ESTABLISHMENT AND EVOLUTION OF NATURAL VEGETATION ON ABANDONED AGRICULTURAL FIELDS IN THE SUPERIOR BASIN OF THE BEGA RIVER BETWEEN MARGINA AND ROMANESTI (TIMIS DEPARTMENT)

INSTALAREA ŞI EVOLUŢIA VEGETAŢIEI NATURALE PE TERENURILE AGRICOLE ABANDONATE DIN BAZINUL SUPERIOR AL RÂULUI BEGA CUPRINS ÎNTRE LOCALITAŢILE MARGINA – ROMÂNEŞTI (jud. TIMIŞ)

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Abstract: *In this paper we approach an issue of importance in ecological reconstruction related to the dynamics of plant species on fallows in the Margina – Romanesti area (Timis County). The area under study covers 225 km^2 if we take into account all the fallows aged 1-7 after grain or tillage crops. In the study of the flora we used the two steps – field and lab – and phyto-coenologic research in the area are based on the principles of the Central-European floristic school with broad application in the study of the vegetal cover in Europe and applied for the first time in Romania by Borza (1984). As a result of the study on the sampling areas we managed to inventory the superior plant species on the fallows and the characteristics of the flora and vegetation (number of families, number of species, height of the vegetal cover, stratification, and mosaic-like configuration), and phyto-geographical, biological, ecological, and economic indices. In this paper we also refer to the evolving trends of the phyto-coenoses, the changes it undergoes, its dynamics, and man-made activities.*

Rezumat: *In referatul de fată am atins o problemă actuală cea a reconstrucţiei ecologice legată de dinamica speciilor vegetale de pe terenurile agricole abandonate din zona Margina - Româneşti, judeţul Timiş. Suprafaţa luată in studiu are o dimensiune de 225 km^2, luând in calcul toate suprafeţele agricole abandonate de la 1 la 7 ani dupa culturi de păioase sau prăşitoare. In studiul florei am folosit cele doua etape, de teren şi de laborator, iar cercetările fitocenologice realizate in suprafaţa de studiu au la bază principiile şcolii fitocenologice floristice central europene cu larga aplicaţie in studiul covorului vegetal din Europa, aplicată pentru prima dată in România de Borza (1984). In urma studiului întreprins pe suprafeţele de probă s-a realizat conspectul speciilor de plante superioare de pe terenurile agricole abandonate din zona studiată, cât şi caracteristicile florei si vegetaţiei legate de, număr de familii, număr de specii, înălţimea covorului vegetal, stratificarea, mozaicarea cat si indicii fitogeografici, biologici, ecologici si economici. In lucrarea de faţă s-a facut referire şi la direcţiile evolutive ale fitocenozelor, transformarile suferite de acestea, dinamica cât si actiunile antropice.*

Key words: *Valorising fallows in the Margina-Romanesti, specific biodiversity, the ecology restauration, flora and vegetation.*
Cuvinte cheie: *Valorificarea terenurilor de la Margina-Româneşti, biodiversitatea specifica, restaurare ecologica, flora şi vegetaţie*

INTRODUCTION

This research continues other studies that were focused on general dynamics of vegetation and especially on dynamics of herb vegetation on abandoned agricultural land.

This research includes information and examples of other studies strongly related to

the issue of instalment of vegetation, its succession, dynamics of vegetation and biodiversity. In the hilly area of Faget and especially between Margina and Romanesti, many areas have been abandoned and are now out of the agricultural circuit as well as deforested areas. The causes of this abandon are various, from the anthropical ones (financial causes, aging of population, lack of tools, etc.) to natural causes (spring and autumn floods and summer intense heat).

It is very interesting how these areas have evolved as far as their vegetation dynamics and environment protection, establishment and enrichment of biodiversity and their re-integration in the agricultural circuit are concerned.

GEOGRAPHICAL LOCATION AND NATURAL ENVIROMENT

The area studied is situated in the hilly area of Banat, in the North-Eastern of Timis department, close to the border of Hunedoara an Arad departments. This area is located between two villages: Margina and Romanesti. The land that was studied has 225 km^2, and is relatively square 15 km x 15 km, delimited by the Faget Hills on North-West and by the Poiana Rusca Mountains on the South-East. The area is a depression surrounded by natural barriers of various sizes with altitudes between 500 and 800 m.

Geographical coordinates of this area are the 22° "Eastern meridian" and 45°50' "Northern parallel". The relief of this area is various with an average altitude of about 190-220 m compared to the Adriatic Sea, with mostly flat and hilly areas that ensure the passage to the mountainous relief. The area looks like a plain slightly bent to the South-West on the Bega River with river beds of the Bega Luncanilor and the Bega Poienilor rivers that join and form the Bega River.

From an ecological point of view, the area includes numerous meadows recently formed, each water course with particular aspects and characteristics related to the dynamics of its changes, climatic variations and tectonic movements, mainly the subsistence ones. In order to determine the genetic types of soils, we made 81 major profiles out of which about 53 were used as samples and analysed in the laboratory.

Considering these analyses and research, we identified seven genetic types of soils. 73% of soils belong to *argiluvosoils* group, where 57% are *luvosoils* (pseudoglazed), followed by *preluvosoils* with 16% and *cambisoils* with 26, most of them are *eutricambosoils*.

All soils have an acid reaction with a pH between 4.0 and 6.5. The accumulation indicators of the humus varies between low and moderate humus, mobile phosphates and changing potassium appear in reduced concentrations in all profiles and horizons Ao, Am, Bv, El, Bt. Parental materials of the soils generally have a medium fine granule-metric composition alternating with rough deposits. To the North and South limits of the plain, there are materials transported from the hills by a network of secondary rivers of torrential origin and deposited like dejection cones unified or superposed on several generations.

The temperature regime in the area presents mild winters with temperature that rarely reach -20°C, the general temperature average in January is -2°C. Springs are short and summers are very hot; the annual frequency of the days with very high temperature, over 30°C is low, 20 to 25 days, and there are 126-134 days per year with temperature over 15°C. The regime of precipitations in the area presents annual means of potential evapo-transpiration situated at the limit o 690 mm.

There is 700-800 mm/year average precipitation quantities, and only in rainy years this value is higher than 900-1000 mm/year and grows directly proportional with the altitude with about 100 mm to every 200 m. There are about 125-130 rainy days per year. Abundant spring rains cause significant floods and damages. The hydrographical network of the area is well represented by the Bega River and its affluents. The bed of the Bega River is 10-15 m and

its deposit meadow is 10-40 m wide with high flow fluctuations. The average multi-annual flow is 4.53 m^3. The maximum flows are registered during spring and the minimum flows in summer and early autumn.

MATERIALS AND METHODS

We established sampling areas in the field in the studied area. We started by recording fallows with the help of environmental points, then we recorded the fallows depending on the north-east geographical coordinates through GIS. Then, until plants started vegetation, we tried to find out from the locals the last year the lands were cultivated, the pre-emergent crops, and the years to go on as fallows.

Last but not least we inquired about the management of the lands (haymaking, grazing) of the areas.

After we got these data we systematically sampled the area on plots of 100 m^2 (10 m x 10 m) which we synthesised in our tables.

In each of the tables we recorded:

- the location – in relation to the neighbouring localities and to geographical coordinates;
- the altitude – in relation to the Adriatic Sea;
- the general covering – estimated in percentage;
- average height of the vegetation – measured in cm;
- period of fallowing – measured in years;
- the sampling area – measured in m^2;
- the time the study was carried out.

The distribution in the studied area of the sampling areas was meant to be as even as possible and to cover the entire area, without focussing on several sampling areas detrimental to other sampling areas.

The distribution of the fallows in the studied area is not even; we could notice that most fallows are concentrated towards the extremities of the localities, because of the long distance from the locality (implying more time, more transportation, more care, etc.) which made villagers prefer to work closer agricultural lands.

In order to edit our paper, we studied the biological material. Research concerning the flora had two steps:

- the field stage;
- the lab stage.

In the field stage we visited the area several times to find species in different development stages. We determined the plants and we made up the phyto-coenologic tables. In the field we used the "Flora mica ilustrata a Romaniei" de (CIOCÎRLAN 2000). In the processing of data we guided ourselves after the "Flora Romaniei" (vol I-XII).

After determining the species we developed the inventory of the vascular flora. In each species we mentioned indices referring to the phyto-geographic element and to the bioform of the species. We used the following terms in assessing the plant distribution over the area we studied.

The analysis of the flora was done from several points of view:

- Phyto-geographically (geographic spreading);
- Biologically (types of bioforms);
- Ecologically, as we took into account the behaviour of the species to the main ecological factors: moisture, temperature, and soil reaction (SANDA et al., 1983). Ecological categories are as follows: moisture indices (U), temperature indices (T), soil reaction indices (R).

- Economically, the share of the species relevant for the different sectors of socio-economic activity or for the plant parts we use. We have in mind the following economically relevant plant categories: food, feed, honey-making, medicinal, industrial, toxic, and decorative.

Phyto-coenological research in the studied area (the Faget Hills) are based on the floristic phyto-coenologic school principles, with broad application in the study of the vegetal cover in Europe, and applied for the first time in Romania by BORZA (1934).

This research school is based on the postulate according to which the floristic composition of a phyto-coenosis reflects the whole ensemble of ecological factors in the biota it covers and, therefore, it is this composition that we need to study. For this school, the basic unit in the study of the vegetal cover is the vegetal association.

Field studies were done by choosing samples (land areas) from the fallows with different years of fallowing and in different development stages within the vegetal cover with similar physiognomy and ecological conditions.

The areas of the samples was around 100-200 m^2. We present below a list of the species from the sampling areas with notes on their abundance and dominance and local frequency. The abundance and dominance is a quantitative phyto-coenologic index that shows the abundance of a species, i.e. the number of individuals and their dominance representing the covering degree of the area by those individuals.

Local frequency is another quantitative index used by the Romanian school of geobotany (BORZA & BOŞCAIU, 1965) supplying information on the frequency of individuals on a sampling area. In order to assess this index the sampling area must be divided into smaller units then they are granted degrees according to the 5 step scale.

RESULTS AND DISCUSSION

The results of this research are presented in the synthetic chart (chart 1) used for the study of vegetation on abandoned agricultural areas, with areas abandoned of more than 4 years.

Table.1

			Localitatea	Ma-Cu	Ma-Cu	Ma-Cu	Ma-Cu	Ma-Ro	Ma-Ro	Ma-Br
			Altitudinea (m)	189	189	190	182	190	192	186
			Coordonata geografica N	45°51'11"	45°51'06"	45°50'68"	45°52'56"	45°50'62"	45°50'49"	45°52'52"
			Coordonata geografica E	22°17'31"	22°17'44"	22°17'32"	22°17'93"	22°17'44"	22°17'12"	22°17'44"
			Acoperirea generala (%)	75	85	85	85	95	80	75
			Inaltimea vegetatiei (cm)	60	100	20	25	200	200	150
			Abandonarea cult. in (ani)	4	4	4	5	7	7	7
			Modul actual de exploatare	Cosit	Necosit	Cosit	Cosit	Necosit	Necosit	Necosit
			Suprafata releveului (m^2)	100	100	100	100	100	100	100
			Data	8.08	8.08	12.08	17.08	11.05	11.05	11.05
U	T	R	Numarul releveului:	4.	5.	9.	11.	13.	14.	15.
3	0	0	*Achillea millefolium*	1\2	+\1	1\1	+	+\1	+	
2,5	3	4	*Agrimonia eupatoria*			+				
0	0	0	*Agropiron repens*	+\1		1\2	1\1			
4	0	0	*Agrostis stolonifera*	+		+				
0	0	0	*Agrostis tenuis*			+	+			
3,5	0	0	*Ajuga reptans*							+
3	4	0	*Amorpha fruticosa*					+		
0	0	0	*Antoxanthum odoratum*		+\1			+	+	
3,5	0	2,5	*Apera spica-venti*	+	+\1				+	
0	0	0	*Bromus hordaceus*		+			+\1		
2,5	4	4	*Bromus inermis*			+				
2	4	4	*Bromus sterilis*				+			
2,5	3	2	*Calamagrostis arundinacea*	+\1	+				+	
4	3	4	*Calystegia sepium*	+						
3	2,5	3	*Campanula patula*	+						
3	0	0	*Capsella bursa-pastoris*		+\1				+	
3	3	3	*Carpinus betulus*						1\1	1\1

4	3	4	*Carex vulpina*			+	+			
3,5	3	3	*Carum carvi*							+
2	4	4,5	*Centaurea orientalis*			+	+			
2,5	0	3,5	*Cerastium arvense*					+		
3	3,5	3	*Chrysanthemum vulgare*			+				
3	0	0	*Chrysanthemum leuchanthe.*							
2,5	3,5	4,5	*Cichorium inthybus*	+\1	+	+	+	1\2	+	
0	0	0	*Cirsium arvense*			+	+			
4,5	3	4,5	*Cirsium canum*	+		+	+			
0	0	0	*Convolvulus arvensis*		+			+	+	+
2,5	3	3	*Crataegus monogyna*					1\2		1\2
3	0	4	*Dactilis glomerata*		+\1			+	+	
2,5	3	0	*Daucus carota*		1\1			+\1		+
2	5	5	*Dianthus carthusianorum*							
3,5	3,5	4	*Dipsacus sylvestris*	+		+	+			+
2,5	3,5	0	*Draba verna*		+			+\1	+	
3	3	1,5	*Epilobium collinum*			+	+			
5	0	2	*Epilobium palustre*							+
3	3	0	*Equisetum arvense*		+	+	+	+	+	
4	0	4	*Erigeron annuus*			+	+	+		
2,5	0	0	*Erigeron canadensis*		+					
3,5	0	0	*Festuca pratensis*	+\1	1\2		+\1		+	
3	0	0	*Festuca rubra*				+	+		
2,5	4	4	*Fumaria schleicheri*	+						
3	0	3	*Galium mollugo*	+		+	+			
2,5	2,5	0	*Galium verum*	+		+	+	+		
3	3,5	0	*Geranium dissectum*		+					
4	3	4,5	*Geranium pratense*					+		
3,5	3	0	*Glechoma hederacea*		+			+	+	
4	4	0	*Glychyriza echinata*					+		
4,5	3	4	*Gratiola officinalis*			+	+			
2	3	2	*Gypsophila muralis*			+				
1,5	3	3,5	*Hieracium bauhinii*					+		
3,5	3	0	*Holcus lanatus*	1\2	2\2	+	1\2	+		
3	3	0	*Hypericum perforatum*	+						+
4	3	4	*Juncus compresus*							
4,5	3	3	*Juncus conglomeratus*							
4,5	3	3	*Juncus effusus*	+		1\1	+			
3,5	3	4	*Juncus tenuis*							
2,5	3	0	*Knautia arvensis*							+
3	0	4	*Lamium purpureum*		+			+	+	
2,5	3	3	*Lathyrus niger*							
2	3,5	2	*Lathyrus nissolia*	+		+	+			
2,5	3	4	*Lathyrus sylvestris*			+	+			
3,5	3	4	*Lathyrus pratensis*					+		
2	4	4	*Lathyrus tuberosus*							
2,5	0	0	*Lotus corniculatus*			+	+	+		
3,5	2,5	0	*Lychnis flos-cuculi*							
4	3	0	*Lysimachia nummularia*	+	+	+	+	+	+	
5	0	0	*Lysimachia vulgaris*							
4	3	0	*Lythrum salicaria*		+	+	+		+	+
2,5	3	4	*Medicago lupulina*		+			+		
5	3	0	*Mentha aquatica*	2\2						+
4	3	0	*Mentha arvensis*					+		+
5	3	0	*Myosotis palustris*					+		
1,5	3	0	*Myosotis stricta*							
0	3,5	0	*Ononis spinosa*							+
4	3	3	*Oxalis acetosella*					+		
3	4	4	*Pastinaca sativa*		+			+		
5	3	0	*Peucedanum palustre*							+
1,5	3	4	*Picris hieracioides*			+	+			
3,5	0	4	*Pimpinela major*							
2	4	0	*Plantago indica*	+						
0	0	0	*Plantago lanceolata*		+	+	+	+		
2,5	0	4,5	*Plantago media*		+			+	+	
3	0	0	*Poa pratensis*		+			+	+	
3,5	3	3	*Populus alba*					+		
4	3	4	*Populus nigra*					+		
3	2	2	*Populus tremula*						1\2	
4	3	4	*Potentilla anserina*			+	+			+
1,5	3,5	4	*Potentilla erecta*							+
3,5	0	4	*Potentilla reptans*			+	+			
3	3	4	*Primula elatior*							+
3	3	4,5	*Prunela grandiflora*							
3	3	0	*Prunela vulgaris*	+		1\1	+			+
2	3	3	*Prunus spinosa*					+\1		2\2

3,5	3	0	*Quercus robur*					1\2	1\1	
3,5	0	0	*Ranunculus acris*	+\						
4	0	0	*Ranunculus repens*							+
3	3	4	*Ranunculus sardous*		+			+	+	
4	3	0	*Rumex crispus*			+	+			
3	4	0	*Rhinantus rumelicus*			+	+	+		
4	3	4	*Rorippa silvestris*	+	+			+	+	
2	3	3	*Rosa canina*							
4,5	3	4	*Rubus caesius*					+		
4	3	0	*Rumex crispus*	+	+			+		
4,5	3	4	*Salix fragilis*					+\1		+\1
5	3	0	*Salix triandra*					+\1		
4,5	3	4	*Solanum dulcamara*					+		
3	3	4	*Sonchus arvensis*							
4	3	0	*Symphytum officinale*		+					+
3	3	0	*Tanacetum vulgare*		+			+	+	
3	0	0	*Taraxacum officinale*		+			+		
3	3	0	*Trifolium campestre*	+\1						+
3	0	0	*Trifolium pretense*		+	+		+		
3,5	0	0	*Trifolium repens*		+			+		+
3	3	4	*Urtica dioica*							+
2	4	4	*Verbascum banaticum*					+		
3	3	4	*Verbena officinalis*							
2,5	3	3	*Veronica arvensis*		+				+	
3	0	0	*Veronica chamaedrys*		+				+	
4	3	4	*Veronica longifolia*			+	+			
3	0	4	*Veronica persica*					+		
3	0	3	*Vicia cracca*				+			
2,5	3,5	4	*Vicia hirsuta*						+	+
3,5	3	3	*Vicia tetrasperma*	+		+				+
3	3	0	*Viola arvensis*		+			+		
2,5	3	0	*Viola tricolor*							

On fallows aged 1-3 years after grain crops the following species predominate: *Holcus lanatus, Erigeron annuus, Matricaria inodara, Plantago lanceolata, Trifolium campestre, Ranunculus sardous.* From the ecological spectrum of these areas we can see that the phyto-coenoses have a meso-phytic, meso-dermous, and amphi-tolerant character.

In the case of the fallows aged 1-3 years, the dominant species are *Agropiron repens, Daucus carota, Holcus lanatus, Matricaria inodora, Calamagrostis arundinacea, Apera spica-venti, Achillea millefolium, Garțiola officinalis, Convolvulus arvensis* and the U, T, and R indices are slightly similar to the previous ones.

To note the plots on which in several years there are changes in the vegetal cover: on these fallows aged 4-7 previous species are still present, but there are also new species such as *Dipsacus sylvestris, Cichorium inthybus, Dactilis glomerata, Galium mollugo, Galium verum, Glechoma hederacea, Hipericum perforatum, Lisimachia numularia, Prunela vulgaris, Rhiantus rumelicus, Rumex crispus.* After 7 years of fallowing, there is also a tree and bush vegetation such as *Prunus spinosa, Quercus robur, Salix fragilis, Salix triandra, Fagus silvatica, Rosa canina,* etc.

We also present: *Study of cenotaxons for vegetal associations established on abandoned land after agricultural cultures in different periods.*

As far as the description and classification of vegetal association identified in the areas studied are concerned, we shall mention that we have grouped them separately in each of the following three sections: cereal cultures, weeding plants cultures and abandoned land of more than 4 years. This is why the phitocenological characterization within each section was made considering the vegetal associations found and identified, and there are some that are not named in the charts but are registered considering the associations they are included in.

Concerning vegetal associations found on areas cultivated with cereals, we identified the following vegetal associations including the following results:

1. as. *Cirsietum arvensi – lanceolati* Mititelu 1972 (1; 13)
2. as. *Erigero canadensis – Brachyactetum ciliatae* I. Pop et Vițalariu 1971 (7)

3. as. *Erigero – Lactucetum* Lohm. 1950 mscr. Apud Oberd. 1957 (9)
4. as. *Agropyretum repentis* Felfoldy 1942 (23)
5. as. *Holcetum lanati* Issler 1936 em. Pass. 1964 (2;5;14;22;25;28)
6. as. *Poetum pratensis* Răv., Căzăc. Et Turenschi 1956 (29; 30)
7. as. *Arrhenatheretum elatioris* Br.-Bl. ex Scherrer 1925 (8)
8. as. *Trifolio repenti – Lolietum* Krippelova 1967 (3; 18)
9. as. *Ranunculetum sardoi* (Oberd. 1957) Pass. 1964 (6; 27)
10. as. *Junco – Menthetum* Lohm. 1953 (19)
11. as. *Lolio – Plantaginetum majoris* (Linkola 1921) Beger 1950 (16; 21)
12. as. *Dauco – Matricarietum inodorae* I. Pop (1966) 1968 (4; 10; 11; 17; 15; 12; 20; 24; 26)

Concerning the phitocenoses found in the areas previously cultivated with weeding plants, we identified the following vegetal associations including the following results:

1. as. *Erigero – Lactucetum* Lohm. 1950 mscr. Apud Oberd. 1957 (3; 4)
2. as. *Agropyretum repentis* Felfoldy 1942 (6; 7; 26)
3. as. *Erigero canadensis – Brachyactetum ciliatae* I. Pop et (10)
4. as. *Dauco – Matricarietum inodorae* I. Pop (1966) 1968 (17; 18; 20; 24)
5. as. *Plantagini lanceolatae – Medicaginietum* (Balazs 1944) Soo (19; 23)
6. as. *Ranunculetum arvensis* Pass. 1964 (11)
7. as. *Holcetum lanati* Issler 1936 em. Pass. 1964 (14; 22; 25; 28)
8. as. *Lolio – Plantaginetum majoris* (Linkola 1921) Beger 1950 (30)
9. as. *Polygono avicularis – Matricarietum perforatae* Soran 1962 (16)
10. as. *Junco – Menthetum* Lohm. 1953 (27)
11. as. *Trifolio repenti – Lolietum* Krippelova 1967 (21)
12. as. *Ranunculetum sardoi* (Oberd 1957) Pass. 1964 (5; 8)
13. as. *Ranunculus repentis* Knapp1946 emend. Oberd 1957 (2)
14. as. *Scirpo – Phragmitetum* W. Koch 1926 (12)

Concerning the vegetal associations found in the areas not cultivated within the last four years, we identified the following vegetal associations including the following results:

1. as. *Lathyrus aphaca – Lathyrus tuberosus* (Kuhn 1937) Tx. 1950 (1)
2. as. *Dauco – Matricarietum inodorae* I. Pop (1966) 1968 (6; 12)
3. as. *Holcetum lanati* Issler 1936 em. Pass. 1964 (2; 4; 5; 7; 8; 11)
4. as. *Agrostidetum stoloniferae* (Ujvarosi 1941) Burduja 1956 (3; 10)
5. as. *Agropyretum repentis* Felfoldy 1942 (9)
6. as. *Salici – Populetum* (Tx. 1931) Mejer Drees 1936 (13)
7. as. *Pruno spinosae – Crataegetum* (Soo 1927) Hueck 1931 (15)

After mapping and sampling the fallows in the studied area we could see that there are 44 plant families with 271 species. The inventory of the superior plant species shows that the best represented families are Asteraceae with 44 species, Poaceae with 33 species and Leguminosae with 31 species. The vegetal cover is 80-100 cm high oscillating between 30 and 150 cm, quite mosaic-like and stratified.

CONCLUSIONS

The numerous socio-economical transformations that took place within the last 20 years deeply influenced the anthropical activity and the agricultural activities, with changes from an intensive agriculture to an extremely extensive agriculture on small areas and plots of land.

In the happiest case, the respective areas would change into lawns with minimum costs, by mowing and grazing, but we noticed that abandoned plots of land near villages are

preferred because of the distance and the small number of animals.

Currently, under the action of natural and anthropical factors we find the following cases, generally 60% of the abandoned agricultural areas are not interesting and are free to follow their natural succession course, and 40% of the areas are used in two ways.

Succession dynamics offer cases studied as far as phitocenoses are concerned but there were also possible cases that may be used for existing or future phitocenoses. Thanks to the data obtained following the study of succession and its interpretation we may find certain possible evolving directions for phitocenoses.

The main evolving direction of the vegetation in these areas appear after 7-8 years since the occurrence of bushy vegetation and in time, following the natural selection, with different vegetal forest associations considering the climatic conditions in those areas.

All these actions are directed and influenced by the characteristic vegetation of the region, with forests of *Quercus cerris, Quercus fernetto, Acer campestre, Acer tataricum, Tilia tomentosa, Carpinus betulus* or meadow oak trees like *Quercus robur, Fraxinus angustifolia, Ulmus minor, Aces campestre, Populus nigra* and in the areas near a river there are *Salix alba, Salix fragilis, Salix triandra, Populus nigra*, etc.

The study of biocenoses dynamics make us worry about the anthropical modifications suffered by biocenoses across time conducting as phitocenoses deregulations expressed in the worst case by the disappearance of the some vegetal species.

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