrrium spini* Den. & Schiff.: June 23, 2013 – 1 spec., glade; *S. pruni* L.: May 24, 2014 – 2 specs., glade; *S. acaciae* F.: June 23, 2013 – 5 specs., glade; *Glaucopsyche alexis* Poda: May 24, 2014 – 2 specs., selvage.

**6. Fam. Noctuidae (nineteen species):** *Acontia trabealis* Scop.: August 25, 2018 – 4 specs., UV light; *Autographa gamma* L.: August 25, 2018 – 1 spec., UV light; *Mythimna albipuncta* Den. & Schiff.: August 25, 2018 – 1 spec., UV light; *M. vitellina* Hüb.: September 20, 2018 – 1 spec., UV light; *M. l-album* L.: September 20, 2018 – 1 spec., UV light; *Tyta luctuosa* Den. & Schiff.: August 25, 2018 – 1 spec., UV light; *Macdunnoughia confusa* Step.: August 25, 2018 – 1 spec., UV light; *Agrotis bigramma* Esp.: August 25, 2018 – 3 specs., UV light; August 25, 2018 – 1 spec., white ligh; *Helicoverpa armigera* Hüb.: August 25, 2018 – 1 spec., September 20, 2018, UV light; *Acronicta rumicis* L.: August 25, 2018 – 2 specs., UV light; *A. tridens* Den. & Schiff.: August 25, 2018 – 2 specs., UV light; *Anarta trifolii* Huf.: August 25, 2018 – 1 spec., UV light; *Noctua janthina* Den. & Schiff.: August 25, 2018 – 1 spec., UV light; *Tholera decimalis* Poda: September 20, 2018 – 1 spec., UV light; *T. cespitis* Den. & Schiff.: September 20, 2018 – 1 spec., white ligh; *Mesogona acetosellae* Den. & Schiff.: September 20, 2018 – 2 specs., UV light; *Hoplodrina ambigua* Den. & Schiff.: September 20, 2018 – 1 spec., UV light; *Euxoa obelisca* Den. & Schiff.: September 20, 2018 – 1 spec., UV light; *Ceryna cervago* Ev.: September 20, 2018 – 2 specs., UV light; *Agrotis vestigialis* Huf.: September 20, 2018 – 1 spec., white ligh; *Aethmia centrago* Haw.: September 20, 2018 – 1 spec., white ligh.

**7. Fam. Erebidae (seven species):** *Grammodes stolidus* F.: August 25, 2018 – 1 spec., UV light; *Calyptra thalictri* Bork.: August 25, 2018 – 1 spec., UV light; *Eublemma purpurina* Den. & Schiff.: September 20, 2018 – 1 spec., white ligh; *Lygephila cracca* Den. & Schiff.: September 20, 2018 – 1 spec., white ligh; *L. viciae* Hüb.: September 20, 2018 – 1 spec., white ligh; *Catephia alchymista* Den. & Schiff.: September 20, 2018 – 1 spec., white ligh; *Euclidia glyphica* L.: August 25, 2018 – 1 spec., UV light.

**8. Fam. Lasiocampidae (one species):** *Gastropacha quercifolia* L.: August 25, 2018 – 1 spec., white lighth.

**The present study was performed under the project №15.817.02.12F.**

### CONCLUSIONS

The taxonomic diversity of butterflies from the Flămînda natural forest reserve consists of 60 species belonging to 47 genera and 8 families: Hesperiiidae, Nymphalidae, Pieridae, Papilionidae, Lycaenidae, Noctuidae, Erebidae, Lasiocampidae.

### REFERENCES

\*\*\*. Rezervația naturală Flămînda. [https://ro.wikipedia.org/wiki/Rezerva%C8%9Bia\\_natural%C4%83\\_Fl%C4%83m%C3%AEnda](https://ro.wikipedia.org/wiki/Rezerva%C8%9Bia_natural%C4%83_Fl%C4%83m%C3%AEnda) [Accessed: February 14, 2019].

**Derjanschi Valeriu, Tugulea Cristina, Tugulea Andrian**  
Institute of Zoology, Chișinău, 1 Academiei Street, MD-2028 Republic of Moldova.  
E-mail: tuguleacristy@yahoo.com

Received: April 15, 2019  
Accepted: May 20, 2019