THE COROLOGY, ECOLOGY AND PHYTOSOCIOLOGY OF THE *EUONYMO-SAMBUCETUM NIGRAE* MOOR 1967 PLANT COMMUNITY IN THE SUBCARPATHIAN AREA OF OLTENIA, ROMANIA

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ABSTRACT

According to the phyto-sociological research carried out between 2007-2018, in the Subcarpathian area of Oltenia, there were identified one important plant community - Euonymo-Sambucetum nigrae Moor 1967. This plant community was not cited until now Oltenia. Since Romania has been mentioned only in Transylvania, by A. Szabó from Sărățel-Chiraleș-Lechința. For the study of the vegetation in the this area, we have used the methods of phyto-sociologic research characteristic to the Central European phyto-sociologic School, which were based on the principles and methods elaborated by J. Braun-Blanquet (1926). In the phytocoenotic composition of this plant community, beside the dominant species Euonymus europaeus and Sambucus nigra, there are also: Ligustrum vulgare, Rosa canina, Clematis vitalba, Hedera helix, Poa nemoralis. The phytocoenosis have a small number of species, and the species with the highest abundance-dominance (AD) is Sambucus nigra. Euonymus europaeus missing from many phytocenosis. This plant community have been analyzed and characterized from the chorological, ecological, phytosociological point of views. They were also examined according to their floristic composition and physiognomy, syndynamics and economics.

INTRODUCTION

In the researches done, during 2008-2017 period, had the target of performing the phytocoenotic composition of the *Euonymo-Sambucetum nigrae* Moor 1967 plant community and, elaborating optimal measures of biodiversity in the Subcarpathian area of Oltenia, Romania.The bushes and shrubs were an important constituent of the Subcarpathian area of Oltenia, Romania.

In Romania the vegetation of bushes is very well represented.

Vegetation of bushes is of particular importance especially when it is on eroded land to prevent landslides. It is also an important succession stage for the installation of forest vegetation.

MATERIAL AND METHODS

Study area: The studies have been carried out in the Subcarpathian area of Oltenia, Romania. Phytosocological analyses were carried out in several localities of the Gorj, Valcea and Mehedinti Counties. For the study of the plant community, we have used methods of phyto-sociologic European School.

The plant community have been analyzed and characterized from the chorological, ecological point of views.

At least 10 surveys were carried out in each locality.

For the cenotaxonomic framing and description of the plant comunity was used national and European phytosociological bibliography.

RESULTS AND DISCUSSIONS

According to the geobotanical research in the Subcarpathian area of Oltenia, Romania, it has been noted the *Euonymo-Sambucetum nigrae* Moor 1967 plant community (fig. 1).

This plant community was not cited until now Oltenia. Since Romania has been mentioned only in Transylvania, by A. Szabó from Sărățel-Chiraleș-Lechința. For the study of the vegetation in the this area, we have used the methods of phyto-sociologic research characteristic to the Central European phyto-sociologic School, which were based on the principles and methods elaborated by J. Braun-Blanquet (1926). In the phytocoenotic composition of this plant community, beside the dominant species *Euonymus europaeus* and *Sambucus nigra*, there are also: *Ligustrum vulgare, Rosa canina, Clematis vitalba, Hedera helix, Poa nemoralis.*

Among the species characteristic of the Prunetalia order existing within the plant community we mention:*Crataegus monogyna, Euonymus europaeus, Clematis vitalba, Rosa canina, Cornus sanguinea. Cele mai frecvente specii ierboase întâlnite în aceste fitocenoze sunt: Poa nemoralis, Dryopteris filix-mas, Veronica chamaedrys, Hedera helix, Brachypodium pinnatum, Euphorbia cyparissias, Teucrium chamaedrys, Sanguisorba minor, Urtica dioica, Viola odorata, Chelidonium majus, Trifolium medium, Polygala vulgaris* etc.

The phytocoenosis have a small number of species, and the species with the highest abundance-dominance (AD) is *Sambucus nigra*. *Euonymus europaeus* missing from many phytocoenosis.

This plant community have been analyzed and characterized from the chorological, ecological, phytosociological point of views. They were also examined according to their floristic composition and physiognomy, syndynamics and economics.

The phytocoenoses of this plant community preferly develop at the edge of forests in the lights from within them, often reaching important highs and achieving a coverage of 80-100%.

In the researched territory is usually laid out on eroded slopes, from sloping to very inclined.

Cenotaxonomic Classification:

RHAMNO-PRUNETEA *RUVAS GODAY ET BORJA CARBONELL 1961*

PRUNETALIA *TX. 1952*

PRUNION SPINOSAE SOÓ 1951

Synecology. In the analysed phytocoenoses was observed the predominance of the mesophilous elements followed by the xero-mesophilous species, which finds in this area favourable ecological conditions. To the temperature factor, the mesotherm species are the most abundant, followed by the xero-mesotherm ones. Taking into account the soil reaction one can notice the predominance of the euri-ionic species, followed by the weak neutrophils.

Synchorology. Phytocoenoses of this plant community have been studied in various localities: Boroșteni Valley and Bistrita Varatec Valley, Cernadia Valley (Gorj County), Cerna Valley and Baia de Aramă (Mehedinti County), Roești, Horezu, Luncavăț Valley, Cheia Valley, Jgheaburi Valley and Govora Valley (Valcea County) ((Table 1).

Fig.1.*Euonymo-Sambucetum nigrae* Moor 1967 plant community in the Jgheaburi Forest

Table 1- Ass. *Euonymo-Sambucetum nigrae* Moor 1967

Nr. Releveului	1	2	3	4	5	6	7	8	9	10
Altitudinea (x 10 m.s.m)	45	42	45	40	38	38	65	70	72	75
Expoziţia	V	V	V	E	S	V	V	V	S-E	S-E
Inclinarea (grade)	15	10	30	10	10	15	10	30	35	30
Acoperirea vegetaţiei (%)	90	90	80	90	100	80	80	90	90	100
Suprafaţa de probă (m^2)	100	50	100	100	50	100	50	100	100	50
Char. ass.										
Sambucus nigra	3-4	3-4	3	3-4	4	3-4	3-4	4	4	4
Euonymus europaeus	2	2	2	1-2	+	1-2	1	+	+	+
Prunetalia et Prunion spinosae										
Crataegus monogyna	+	+	+	1	+	+	+	+	1	+
Ligustrum vulgare	2	1	2	+	-	2	1	2	+	-
Clematis vitalba	1	1	1	+	2	1	1	1	+	2
Rosa canina	+	+	+	+	1	+	+	+	+	1
Cornus sanguinea	1	2	1-2	1	1	1	2	1-2	1	1
Euonymus verrucosa	+	+	1	+	-	+	+	1	+	-
Humulus lupulus	-	-	-	+	1	-	-	-	+	1
Geum urbanum	-	-	+	+	+	-	-	+	+	+
Alno-Ulmion										
Ulmus glabra	+	-	-	+	-	+	-	-	+	-
Ranunculus repens	+	-	+	1	1	+	-	+	1	1
Circaea lutetiana	+	+	+	+	+	+	+	+-1	+	+
Alnus glutinosa	+	-	-	+	-	+	-	-	+	-
Frangula alnus	-	-	+	1	-	-	-	+	1	-
Rubus caesius	-	+	+	+	+	-	+	+	+	+
Fagetalia										
Salvia glutinosa	1	1	+	+	+	-	-	1	+	1-2
Euphorbia amygdaloides	-	+	-	+	-	-	+	-	+	-
Epilobium montanum	+	+	+	+	-	+	+	+	+	-
Querco-Fagetea										
Corylus avellana	+	+	+	1	+	+	+	-	+	1
Carpinus betulus	+	-	+	-	-	+	-	+	-	-
Prunella vulgaris	-	-	+	+	+	-	-	+	+	+
Campanula rapunculoides	+	+	+	-	+	+	+	+	-	+
Astragalus glycyphyllos	-	-	-	+	+	-	-	-	+	+
Fragaria vesca	+	-	+	-	+	+	-	+	-	+
Lapsana communis	+	+	-	+	+	+	+	-	+	+
Viola odorata	+	-	+	-	+	+	-	+	-	+
Poa nemoralis	+-1	+-1	+-1	1	1	1	+-1	1	1	1-2
Variae Syntaxa										
Glechoma hederacea	-	+	+	+	+	-	+	+	+	+
Agrostis capillaris	-	-	-	+	+	-	-	-	+	+
Mentha longifolia	+	-	-	-	+	+	-	-	-	+
Equisetum arvense	+	+	-	+	-	+	+	-	+	-
Galium aparine	+	+	-	+	-	+	+	-	+	-
Hypericum perforatum	-	+	-	-	+	-	+	-	-	+
Veronica chamaedrys	-	+	+	-	+	-	+	+	-	+
Viola hirta	-	-	-	+	+	-	-	-	+	+
Rubus hirtus	+	-	1	+	1	+	1	1	1	1

Place and data of relevés: ***1, 2, 3 – Horezu, 15.V.20087; 3, 5, 6 – Govora, 20.VI. 2016, 7, 8, 9, 10 – Jgeaburi Valley, 14.V.2017***

CONCLUSIONS

This plant community is of great importance from a landscape, forestry and medicinal point of view. It plays a special role against soil erosion. *Sambucus nigra* is easily regenerated in such forest cuts.The vegetatal community also has an important sindynamic role.

Many species that make up these phytocenoses have medicinal and food value. Of these we can remember: *Crataegus monogyna, Frangula alnus, Prunus spinosa, Rosa canina, Sambucus nigra, Fragaria vesca, Rubus caesius.*

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