

MACROMYCETES FROM THE NATURAL RESERVE OF BEJAN FOREST (HUNEDOARA COUNTY, ROMANIA)

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Rezumat

Macromicete din rezervația naturală Pădurea Bejan (județul Hunedoara, România)

Lucrarea reprezintă o contribuție la cunoașterea speciilor de macromicete din Pădurea Bejan - Deva (județul Hunedoara), necercetată până în prezent din punct de vedere micologic. Pe baza colectărilor și observațiilor personale efectuate în perioada iulie-septembrie 1997-1999, în cadrul rezervației naturale Pădurea Bejan - Deva au fost identificate 25 de specii de macromicete aparținând la 9 familii. Majoritatea speciilor sunt comune pentru Micobionta României. Frecvențe în zona cercetată sunt: *Russula emetica*, *Russula lepida* și *Russula virescens*.

INTRODUCTION

Mushrooms are fungi that grow and fruit almost everywhere. The importance of mushrooms in biocoenosis is obvious. Many of our forests could not exist without the mushrooms that grow among their roots; this association being called symbiosis. Fungus partners in the relationship are called mycorrhizae. Equally important is the role of mushrooms in nutrient recycling, because they make food available for many organisms. By decaying wood, forest trash, and divers kinds of plant and animal wastes, fungi release minerals and nutrient for use of a great variety of other organisms (McKNIGHT & VERA McKNIGHT, 1987).

The hills nearby the town of Deva have never been studied from the macromycology point of view. This is the first systematic analyze, trying to establish the composition of mushrooms synusia.

The Bejan Forest, spreading on 103 ha, which 42 ha are protected area, is located in the neighborhood of the town of Deva. It is known since 19th century as a unique biotope for presence of numerous oak-trees and their hybrids (STĂNESCU, ȘOFLETEA & STANCIU, 1997).

The tree oak species that grow in the Bejan Forest are: *Quercus petraea*, *Quercus dalechampii*, *Quercus polycarpa*, *Quercus robur*, *Quercus frainetto*, *Quercus cerris*, *Quercus pubescens*, *Quercus virgiliiana*. An interesting phenomena of natural hybridization it is happening between these species. The most important natural hybrids are: x *Quercus tabajdiana*, x *Q. tufae*, x *Q. dacica*, x *Q. haynaldiana*, x *Q. kernerii*, x *Q. budensis*, x *Q. rosacea*, x. *Q. pseudodalechampii*. Other tree species from the Bejan Forest are cited: *Carpinus betulus*, *Tilia cordata*, *Fraxinus ornus*, *Acer campestre*, *Pinus nigra*, *Pinus sylvestris*, *Larix decidua*.

Subarboretum consists on: *Crataegus monogyna*, *Ligustrum vulgare*, *Euonymus verrucosus*, *Rosa gallica*, *Viburnum lantana*, *Prunus spinosa* (SCHREIBER, 1970).

The geological substratum consists on metamorphic rocks, especially andesites (IANOVICI et al., 1976). These rocks lead to the apparition of forest brown soils.

The clime is temperate-continental, with warm summers and moderate humidity. The winters are not very cold. The annual average temperature is 9-10⁰ C. The annual average of precipitations is 683 mm (SZÁSZ & TUDORICĂ, 1972).

MATERIAL AND METHODS

Mycological material has been collected in the period May - October of the years 1997-1999.

For identifying the macromycetes species collected, it was used the scientific nomenclature and the classification proposed by ELIADE EUGENIA & TOMA, 1977, SĂLĂGEANU & ANIȘOARA SĂLĂGEANU, 1985, BONTEA VERA 1986 and MCKNIGHT & VERA MCKNIGHT, 1987.

Drying and then injecting them with Sodium silicate has preserved the material collected in the field.

RESULTS AND DISCUSSION

25 species belonging to 9 families of Macromycetes were identified in the Bejan Forest Reserve.

The systematic list and some data about the ecological exigencies and phenological aspects are given.

All the species collected are common for the Romanian Mycobionta.

The most frequent species are: *Russula emetica*, *Russula lepida* and *Russula virescens*.

The seasonal dynamics of the Macromyceta species exhibits a more intense activity in may and july-september.

The systematic list of the Macromyceta species identified in the Bejan Forest-Deva

ASCOMYCETES

Ord. Xylariales

Fam. Xylariaceae

Xylaria polymorpha (Scop.) Grev.

Epx; I-XII

It grows single or clumped, on buried wood, on the border of the forest.

BASIDIOMYCETES

Ord. Aphylophorales

Fam. Clavariaceae

Ramaria crispula (Fr.) Quel.

Epx.; V-XII

Found on soil, in the forest.

Ramaria flava (Schff. ex Fr.)

Gs; VII-X

Found in small groups, on soil, in the forest.

Ramaria aurea (Schff. ex Fr.) Quel.

Gs; VIII-X

Found on soil in the forest.

Ganoderma lucidum (Leyss ex Fr.) Karst.

Ex-Epx; I-XII

Found on roots of *Quercus robur*

Ord. Agaricales

Fam. Tricholomataceae

Marasmius rotula (Fr. ex Scop.) Fr.

Epx-Gs; V-X

It clustered on decaying wood of *Quercus* sp.

Mucidula radicata (Rehl. ex Fr.) Bours.

Gp; VI-X

Found on soil, among dead leaves, with stalk deeply rooted in soil.

Fam. Amanitaceae

Amanita caesarea (Scop. ex Fr.) Pers. ex Schw.

Gm; Summer to early autumn.

It grows solitary or in small clumps, often in fairy rings, on soil.

Amanita pantherina (DC ex Fr.) Secr.

Gm; VII-X

Found in small groups on soil.

Fam. Cortinariaceae

Cortinarius elatior Fr.

Gm; IX-XI; It grows on soil in the forest.

Fam. Boletaceae

Boletus purpureus Fr.

Gm; VII-IX

It grows solitary to scattered on soil, in the forest.

Boletus impolitus Fr.

Gm; VII-X

Found in the grass nearby the forest.

Boletus aereus Bull. ex Fr.

Gm; VII-X

It grows solitary, at the border of the forest, in grassland.

Fam. Russulaceae

Lactarius piperatus (L. ex Fr.) S.F. Gray

Gm; VII-XI

Found on the lawn, nearby the forest.

Lactarius vellereus (Fr.) Fr.

Gm; VIII-XI

On ground, in wood, grouped to scattered.

Russula atropurpurea (Krbh.) Britz.

Gm; VI-X

On ground, in forest.

Russula emetica Fr.

Gm; VII-X

Found on moisture soil, at the border of the forest.

Russula lepida Fr.

Gm; VII-X

Found on soil, solitary to grouped; spreading through out the wood.

Russula virescens (Schff. ex Zant) Fr.

Gm; VII-X

Grows solitary to grouped, among dead leaves, in the forest.

Russula vesca Fr.

Gm; VII-X

On ground, in forest.

Ord. Gasteromycetales

Fam. Lycoperdaceae

Lycoperdon perlatum Pers.

Gs; VI-XI

Grows solitary to densely clustered, on soil or humus in forest, in open areas, along roads.

Lycoperdon mammaefoeme Pers.

Gs; VIII-X

On soil, in wood.

Fam. Nidulariaceae

Cyathus striatus (Huds. ex Pers.)

Epx-Gs; VIII-XI

Found on dead wood and other vegetable debris.

Abbreviations:

Epx = mycetoepixilophyta; Ex = mycetoendoxilophyta; Gm = mycetogeophyta mycorrhiza; Gp = mycetogeophyta parasitica; Gs = mycetogeophyta saprophytica

CONCLUSIONS

For the first time, a systematic list of Macromyceta species identified in the Natural Reserve Bejan Forest of Deva is present. This is a preliminary study concerning the Macromyceta species of this area. The following studies will point out the diversity of the Mycobionta in this protected area.

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