SPECIES OF CERAMBICIDS (COLEOPTERA: CERAMBYCIDAE), FROM CHEILE BICAZULUI – HĂŞMAŞ NATURAL PARK

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Abstract. *The paper presents the results of the research concerning the cerambicids fauna from Cheile Bicazului-Hăşmaş Natural Park (July 2005). Thus, it has been identified a number of seventeen species (155 specimens), eleven genera, and respectively three subfamilies of Cerambycidae: Lepturinae, Cerambycinae and Lamiinae. This study presents new data about the species of cerambicids from the studied area, the host plants-the data from literature were compared with the field observations. The nomenclature and systematic used in this paper are those published by DANILEVSKY (2003).*

Keywords: *Cerambycidae, host plant, biodiversity.*

Rezumat. Specii de cerambicide (Coleoptera: Cerambycidae), din Parcul Natural Cheile Bicazului-Hăşmaş. *Lucrarea prezintă rezultatele studiilor efectuate în teren, în Parcul Natural Cheile Bicazului-Hăşmaş (iulie 2005), cu privire la fauna de cerambicide. Astfel, au fost identificate 17 specii (155 de exemplare), 11 genuri şi respectiv trei subfamilii de Cerambycidae: Lepturinae, Cerambycinae şi Lamiinae. Sunt prezentate date noi cu privire la speciile de cerambicide din zona studiată, plantele lor gazdă - datele din literatură fiind comparate cu observaţiile făcute pe teren. Nomenclatura şi sistematica utilizată în lucrare sunt cele publicate de DANILEVSKY (2003).*

Cuvinte cheie: *Cerambycidae, plantă gazdă, biodiversitate.*

INTRODUCTION

The beauty and elegance of their forms, and their biodiversity have made from cerambicids an interesting object of study for scientists since the 18th century. In Romania, few scientists choose to study this beautiful group of coleopterans. The majority of papers dedicated to cerambicids present the fauna of the western part of Romania.

Even if in the collection "Romanian Fauna" is published a volume dedicated to cerambicids fauna, the data presented there are until 1965. Therefore, the author considered opportune to study the diversity of cerambicids from Cheile Bicazului-Hăşmaş Natural Park.

The paper brings new data about the species of cerambicids from the studied area, their host plants (SANDA et. al., 1997) and their vegetal associations (POPESCU et. al., 1998).

Cheile Bicazului-Hăşmaş Natural Park is a protected area, relatively new (instituted by law in 2000), with a surface of 6,575 ha. Cheile Bicazului-Hăşmaş Natural Park is situated in the Oriental Carpathians. The Park area reaches over two counties: Harghita and Neamţ (Fig. 1). This protected area comprises two areas: special conservation area (78%), and the safety area (22%).

MATERIAL AND METHODS

The material analysed in this paper was collected directly from the plants. The author considered it the best method for analysing the biodiversity of cerambicids and their host plants.

The nomenclature and systematic used in this paper are those published by DANILEVSKY (2003). The material was identified using Natura Revista di Scienze Naturali Insetti della Fauna Europea Coleotteri Cerambicidi (PESARINI & SABBADINI, 1994), and PANIN & SĂVULESCU (1965). In order to study the host plants, the author collected them from the field and identified them with the help of professor PhD. NECULAI BARABAŞ.

RESULTS AND DISCUSSIONS

The research concerning the diversity of cerambicids from Cheile Bicazului-Hăşmaş Natural Park was made in July 2005. The insects were collected from three different locations (representative parts of Cheile Bicazului-Hăşmaş Natural Park): Cheile Şugăului, Suhardul Mic and Ucigaşul Peak (Fig. 2).

From those locations, there were collected 155 specimens of cerambicids. Analysing the collected individuals in the Laboratory of Entomology from the Natural History Museum "Ion Borcea" Bacău, the author found that, taxonomically, the 155 specimens belong to 17 species included into 11 genera, respectively, from 3 subfamilies of Cerambycidae Family: Lepturinae, Cerambycinae and Lamiinae (Table 1).

In order to observe the diversity of cerambicids from Cheile Bicazului-Hăşmaş Natural Park, it was necessary to collect cerambicids from different species of plants. Thus, it was easy to identify the host plants for different species of Cerambycidae.

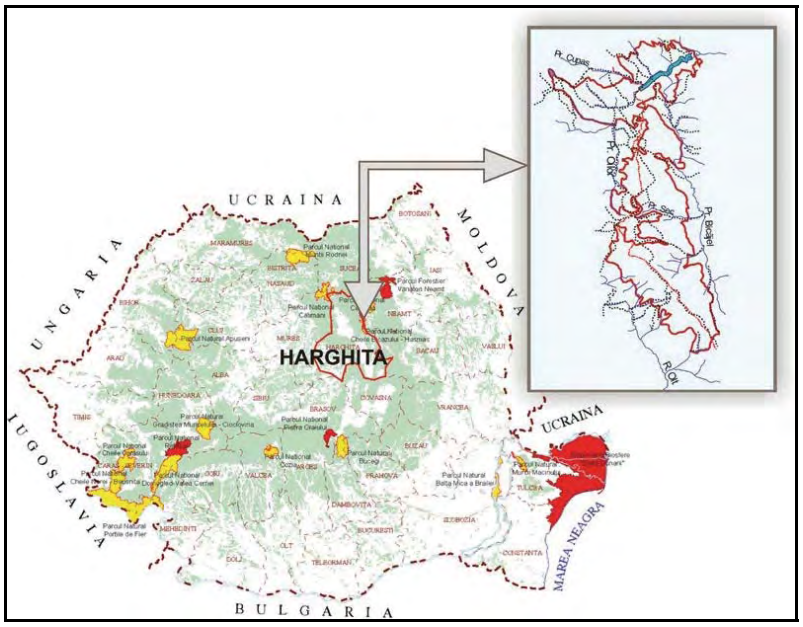

Figure 1. Cheile Bicazului-Hăşmaş Natural Park-the geographical location (www.cheilebicazului-hasmas.ro).
Figura 1. Parcul Natural Cheile Bicazului-Hăşmaş-localizarea geografică (www.cheilebicazului-hasmas.ro).

Figure 2. Ucigaşul Peak-one of the collection sites-images from the field.
Figura 2. Unul dintre punctele de colectare-Vârful Ucigaşul-aspecte din teren.

Table 1. Species of cerambicids collected from Cheile Bicazului-Hăşmaş Natural Park (July, 2005).
Tabel 1. Specii de cerambicide colectate din Parcul Natural Cheile Bicazului-Hăşmaş (iulie, 2005).

No.	Subfamily	Species	Cheile Şugăului	Suhardul Mic	Ucigaşul	Total no. specimens
1.	Lepturinae	*Rhagium mordax* (DEGEER 1775)	1	-	-	1
2.		*Pachyta quadrimaculata* (LINNAEUS 1758)	1	-	3	4
3.		*Carilia virginea* (LINNAEUS 1758)	3	23	61	87
4.		*Leptura quadrifasciata* (LINNAEUS 1758)	-	2	1	3
5.		*Leptura maculata* (PODA 1761)	3	5	21	29
6.		*Pidonia lurida* (FABRICIUS 1792)	5	-	-	5
7.		*Paracorymbia maculicornis* (DEGEER 1775)	1	-	-	1
8.		*Corymbia rubra* (LINNAEUS 1758)	2	1	-	3
9.		*Corymbia scutellata* (FABRICIUS 1781)	1	1	-	2
10.		*Anastrangalia sanguinolenta* (LINNAEUS 1761)	3	3	-	6
11.		*Anastrangalia dubia* (SCOPOLI 1763)	-	-	1	1
12.		*Judolia sexmaculata* (LINNAEUS 1758)	-	1	-	1
13.		*Stenurella melanura* (LINNAEUS 1758)	1	4	2	7
14.		*Stenurella nigra* (LINNAEUS 1758)	2	-	-	2

15.	Cerambycinae	*Callidium violaceum* (LINNAEUS 1758)	1		-	1
16.	Lamiinae	*Agapanthia villosoviridescens* (DEGEER 1775)	1	-	-	1
17.		*Agapanthia violacea* (FABRICIUS 1775)	1	-	-	1
	3	**Total**	**26**	**40**	**89**	**155**
		%	**16.7**	**25.8**	**57.5**	**100%**

In the field the author observed that several species of cerambicids prefer the pollen and reproductive elements of the flowers (such as: *Filipendula vulgaris* MOENCH. and *Leucanthemum vulgare* LAM.) as food sources.

The observations from the field were completed with the data presented in literature. In Table 2, for each species collected from Cheile Bicazului-Hăşmaş Natural Park there are mentioned the host plant species-the data from literature and the data from the field-different host plants species.

Table 2. Preferences of cerambicids species collected from Cheile Bicazului-Hăşmaş Natural Park for certain host plants.
Tabel 2. Preferinţele speciilor de cerambicide colectate din Parcul Natural Cheile Bicazului-Hăşmaş, pentru anumite plante gazdă.

No.	**Species**	**Host plants**	
		(literature)	**(Cheile Bicazului – Hăşmaş Natural Park)**
1.	*Rhagium mordax* DEGEER	deciduous trees (oak, beech, birch) The bark of the conifers	*Quercus petraea* LIEBL.
2.	*Pachyta quadrimaculata* L.	Coniferous, beech flowers of Umbeliferae	*Filipendula vulgaris* MOENCH.
3.	*Carilia virginea* L.	Conifers, beech Umbeliferae, composites	*Trollius europaeum* LINNAEUS 1753, *Leucanthemum vulgare* LAM.
4.	*Leptura quadrifasciata* L.	firs from sub mountainous and mountainous regions, beech, coniferous	*Leucanthemum vulgare* LAM., *Filipendula vulgaris* MOENCH.
5.	*Leptura maculata* PODA	Under the bark of sallow, beech, birch, lime and poplar; imago on flowers	*Filipendula vulgaris* MOENCH.
6.	*Pidonia lurida* FABR.	deciduous trees (willow, birch, beech, elm, poplar), conifers	*Filipendula vulgaris* MOENCH., *Leucanthemum vulgare* LAM., *Urtica dioica* L., *Telekia speciosa* BAUMG.
7.	*Paracorymbia maculicornis* DEGEER	beech, oak, sallow, probably conifers; imago on flowers (especially on the flowers of Umbeliferae)	*Leucanthemum vulgare* LAM., *Filipendula vulgaris* MOENCH.
8.	*Corymbia rubra* L.	Conifers; imago on trunks, on flowers	*Filipendula vulgaris* MOENCH.
9.	*Corymbia scutellata* FABR.	oak, beech, chestnut, birch Conifers; imago on trunks, on flowers	*Filipendula vulgaris* MOENCH. *Verbascum* sp. L. , *Urtica* sp. L.
10.	*Anastrangalia sanguinolenta* L.	Conifers, beech; imago on flowers	*Leucanthemum vulgare* LAM.
11.	*Anastrangalia dubia* SCOP.	Conifers, beech; imago on flowers	*Leucanthemum vulgare* LAM.
12.	*Judolia sexmaculata* L.	in conifers wood, beech; imago on flowers	*Filipendula vulgaris* MOENCH.
13.	*Stenurella melanura* L.	deciduous trees, conifers; imago on flowers	*Leucanthemum vulgare* LAM. *Achillea milleifolium* L. *Filipendula vulgaris* MOENCH.
14.	*Stenurella nigra* L.	deciduous trees (oak, beech) Imago on flowers	*Filipendula vulgaris* MOENCH., *Achillea milleifolium* L.
15.	*Callidium violaceum* L.	Imago on flowers	*Leucanthemum vulgare* LAM.
16.	*Agapanthia villosoviridescens* DEGEER	*Angelica sylvestris* L., *Aconitum* L., *Cirsium palustris* L., *C. arvense* SCOP., *Eupatorium canabinum* L., *Heracleum sphondylium* L., *Senecio aquaticus* HUDS., *Carduus* L., *Urtica* L.)	*Filipendula vulgaris* MOENCH.
17.	*Agapanthia violacea* FABR.	*Carduus* L., imago on the flowers of *Scabiosa* L., etc.	*Filipendula vulgaris* MOENCH.

Analysing the data presented in Table 2, it can be noticed that species like *Stenurella melanura* (LINNAEUS 1758), *Carilia virginea* (LINNAEUS, 1758), *Anastrangalia dubia* (SCOPOLI, 1763) can be found on the same host plants. Also, on the same flowers of *Filipendula vulgaris* MOENCH., the author have found individuals from different species like *Corymbia rubra* (LINNAEUS, 1758) and *Leptura maculata* (PODA, 1761), *Corymbia scutellata* (FABRICIUS, 1781) and *Rhagium mordax* (DE GEER, 1775). For the first time, it is mentioned *Trollius europaeus* L. as host plant species for *Carilia virginea* L. (Fig. 3).

CONCLUSIONS

1. The seventeen species identified in the researched area are mentioned for the first time for Cheile Bicazului-Hăşmaş Natural Park. Thus, the paper brings new data about the diversity of cerambicids from this area.

2. Taxonomically, the cerambicids collected from Cheile Bicazului-Hăşmaş Natural Park are included into three subfamilies of Cerambicydae Family (Lepturinae, Cerambycinae, Lamiinae), eleven genera and seventeen species.

3. The paper presents also new data concerning the preferences of cerambicids for certain host plants-the observations from the field were completed with the data from literature. For the first time it is mentioned *Trollius europaeus* L. as a preferred plant for *Carilia virginea* L.

Figure 3. *Carilia virginea* L. on *Trollius europaeus* L.
Figura 3. *Carilia virginea* L. pe *Trollius europaeus* L.

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