SOILS AND FOREST VEGETATION SPECIFIC TO THE LACUL 3 APE – GARANA AREA (COUNTY OF CARAS-SEVERIN)

SOLURILE ŞI VEGETAŢIA FORESTIERĂ SPECIFICĂ – LACUL 3 APE – GĂRÂNA, JUDEŢUL CARAŞ- SEVERIN

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***Abstract**: The parental substratum of Trei Ape is made up of mica shales and paragneiss that cover the facies of amphibolites with granites and the facies of green shales with chlorite biotite, and the crystalline shales in which there are intrusions of granodiorites and granitoides. These rocks are mainly little breakable rocks. The lithological substratum generated in the area districambosoil. The geological substratum is considered to have medium to low resistance to erosion and has effects on the geo-morphology of the territory*

***Rezumat**: Substratul parental al unităţii de producţie a IX Trei Ape este format din: micaşisturi, şi paragnaise care îmbracă faciesul amfibolitelor cu granate şi faciesul şisturilor verzi cu clorit şi biotit; şisturi cristaline în care se întâlnesc intruziuni şi granodiorite şi granitoide. Aceste roci sunt în marea majoritate roci de, relative puţin friabile. Substratul litologic a generat în această zonă districambosolulurile. Substratul geologic este considerat de rezistenţă mijlocie-slabă la eroziune şi are effect asupra geomorfologiei teritoriului*

***Key words**: forest vegetation, soil, arboretum*
***Cuvinte cheie**: vegetaţie forestieră, sol, arboret*

INTRODUCTION

The studied territory is located in SE Semenic Mountains, in the upper basin of the Timis River.

The geo-morphological characteristic unit is wide, linear, slightly waved slope.

From an altitudinal point of view, the territory is located between 840 and 1,250 m.

MATERIAL AND METHOD

In order to assess the volume of the arboreta and the distribution of the trees per diameter classes we have carried out integral inventories or inventories through test-areas – circles with variable ray of an area of 500 m^2.

RESULTS AND DISCUSSION

The vegetation period characterised by daily mean temperatures higher than 10^0C varies between 160 and 170 days, and ranged within May 21 and November 1. This duration is characteristic to the Banat area, i.e. to south-western Romania, being, in general, 10-20 days longer than in other mountain areas in the country.

Table 1

Analysis bulletin

Tipul de sol Soil type	Orizont Horizon	Adâncime Depth (cm)	Umiditate Humidity %	pH	Humus %	SB me%	SH me%	T %	V %	Azot total Total nitrogen g%
Districambosoil	Ao	5-10	3.738	4.10	3.269	6.998	12.915	19.913	35.14	0.168
	Ao/Bv	20	3.657	4.03	2.833	6.650	11.752	18.402	36.13	0.145
	Bv	25-40	2.773	4.76	1.795	5.774	8.558	14.332	40.28	0.092

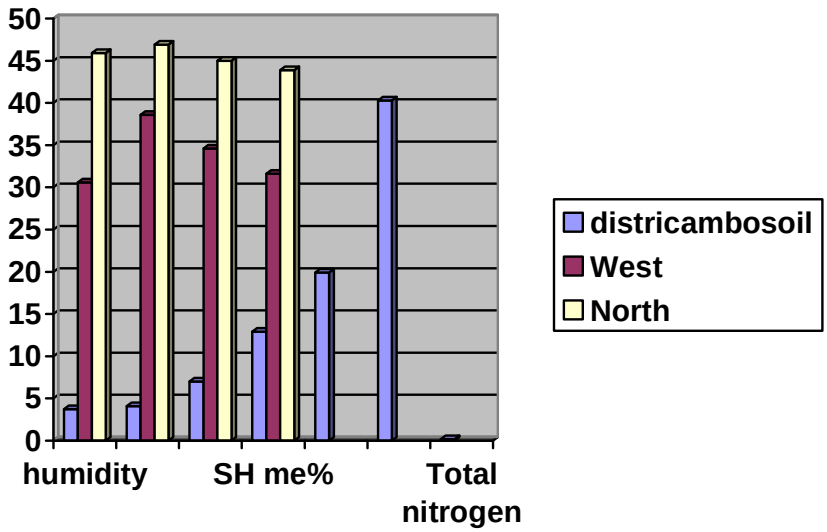

Fig.1 Analysis bulletin

Table 2

Types of stations per assessment categories

No.	Type of station		Area		Assessment categories		
	Code	Diagnose	ha	%	High	Medium	Low
1.	4.4.2.0	Beech mountain pre-mountain with Asperula-Dentaria	771,2	65	-	771,2	-
2.	4.4.3.0	Beech mountain pre-mountain Bm, with Asperula-Dentaria Bs,	423,3	35	4723,3	-	-
Total		ha	1194,5	-	423,3	771,2	-
		%	-	10	35	65	-

Districambosoil has been identified on the slopes with variable exposition.

The lithological substratum on which has developed this type of soil is represented by mica shales and paragneiss.

The humid and cool climate together with the parental material poor in calcium and ferro-magnesic minerals have favoured soil acidification.

In these conditions, micro organism activity is low, the changing of organic debris is slower, and newly formed organic acids do not undergo a process of mineralization as intense as in the case of eutricambosoils.

In these conditions, soil solution is more concentrated in organic acids and the pH and base saturation degree have lower values

Physical and chemical features and the thermal, air, and water regimes are favourable.

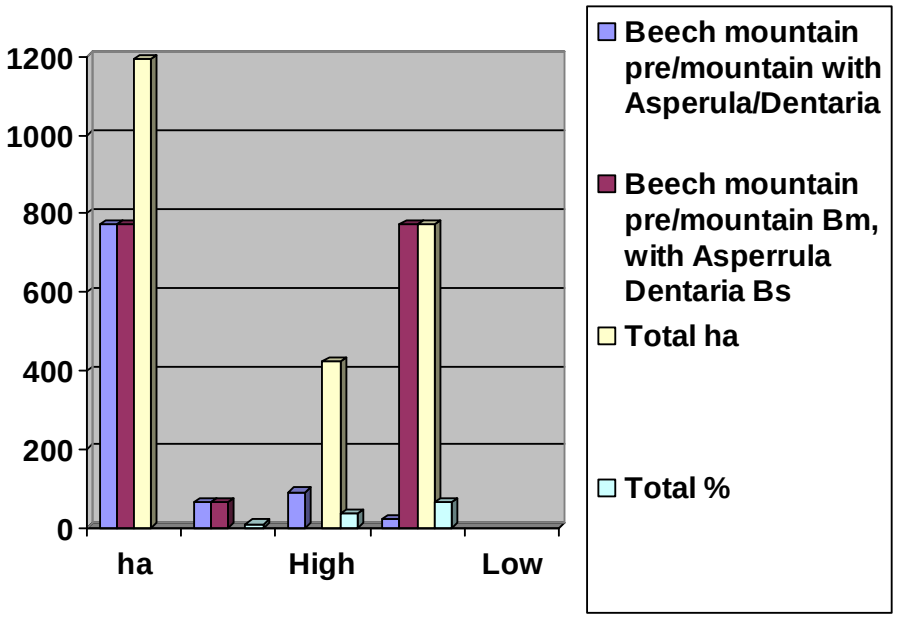

Fig. 2 Types of stations per assessment categories

Humus content of the horizon Ao is high, and humus is of the moder type.

The base saturation degree is sub-medium, activity is strong and very strong, and total nitrogen supply is very good.

There are soils from medium to very deep and from poor skeleton to skeleton.

Fertility is high when the useful edaphic volume is at least medium, or medium when physiological thickness is low or sub-medium.

The geological substratum is considered to have medium to low resistance to erosion and has effects on the geo-morphology of the territory.

In the case of a medium or high edaphic volume, assessment is high for spruce and fir and medium to high for beech.

The smaller the depth of the soil, the lower the productivity of the arboretum.

Depending on productivity, arboreta can be grouped into:

- high productivity arboreta – 423,3 ha – 35%;
- low productivity arboreta – 771,2 ha – 65%.

Total - 1194,5 ha – 100%

Arboreta productivity is well correlated with station assessment, which is 35 superior, 65% medium.

CONCLUSIONS

Determining the elements characterising the arboreta was done through direct observation and measurements with respect for present technical norms.

In each arboretum we have made measurements of samples to determine mean age, diameter and height.

In each manageable unit we have carried out a control profile. In 12 manageable units, we carried out main soil profiles.

As for the altitude distribution of the forest vegetation at Trei Ape, it is spread on a single phyto-climate level: the mountain-premountain beech level (FM1-FD4).

Due to the fact that the entire area of the production unit is 99% covered by arboreta made up of native species (such as beech) and introduced species (resinous), that valorise the existing station conditions and having a higher soil coverage degree (consistency 0.82%), the entire amount of water from precipitations is kept constant (low evaporation).

In addition, water is clear, non-polluted, and in sufficient amount for the forest development and for a sufficient supply of the reservoir lake.

The parental substratum of Trei Ape is made up of mica shales and paragneiss that cover the facies of amphibolites with granites and the facies of green shales with chlorite biotite, and the crystalline shales in which there are intrusions of granodiorites and granitoides

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