

THE AMBIENTAL UNITS AND THE ANTHROPIC INFLUENCES IN GHIMBAV MASSIF (LEAOTA MOUNTAINS)

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Abstract: This paper deals with information on the geomorphology, pedology, vegetation, anthropic influences of the principal stations which are distinguished in the Ghimbav mountains.

The investigated area stretches to North-Western side of Leaota massif.

In accordance with geological substratum, relief, soil and types of vegetation were identified sixteen ambiental unit which may be reference point in the next studies of the vegetal landscape.

The principal phytocenosis were identified in this territory are affiliated to next classes: *Asplenietea trichomanis*, *Thlaspietea rotundifolii*, *Seslerietea albicantis*, *Festuco-Brometea*, *Scheuchzerio-Caricetea nigrae*, *Artemisietea vulgaris*, *Molinio-Arrhenatheretea*, *Quercu-Fagetea*, *Erico-Pinetea* and *Vaccinio-Piceetea*.

Introduction

The investigated area stretches to North-Western side of Leaota massif, being bordered upon Cheia Valley in North, Ghimbav Valley in South, Rudăriței Valley in East and Dâmbovița river in West. In this area, the tributary streams of Dâmbovița river: Ghimbav and Cheia have formed a quay system to Dâmbovița confluence, around Ghimbav mountain: Cheia, Ghimbav, Rudăriței quays.

The relief is represented by titonic limestones of the Jurassic age, which are covered with wooden vegetation and meadows.

The soils belongs to rendsina types have envolved to brown rendsinas, acid brown - yellowish soils etc.

The altitudes variate between 750 m.s.m. (Cheia Valley, Ghimbav Valley) and 1400-1500 m.s.m. (Ghimbav mountain, Zacotelor peak).

In the studied area were identified phytotaxons which belongs to the forest vegetation (beech forest or in coniferous mixture), montaneous meadows, rocky vegetation and fragmentary phytocoenosis with *Pinus sylvestris*.

Material and Methods

Characterization of the ambiental unit in point of lithological, pedological was made up according to information in the literature. The type and subtype of the stations and soils, which are in this unit are taking according to geomorphological and pedological maps (Fig. 1).

The botanical information are taking during the investigation period "in situ", as well as information from the papers by: Beldie (1967), Diaconescu (1971,1973), Sanda and Popescu (1993,1995), Alexiu (1994,1998).

Results and Discussions

The results of the of the study from the area are synthetised in table 1 and figure 1.

Table 1: The ambient units and the anthropic influences in Ghimbav mountains

Unit (code)	Type of resort	Type of substratum	Pedology	Characterization	Vegetation	Significant species	Human influence
2.1.2.0.	Mountain resort with rocky spruce forest and excessive erosion	Calcareous or siliceous substratum.	Litsoils	Non-involved soils with incipient pedogenetical process. The presence of the hard rock or of the rock in the shape of big fragments at the surface, a small reserve of humus and nutritive substances is typical of them.	<i>Sesleria rigidae-Pinetum sylvestris</i>	<i>Sesleria rigida, Pinus sylvestris, Dianthus tenuifolius, Carex humilis</i>	-
2.3.1.2.	Mountain resort with podsollic spruce forest, II	Calcareous substratum; detrital deposits	Brown – eumeso-basic soil	Less envolved soils with an A well structured layer.	<i>Gymnocarpium robertianae, Thymetum comosi</i>	<i>Gymnocarpium robertianum, Thymus comosus</i>	-
2.3.2.2.	Mountain resort with acid spruce forest, with moder	Siliceous substratum	Brown-podsolic soils	It represents a phase in the evolution of the brown acid soil with moder to podsolic soil.	<i>Vaccinio-Pinetum sylvestris</i>	<i>Pinus sylvestris, Vaccinium myrtillus V. vitis-idaea, Iris ruthenica</i>	-
2.3.3.3.	Mountain resort with brown spruce forest, with mull, I	Calcareous substratum	Brown-eumeso-basic soil	Less envolved soils with an A well structured layer.	<i>Leucanthemo waldsteinii-Piceetum</i>	<i>Leucanthemum waldsteinii</i>	-
2.6.3.0.	Mountain resort with alluvial spruce forest	Calcareous substratum	Gleyey soils, alluvial soils	Less envolved soils with an A well structured layer.	<i>Carici flavae-Eriophoretum latifolii, Telekio-Petasitetum hybridi, Telekio-Alnetum incanae</i>	<i>Carex flava, Telekia speciosa</i>	Buildings temporarily inhabited (chalets, vila)
3.1.2.0.	Mountain resort with rocky Mixture	Siliceous substratum	Litsoils	Non-involved soils with incipient pedogenetical process.	<i>Asplenio-Poëtum nemoralis</i>	<i>Asplenium trichomanes, Poa nemoralis, Campanula carpatica, Saxifraga cuneifolia, Thymus comosus</i>	-
3.2.1.0.	Mountain resort with rendzinic mixture, III	Calcareous substratum	Rendsinas	The inferior part of the mountainside.	<i>Festuco rubrae-Agrostietum, Asperulo capitatae-Seslerietum rigidae, Symphyto-Fagetum</i>	<i>Festuca rubra, Agrostis capillaris, Symphytum cordatum, Asperula capitata</i>	-

3.3.1.2.	Mountain resort with podsollic mixture, II	Calcareous substratum	Brown-eumesobasic soil	Less envolved soils with an A well structured layer.	<i>Leucanthemo waldsteinii-Piceetum</i>	<i>Fagus sylvatica</i>	-
3.3.2.2.	Mountain resort with acid mixture and moder, II	Calcareous or siliceous substratum	Brown acid soils	Accumulation of moder and acid humus with a lot of undecomposed organic material.	<i>Hieracio rotundati-Piceetum,</i> <i>Leucanthemo waldsteinii-Piceetum</i>	<i>Picea abies, Hieracium rotundatum,</i> <i>Leucanthemum waldsteinii</i>	Timber station
3.3.3.1.	Mountain resort with brown mixture mull, III	Calcareous substratum	Brown-eumesobasic soil	Less envolved soils with an A well structured layer.	<i>Leucanthemo waldsteinii-Fagetum</i>	<i>Leucanthemum waldsteinii,</i> <i>Picea abies,</i> <i>Fagus sylvatica</i>	Buildings temporarily inhabited (chalets,vila)
4.1.2.0.	Mountain resort with rocky beech forest	Calcareous substratum	Litosoils	Non envolved soils with incipient pedogenetical process.	<i>Asplenio-Cystopteridetum fragilis</i>	<i>Asplenium viride,</i> <i>Campanula carpatica,</i> <i>Hepatica transsilvanica,</i> <i>Aconitum moldavicum,</i> <i>Cortusa matthioli</i>	-
4.2.1.0.	Mountain resort with rendzinic beech forest, III	Calcareous substratum	Rendsinas	Less envolved soils with an A well structured layer.	<i>Melico-Phleetum montani</i>	<i>Phleum montanum,</i> <i>Melica ciliata</i> var. <i>flavescens</i>	-
4.2.2.0.	Mountain resort with rendzinic beech forest, II	Calcareous substratum	Brown-eumesobasic soil	Accumulation of lime-stone dark humus	<i>Symphyto cordati-Fagetum</i> <i>Phyllitidi-Fagetum</i>	<i>Symphytum cordatum,</i> <i>Asplenium scolopendrium</i>	-
4.4.1.0.	Mountain resort with brown beech forest, III	Calcareous substratum	Brown-eumesobasic soil	Less envolved soils with an A well structured layer	<i>Symphyto cordati-Fagetum</i> <i>Telekio-Alnetum incanae</i>	<i>Symphytum cordatum,</i> <i>Telekia speciosa</i>	Timber station
4.4.2.0.	Mountain resort with brown beech forest, II	Calcareous substratum	Brown-eumesobasic soil	Less envolved soils with an A well structured layer.	<i>Symphyto cordati-Fagetum</i> <i>Phyllitidi-Fagetum</i>	<i>Symphytum cordatum,</i> <i>Asplenium scolopendrium</i>	-
4.4.3.0.	Mountain resort with brown beech forest, I	Calcareous substratum	Rendsinas, brown-eumesobasic soil	Accumulation of lime-stone dark humus.	<i>Symphyto cordati-Fagetum</i>	<i>Fagus sylvatica,</i> <i>Symphytum cordatum</i>	Timber station

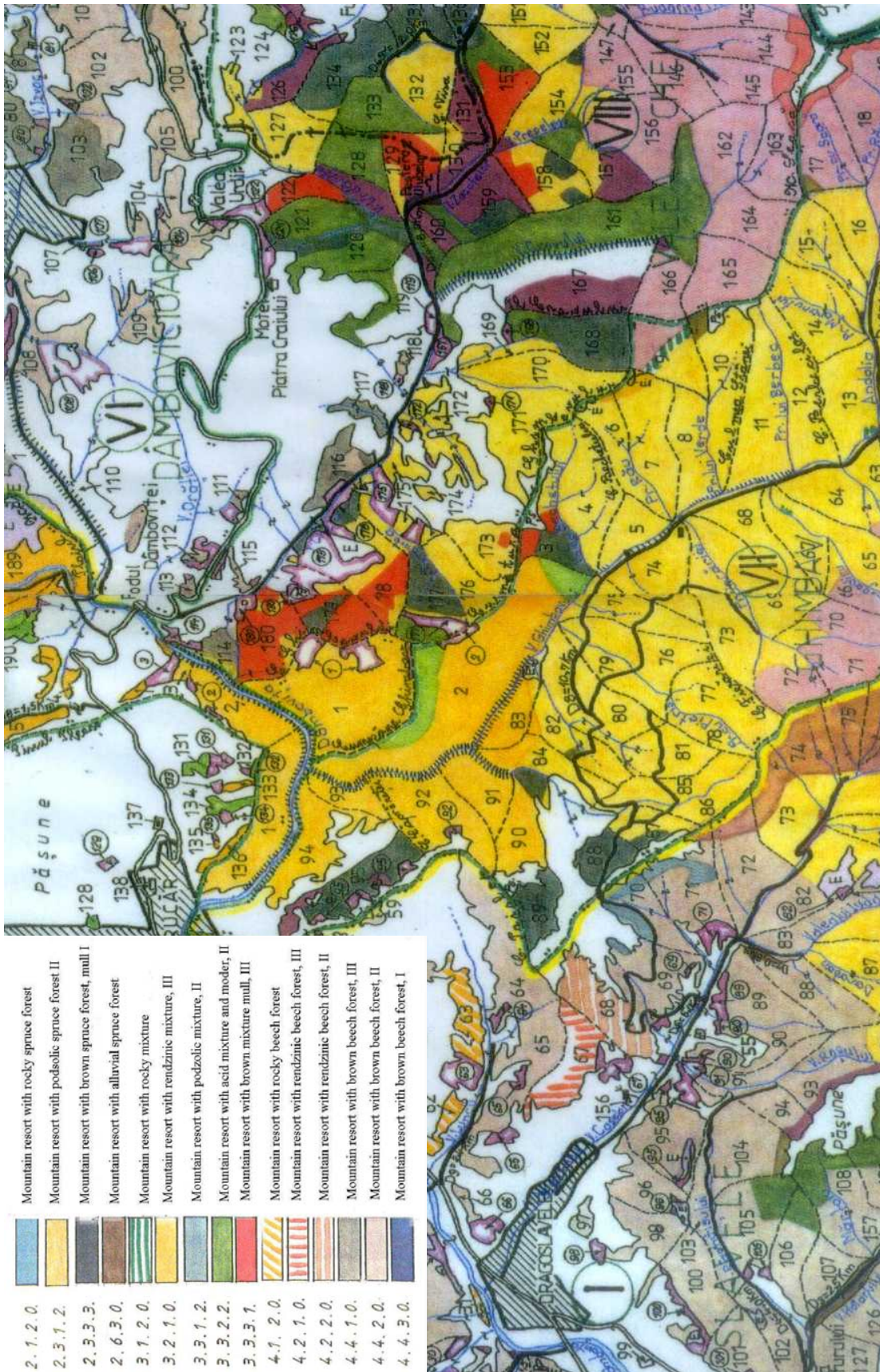


Fig. 1: Type resort (Scale 1:50.000)

Summary of identified associations:

- ASPLENIETEA TRICHOMANIS** (Br.-Bl. in Meier et Br.-Bl. 1934) Oberd. 1977
 POTENTILLETALIA CAULESCENTIS Br.-Bl. 1926
Cystopteridion fragilis J.L. Richard 1972
 1. - *Asplenio-Cystopteridetum fragilis* Oberd. (1939) 1949
 - *campanuletosum carpaticae* (Sanda & al. 1977) Coldea 1991
 ANDROSACETALIA VANDELII Br.-Bl. 1934
Androsacion vandellii Br.-Bl. 1926
 2. - *Asplenio trichomani-Poëtum nemoralis* Boşcaiu 1971
- THLASPIETEA ROTUNDIFOLII** Br.-Bl. 1926
 THLASPIETALIA ROTUNDIFOLII Br.-Bl. 1926
Achnatherion calamagrostis Br.-Bl. 1918
 3. - *Gymnocarpietum robertianae* Kuhn 1937, Tx. 1937
 4. - *Thymetum comosi* Pop et Hodişan 1963
- SESLERIETEA ALBICANTIS** Br.-Bl. 1948 em. Oberd. 1978
 SESLERIETALIA ALBICANTIS Br.-Bl. 1926
Seslerion rigidae Zóly. 1939
 5. *Asperulo capitatae-Seslerietum rigidae* (Zóly. 1939) Coldea 1991
- FESTUCO-BROMETEA** Br.-Bl. & Tx. 1943
 FESTUCETALIA VALESIIACAE Br.-Bl. & Tx. 1943
Seslerio-Festucion pallentis Klika 1931
 6. *Melico-Phleetum montani* Boşcaiu & al. 1966
- SCHEUCHZERIO - CARICETEA NIGRAE** (Nordh. 1937) Tx. 1937
 TOFIELDIETALIA Prsg. ap.. Oberd. 1949
Caricion davallianae Klika 1934
 7. *Carici flavae-Eriophoretum latifolii* Soó 1944
- ARTEMISIETEA VULGARIS** Loh., Prsg. et Tx. 1950
 GLECHOMETALIA HEDERACEAE Tx. in Tx. & Brun-Hool 1975
Aegopodion podagrariae Tx. 1967
 8. *Telekio-Petasitetum hybridi* (Morariu 1967) Resm. & Raţiu 1974
- MOLINIO-ARRHENATHERETEA** Tx. 1937
 ARRHENATHERETALIA Pawl. 1928
Cynosurion R. Tx. 1947
 9. *Festuco rubrae-Agrostietum capillaris* Horvat 1951
- QUERCO - FAGETEA** Br.-Bl. & Vlieg. 1937
 FAGETALIA Pawlowski 1928
Alno - Ulmion Br.-Bl. & R. Tx. 1943 em. Müll. & Görs 1958
 10. *Telekio speciosae-Alnetum incanae* Coldea (1986) 1990
Symphyto-Fagion Vida 1959
 11. *Symphyto cordati-Fagetum sylvaticae* Vida 1959, 1963
 12. *Leucanthemo waldsteinii-Fagetum* (Soó 1964) Täuber 1987
 13. *Phyllitidi-Fagetum sylvaticae* Vida (1959) 1963
- ERICO - PINETEA** Horvat 1959
 ERICO - PINETALIA Horvat 1959
Seslerio rigidae - Pinion Coldea 1991
 14. *Seslerio rigidae-Pinetum sylvestris* (Csüros & Spârchez 1963) Csüros & al. 1988
- VACCINIO - PICEETEA** Br.-Bl. & al. 1939
 VACCINIO-PICEETALIA Br.-Bl. 1937 in Br.-Bl. & al. 1939
Piceion excelsae Pawl. in Pawl. & al. 1928

15. *Hieracio rotundati-Piceetum* Pawl. & Br.-Bl. 1939

16. *Leucanthemowaldsteinii-Piceetum* Krajina 1933

Conclusions

Mountaneous level is the best represented in this territory. In this area we can see many type of stations according to potential zone forest and herbaceous vegetation.

In this zone of contact between Oriental and Meridional Carpathians, the petrographic sublayer is represented by titonic limestone.

The soils which are characteristic in this area belongs to rendsinas, brown eumesobasic soils, litosoils etc.

The vegetal layer is represented by the beech forest or with coniferous mixture, montaneous meadows, rocky phytocoenosis and pine forest.

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UNITĂȚILE AMBIENTALE ȘI INFLUENȚELE ANTROPICE ÎN MASIVUL GHIMBAV (M-ȚII LEAOTA)

(Rezumat)

În lucrare sunt prezentate informații privind geomorfologia, pedologia, vegetația și unele influențe antropice, precum și principalele tipuri de unități ambientale, evidențiate în Masivul Ghimbav.

Masivul Ghimbav este localizat în partea nord-vestică a Munților Leaota, fiind singurul segment calcaros al acestora. Este un carst de calcare jurasice, acoperite în mare parte cu vegetație lemnoasă și de pajiști. În masiv predomină solurile rendzinice, care evoluează spre soluri brune de pădure, acide etc. Influența antropică este moderată, existând în zonă puține construcții și exploatații forestiere.

Luând în considerare substratul geologic, relieful, solul și tipurile de vegetație s-au identificat 16 unități ambientale (Tab. 1, Fig. 1), care pot constitui repere în viitoarele studii de peisaj și care se suprapun, în mare parte cu asociațiile identificate.

Principalele tipuri de fitocenoze identificate în teritoriul studiat se încadrează în clasele: *Asplenieta trichomanis*, *Thlaspieta rotundifolia*, *Seslerieta albicans*, *Festuco-Brometea*, *Scheuchzerio-Caricetea nigrae*, *Artemisietea vulgaris*, *Molinio-Arrhenatheretea*, *Quercu-Fagetea*, *Erico-Pinetea* și *Vaccinio-Piceetea*.