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ASSOCIATION *AEGOPODIO PODAGRARIAE-ALNETUM GLUTINOSAE* KARPATI ET JURKO 1961 WITH *VITIS SILVESTRIS* FROM BISTRIȚA RIVER MEADOW

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INTRODUCTION

At present, it is necessary to finalise the inventory of secular woody species with a significant historical cultural and scientific value, together with their protection, irrespective of their location within a Natura 2000 site or outside it. Their value can be better highlighted to the point of becoming tourist attractions and research objects.

MATERIAL AND METHOD

The current investigation was conducted according to the phyto-sociological method, completed with aspects of habitat monitoring.

RESULTS AND DISCUSSIONS

The vine specimen observed near the spring is located at 46º40' 36 94"N and 026º 49' 47 34"E. The basal part of this plant is 4 m long, over 15 cm thick and it is strongly twisted; next to it, there is a collapsed rotting specimen of *Salix fragilis*, which served as a support during its youth (Fig. 1). From this trunk start 3 main branches that will form upwards 5 ropes with thicknesses of 6-9 cm in the wood tissue and which have as support old specimens of *Alnus glutinosa*. From our observations, we believe that this vine is a male specimen of *Vitis vinifera ssp. silvestris*. It has purple leaves towards the end of the growing season, diaphragms at the nodes, brown marrow at thick shoots, round leaves with 3, rarely, 5 lobes and with epidermal hairs (tomentum) on the underside. The shoots at the top of the canopy are inaccessible for observations (9.08.2021). Information on this taxon can be found on the internet to complete the description from Flora României [Flora of Romania].

Its impressive thickness is also conferred by the permanently moist soil near the spring, which is a guarantee that the plant will continue to be in force in the following decades.

Fig. 1. *Vitis vinifera* ssp. *silvestris*, trunk and leaves (orig.)

The woody vegetation has the following classification:

- Class Querco-Fagetea Br.-Bl. Et Vlieger 1937
- Order Alno-Fraxinetalia (Oberd. 1953)Passarage et Hoffman 1968
- Alliance Alnenion glutinosae-incanae Oberd. 1953
- Associaţion *Aegopodio podagrariae-Alnetum glutinosae* Karpati et Jurko 1961

The alder grove presents thick trees between 20-60 cm and is located on a swamp formed by a stream on the SW slope of the upper terrace of Bistriţa River, which has a slope of 10º, near the country road that connects the villages of Gârlenii de Vale with Ciumaşi. The degree of completion of the canopy is 70-80%, the grass layer covers the soil about 50%, while the shrub layer has many specimens of different ages. The surface is about 1 Ha; among the alders, there are also very thick specimens of *Salix fragilis*, of which one reaches 140 cm thick and the dry one is almost 200 cm thick. *Alnus glutinosa* reaches maximum thickness, given that there are several 60 cm thick specimens, it has a very dense network of roots that raised the soil about 50 cm and that radically changed the composition of grass species.

The following species were identified: *Acer campestre* L., *Aegopodium podagraria* L., *Alnus glutinosa* (L.)Gaertn., *Arctium lappa* L., *Asarum europaeum* L., *Brachypodium sylvaticum* (Huds.)P. Beauv., *Campanula trachelium* L., *Carex remota* L., *Cornus mas* L., *Cornus sanguinea* L., *Circaea lutetiana* L., *Clematis vitalba* L., *Crataegus monogyna* Jacq., *Dipsacus pilosus* L., *Epilobium montanum L.,* *Euonymus europaeus* L., *Equisetum telmateja* Ehrh., *Festuca gigantea* (L.) Vill., *Geum urbanum* L., *Lapsana communis* L., *Glyceria notata* Chevall., *Lamium maculatum* (L.)L., *Ligustrum vulgare* L., *Lycopus europaeus* L., *Mentha longifolia* (L.) Hudson *ssp molissima* (Borch.) Dom., *Mycelis muralis* (L.)Dumort., *Polygonum mite* Schranck., *Prunus padus* L., *Pulmonaria rubra* Schott., *Ranunculus repens* L., *Rubus caesius* L., *Salix fragilis* L., *Sambucus nigra* L., *Solanum dulcamara* L., *Scirpus silvaticus* L., *Stachys palustris* L., *Stachys sylvatica* L., *Sium latifolium* L., *Trifolium repens* L., *Ulmus minor* Mill., *Urtica dioica* L., *Veronica anagalis-aquatica* L., V*itis vinifera* L. ssp *silvestris* (C.C. Gmel.) Hegi.

This place registers 11 woody species of which 2 are lianas, 22 are hemicryptophyte species, 3 geophytes; 2 terophytes, while other categories present one species each.

The distribution by geographical elements is as follows: 21 species are European-Asian, 8 European species, 2 Central European, 7 circumpolar, 1 Carpathian-Balkan, 1 Ponto-Mediterranean and 1 cosmopolitan.

In relation to the light factor, there is the following distribution: 2 species of shade (the most widespread is *Carex remota*), 10 species in the shade-semi-shade range, 7 species of semi-shade that support moderate shading (*Alnus glutinosa, Aegopodium podagraria, Equuisetum telmateja*, etc.), 5 species in the range of moderate and weak shading, 12 species that support weak shading (*Scirpus sylvaticus, Veronica anagalis-aquatica*, etc.), 3 species of light that support exceptional shading and only 1 species of light (*Dipsacus pilosus*) located at the edge. Therefore, most species are forest-type, with varying degrees of adaptation to shading.

Romania has a temperate continental climate, but northern cool climate species are better adapted to humid soil, and that is why there are 29 species indifferent to temperature fluctuations. There are 13 more species (*Rubus caesius*, etc.) that prefer the temperature range between temperate areas (hilly, mountainous) and warm areas (plains), 5 species (*Prunus padus*, etc.) characteristic of temperate zones, 4 species that have requirements similar to mountain plants and only one plain species. This distribution is suitable for a wet biotope from about 200 m from the hill area.

The humidity factor highlights the following indicator species: 4 species with preferences between dry and damp soil, located on the periphery of the alder grove, 11 species of damp soil, ie moderately moist soil, 7 species for the damp range, well drained but not wet, 4 species of damp-wet soil, 6 species for the range of damp and moist-wet but poorly aerated (*Salix fragilis*, etc.), 5 species of moist-wet soil, often poorly aerated, 2 species of flooded soil and only 4 species indifferent to moisture. All these species are adapted to a wetland that has a higher soil and implicitly drier at the periphery.

The p-H factor favours the following categories of indicator species: 21 euroionic species, 13 species of neutral p-H, 8 weakly acidic species to p-H neutral. Therefore, soils with excess moisture allow the proliferation of species with high tolerances to p-H.

The trophicity factor groups 7 euro-nitrophilic species, 3 species indicative of excessively rich nitrogen soil, 18 species indicative of nitrogen-rich soil, 10 species of soil with moderate to rich nitrogen content, 4 indicators of nitrogen-poor soil. We consider that the moist soil has in rotting a large amount of plant biomass and does not contain animal manure.

CONCLUSIONS

The area analysed is strongly exposed and ruderalized all around, only the swamp remained untrodden by cattle and sheep, while there are still visits of passers-by at the spring. Traces of wild boar are also present. It is a strongly anthropized area and

we believe that it will be the same in the future. Woody plants have a very high vigour and we believe that, in the coming decades, they will remain almost unaffected. It would be advisable for the specimens of black alder and vines to be in the special attention of the Fîntînele forest district and observed by the forester in the area in order to ensure an indirect protection.

ABSTRACT

This informative note brings to attention the existence of a very old specimen of wild vine, with a diameter at the wood tissue of 15 cm (the circumference with bark is 50-52 cm), which we consider secular and which can set a record.

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