

## THE BEECH-FORESTS WITH *SCOPOLIA CARNIOLICA* JACQ. FROM HIGHER CATCHMENT OF PRAHOVA RIVER

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**Abstract:** The paper presents a part of the results of the researches entered upon in higher basin of Prahova valley (the eastern side of Bucegi Mountain and the western side of Baiului Mountain) regarding to flora and vegetation. We noticed on Rea Valley, in Baiului Mountain a new subassociation (*scopolietosum carniolicae*) in *Symphyto cordati-Fagetum* Vida 1959, 1963 association of the beech-forests.

### Introduction

Baiului Mountains (or Gârbova Massif, how it is also named) are a component part of Meridional (Southern) Carpathian; they are found in the eastern part of Prahova Valley, between Bucegi Mountains (eastern) and Teleajăn and Buzău Mountains (western). This massif is a geomorphological unit geologically and from the point of view of the relief. The massif is compound of flysch (Sinaia layers), entirely. Generally, the Sinaia layers are very calcareous grit stones but they are washing by rains. So, the absence of calcium imprints of both, the floristic composition and the quality of the meadows, low values. Characteristics of the valleys and of the creeks of this massif are their almost perpendicular paths, with vast and abrupt basins. The slopes are covered with forests of beech and spruce in the lower part and then, suddenly, it is found the alpine belt. There is also an inversion of vegetation: the spruce is found in the lower part and the beech in the upper part, to the alpine belt [7].

Rea Valley crosses the highest mountain of the southern part, Baiul Mare (1896 m); the erosion is accentuated in the spring area. Rea Valley is grouped in elevated basins group of Baiului Mountains; they had been constituted due to the early interception of the other vast basin.

### Material and Methods

The studies had been effectuated based on field observation, on the consultation of literature and of the herbarium from Institute of Biology, Bucharest. The main method of study was the most frequent and appreciable of Montpellier School, the Braun - Blanquet method. We composed the phytocoenotical tables for each association and we framed it in the appropriate class [3, 4, 5].

### Results and Discussion

As part of the all beech-forests classified in *Symphyto cordati-Fagetum* Vida 1959, 1963 on Rea Valley from higher catch basin of Prahova river have been identified vast areas where in the herbaceous stratum *Scopolia carniolica* is dominant. These beech-forests with compact populations of *Scopolia carniolica* are situated in the lower and middle montane belts.

Those kinds of beech-forests are on plane fields even with a slow slope, frequently. They grow on mollic and deeply pseudogleisat soil, sometimes low skeletal with high humidity, rich in humus of type mull [1, 2].

The dominated species is still *Fagus silvatica*, with 24 m height and 70-80% covering. Besides the edifying species, in the shrubs stratum are also exemplars of *Acer pseudoplatanus*,

*Picea abies*, *Abies alba* (Tab.1). In these beech-forests composition are represented species of **Symphyto-Fagion** alliance and **Fagetalia** order very well [6]. The surveys were accomplished in the summer of 2000 on Rea Valley, tributary of Prahova river, in Baiului Mountains.

**Table 1: *Symphyto cordati-Fagetum* Vida 1959, 1963 *scopolietosum carniolicae* nova subass.**

No. survey	1	2	3	4	5	6
Surface (m <sup>2</sup> )	500	500	500	500	500	500
Height of the vegetation						
trees (m)	12	14	18	12	12	12
shrubs (m)	4	4	1.5	4	3	3
herbs (cm)	25	35	40	45	50	45
Covering %						
Trees	85	70	75	75	70	75
Shrubs	5	5	5	5	5	5
Herbs	35	60	60	40	45	50
<b>Car. Ass.</b>						
<i>Scopolia carniolica</i>	3	3	2	3	3	3
<i>Fagus sylvatica</i>	5	5	5	4	5	5
<b>Symphyto-Fagion</b>						
<i>Symphytum cordatum</i>	+	1	1	+	+	+
<i>Pulmonaria rubra</i>	+		+	+	+	+
<i>Dentaria glanduligera</i>	+	+	+	+	+	
<i>Helleborus purpurascens</i>	+		+	+		
<b>Fagetalia</b>						
<i>Impatiens noli-tangere</i>			+	+		+
<i>Luzula luzuloides</i> ssp. <i>cuprina</i>			+			
<i>Galium odoratum</i>	+	1	+	+	+	+
<i>Oxalis acetosella</i>			+	+	+	+
<i>Geranium robertianum</i>	+	+	+	+	+	+
<i>Galium schultesii</i>	+					+
<i>Lamiaeum galeobdolon</i>			+			
<i>Mycelis muralis</i>	+		+	+	+	
<i>Ajuga reptans</i>						+
<i>Lamium maculatum</i>	+	+	+	+	+	+
<i>Epilobium montanum</i>			+			+
<i>Mercurialis perennis</i>	+	1		+	+	+
<i>Salvia glutinosa</i>	+	+	+	+	+	
<i>Circaea lutetiana</i>			+			
<i>Euphorbia amygdaloides</i>	+	+	+		+	+
<i>Rubus hirtus</i>	+					
<i>Festuca drymeia</i>		+				
<i>Actaea spicata</i>		+	+			+
<i>Stachys alpina</i>	+	+	+	+	+	+
<i>Hedera helix</i>		+				+
<i>Carex sylvatica</i>	+	+				+
<i>Viola reichenbachiana</i>			+	+		
<i>Stachys sylvatica</i>			+			
<i>Stellaria holostea</i>	+	+			+	+
<b>Quercu-Fagetea</b>						
<i>Dryopteris filix-mas</i>				+	+	
<i>Geum urbanum</i>	+			+	+	
<i>Athyrium filix-femina</i>	+			+	+	
<i>Glechoma hirsuta</i>	+			+	+	

No. survey	1	2	3	4	5	6
<b><i>Moehringio muscosae-Acerion</i></b>						
<i>Polypodium vulgare</i>			+	+		
<i>Acer pseudoplatanus</i>	+	+		+	+	+
<i>Lunaria rediviva</i>	+			+	+	
<i>Ulmus glabra</i>	+	+	+			+
<b><i>Vaccinio-Piceetalia</i></b>						
<i>Abies alba</i>	+			+		
<i>Picea abies</i>	+				+	
<i>Luzula sylvatica</i>	+			+		
<i>Polygonatum verticillatum</i>	+			+	+	
<b><i>Variae syntaxa</i></b>						
<i>Sambucus nigra</i>	+	+		+	+	
<i>Petasites albus</i>			+			
<i>Telekia speciosa</i>		+				+
<i>Urtica dioica</i>	+				+	
<i>Evonymus europaeus</i>	+			+	+	
<i>Viburnum lanata</i>	+			+	+	
<i>Chaerophyllum cicutaria</i>	+				+	
<i>Viburnum opulus</i>	+			+	+	
<i>Cardamine flexuosa</i>	+				+	

The place and the date of the surveys: Rea Valley, 12.07.2000

The abundance of *Scopolia carniolica* population, noticed also in another mountains from Romanian Carpathians (Alexiu, 1998; Oroian, 1998; Sămărghișan, 2001; Stancu, 2001; Seghedin, 1989) induce us to describe a new subassociation *scopolietosum carniolice* subass. nova (holotypus hoc. Loco, Tab.1, rel.1).

We notice that is a parallel with *scopolietosum carniolice* subassociation determined by T. Seghedin 1983 in ass. ***Phyllitidi-Fagetum*** on beech-forests with lumps and calcareous rocks from Bucovina Mountains.

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#### FĂGETELE CU *SCOPOLIA CARNIOLICA* JACQ. DIN BAZINUL SUPERIOR AL RÂULUI PRAHOVA

##### (Rezumat)

În cadrul fâgetelor grupate în asociația ***Symphyto cordati-Fagetum*** Vida 1959, 1963 de pe valea Rea din bazinul superior al Prahovei au fost identificate arii extinse, în care, în stratul ierbos domină *Scopolia carniolica* Jacq., arii situate în subetajul montan inferior și mijlociu. Asemenea fâgete sunt frecvente pe terenuri plane sau ușor

încălnate, pe soluri molice profund pseudogleizate, adeseori slab scheletice cu umiditate abundantă, bogate în humus de tip mull.

Specia dominantă rămâne *Fagus silvatica*, cu înălțime de 24 m și cu o acoperire de 70-80%. Pe lângă speciile edificatoare, în stratul arborescent se întâlnesc și exemplare rare de *Acer pseudoplatanus*, *Picea abies*, *Abies alba*. În alcătuirea acestor fâgete sunt bine reprezentate speciile alianței ***Symphyto-Fagion***, ca și cele ale ordinului ***Fagetalia***. Releveele din tabelul 1 au fost efectuate în vara anului 2000 pe valea Rea, afluent al Prahovei, situat în munții Baiului.

Abundența populației de *Scopolia carniolica*, identificată și în alte masive din Carpații Românești, ne determină să descriem o nouă subasociație ***scopolietosum carniolice*** (holotypus hoc. Loco, Tab. 1, rel.1).

Amintim că o subasociație similară (***scopolietosum carniolicae***) a fost semnalată de Seghedin (1983) în cadrul ass. ***Phyllitidi-Fagetum*** Vida (1959) 1963, pe surducuri cu bolovănișuri calcaroase din munții Bucovinei.