THE PRESENCE OF THE *ROSA CANINA* IN DIFFERENT PLANT COMMUNITIES IN ROMANIA

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ABSTRACT

A principal objective of this study was to summarise the presence and distribution of the *Rosa canina* in the different plant communities in Romania. The *Rosa canina* species and its inter-taxa were identified in the 60 plant communities. The *Rosa canina* species and inter-taxa are included in various types of NATURA 2000 Habitats.

Rosa canina are characteristic for the alliances **Berberidion** Br.-Bl. 1950 (**Prunion spinosae** Soó (1930) n.n 1940). In this paper also are referenced of the corology, ecology, phytocoenologie of plant communities with *Rosa canina*, as well as their conservation status.

INTRODUCTION

Rosa canina L. (common name Wild rose, Thorn) is a shrub in the spontaneous flora of Romania. Taxonomic position: Rosaceae, Rosoideae, *Rosa* L. subgenus *Eurosa* Focke,section *Cinnamomeae* (DC.) Rehder. Section *Caninae* is very important in the subgenus *Eurosa*, which contains all but four of the approximately 150 *Rosa* species in the world (Tutin, T.G., (eds.), 1964–1980 & 1993). *Rosa canina* L. is a shrub with a height that varies between 2-3 m, rarely higher or lower (Ciocârlan, 2009). The *Rosa canina* species and its inter-taxa are found in deciduous forests, rare hardwood, edges and thinning of forests, clearings, on ribs, in addition to fences and roads, in pastures and hay fields. The *Rosa canina* species presents 55 inter-taxa: 8 varieties and 43 forms (Flora of Romania, vol. IV).

MATERIALS AND METHODS

The field research on the field was carried out between 1997-2014, during all seasons and having clearly defined itineraries. The research underpinned solid bibliographical documentation with respect to the physical and geographical environment: the relief, geology-lithology, types of rocks, hydrographic net, soils and the general and local climate. In order to identify the species and the inter-taxa, we looked into: *Romanian Flora*, vol. I-XII (1952-1976); *Flora Europaea*, vol. I-V (Tutin, T. G. et al., 1964-1980). For the study of the plant communities, we have used methods of phyto-sociologic research characteristic to the Central European phyto-sociologic School. The plant communities were identified and distinguished according to the characteristic, edifying, dominant and differential species. For the classification of the plant associations, we have used the synthesis papers on the Romanian or European vegetation, elaborated by G. Coldea (1986, 1991), D. Ivan – coordinator (1992), L. Mucina, G. Grabher & T. Ellmauer (1993), J.S. Rodwell, J.H.J. Schaminée, L. Mucina, S. Pignatti, J. Dring, D. Moss (2002) and in accordance weith the International Code of Phytosociological Nomenclature. 3rd edition (Weber et al., 2000).

The plant communities have been analyzed and characterized from the chorological, ecological point of views.

RESULTS AND DISCUSSION

During our study, we identified 60 plant communities who in their floristic composition the *Rosa canina* species or inter-taxa of this species (Tab. 1, 2). The plant communities examined with *Rosa canina* are divided into the following groups: forestry, shrublands, grasslands and ruderal. In the Romania, *Rosa canina* is found in natural communities (Rodwell, et al., 2000): in the pure beech forests - *Symphyto cordati-Fagetum* Vida (1959) 1963); in the mixed forests of beech and fir tree - *Pulmonario rubrae-Fagetum* (Soó 1964) Täuber 1987; in the alder tree groves - *Stellario nemori-Alnetum glutinosae* (Kärstner 1938) Lohm. 1957 and *Telekio speciosae-Alnetum incanae* Coldea (1986) 1990; in the underwoods edified by *Prunus spinosa* and *Crataegus monogyna*, in the *Coryletum avellanae* Soó 1927, *Pruno spinosae-Ligustretum vulgarae* Tx. 1952, *Salicetum albae* Issler 1924 (Sanda et al, 1997) (Fig. 1) ; in the meadows of *Festuca pratensis*, *F. valesiaca*, *F. rubra, Poa pratensis*, *Anthoxanum odoratum*; in the ruderal vegetation of *Agropyron repens*, *Cicuta virosa, Sambucus ebulus* (Fig. 2).

Rosa canina species and inter-taxa have been identified in different habitat types, in which they contribute to the ecological and coenotic integrity of plant assemblages. Out of 59 plant communities, the majority are included in various NATURA 2000 habitats types (Gafta, D. et al., 2008). The review of phytosociological data reveals the presence of the *Rosa canina* and its inter-taxa in 22 habitat types with scientific significance (Tab. 1, 2). Also *Rosa canina* characterize alliances **Berberidion** Br.-Bl. 1950 (**Prunion spinosae** Soó (1930) n.n 1940).

Fig. 1. *Rosa canina* in the *Salicetum albae* Issler 1924 plant community (foto M. Niculescu, Cîrcea, 2014)

Fig.2. *Rosa canina* in the *Sambucetum ebuli* (Kaiser 1926) Felföldy 1942 plant community (foto M. Niculescu, Caracal, 2014)

Table 1

The presence and distribution of the *Rosa canina* and its inter-taxa in the grasslands, shrublands and ruderal plant communities and Natura 2000 Habitats	
Plant communities Types	**Natura 2000 Habitat Types**
1. *Medicaginiminimae-Festucetum valesiacae* Wagner 1941; 2. *Botriochloëtum ischaemi* (Krist. 1937) pop 1977; 3. *Thymio pannonici-Chrysopogonetum grylli* Donita et al. 1992; 4. *Danthonio-Chrysopogonetum grylli* Boscaiu (1970) 1972; 5. *Poëtum pratensis* Ravarut et al. 1956 6. *Festucetum pratensis* Soó (1938) 1955, 1969 7. *Cirsio cani-Festucetum pratensis* Majovsky ex Ruzickova 1975 8. *Agrostio-Festucetum pratensis* Soo 1949; 9. *Agrostietum stoloniferae* (Ujvarosi 1941) Burduja et al. 1956; 10. *Arrhenatheretum elatioris* Br.-Bl. ex Scherrer 1925 11. *Agropyro repentis-Convolvuletum arvensis* Felföldy (1942) 1943 (Syn. *Agropyretum repentis* Felföldy 1942) 12. *Sambucetum ebuli* (Kaiser 1926) Felföldy 1942 13. *Prunetum tenellae* Soo 1947 typicum (Syn.: *Prunetum nanae* Borza 1931, *Amygdaletum nanae* Soo (1927) 1959)	1. 6240*- Sub-pannonic steppic grasslands]; CLAS. PAL.: 34.31; 2. 6440 - Alluvial meadows of river valleys of the *Cnidion dubii*; CLAS. PAL.: 37.23; 3. 6510 - Lowland hay meadows (*Alopecurus pratensis, Sanguisorba officinalis*); CLAS. PAL.: 38.2; 4. 40A0* -Subcontinental peri-Pannonic scrub] CLAS. PAL.: 31.8B12p, 31.8B13, 31.8B14, 31.8B3p

Table 2

The presence and distribution of the *Rosa canina* and its inter-taxa in the forestry plant communities and Natura 2000 Habitats	
Plant communities Types	Natura 2000 Habitat Types
1. *Festuco drymeiae-Fagetum* Morariu et al. 1968; *Hieracio rotundati-Fagetum* (Vida 1963) Tauber 1987 (Syn.: *Deschampsio flexuosae-Fagetum* Soo 1962); 2. *Carpino-Fagetum* Pauca 1941; *Galio schultesii-Fagetum* (Burduja et al. 1973) Chifu et Stefan 1994; *3.* *Carici brizoidi-Quercetum roboris* Rațiu et al. 1977; 4. *Carici pilosae-Carpinetum* Neuhausl et Neuhauslova-Novotna 1964 (Syn. *Carici pilosae-Carpinetum* Chifu 1995; *Carici pilosae-Quercetum petraeae* typicum Sanda et Popescu 1999, *Querco petraeae-Carpinetum* sensu auct., *Euonymo europeae-Carpinetum* Chifu (1995) 1997)**;** 5. *Convallario-Quercetum roboris* Soo (1939) 1957**;** 6. *Bromo sterilis-Robinietum* (Pócs 1954) Soó 1964**;**	1. 9110 - *Luzulo-Fagetum* beech forests; CLAS. PAL.: 41.11 ; 2. 9130 - *Asperulo-Fagetum* beech forests; CLAS. PAL.: 41.13; 3. 9160 - Sub-Atlantic & medio-European oak or oak-hornbeam forests of *Carpinion betulii*; CLAS. PAL.: 41.24 ; 4. 9170 - *Galio-Carpinetum* oakhornbeam forests; CLAS. PAL.: 41.261, 41.262; 5. 9190 - Old acidophilous oak forests with *Quercus robur* on sandy plains; CLAS. PAL.: 41.51 şi 41.54; 6. 91E0* - Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*); CLAS. PAL.: 44.3, 44.2 şi 44.13; 7. 91F0* - Riparian mixed forests of *Quercus robur, Ulmus laevis* and *Ulmus minor, Fraxinus excelsior* or *Fraxinus angustifolia* along the great

7. *Pruno spinosae-Crategetum* (Soó 1927) Hueck 1931**;**
8. *Pruno spinosae-Ligustretum vulgare* Tx. 1952 (*Euonymo-Prunetum-spinosae* (Hueck 1931) Tx. 1952 em. Pass. et Hofm.);
9. *Rubo plicatae-Prunetum spinosae* Web. 1974 em. Oberd.1992 (*Rubo-Coryletum* Oberd. 1957**);**
10. *Coryletum avellanae* Soó 1927**;**
11. *Telekio speciosae-Alnetum incanae Coldea* (1986) 1991;
12. *Stellario nemori-Alnetum glutinosae* (Kastner 1938) Lohmeyer 1957;
13. *Carici brizoides-Alnetum glutinosae* Horvat 1938 em. Oberd. 1953;
14. *Carici remotae-Fraxinetum* Koch ex Faber 1936;
15. *Pruno padi-Fraxinetum* Oberdorfer 1953;
16. *Salicetum fragilis* Passarge 1957;
17. *Salicetum albae* Issler 1924;
18. *Quercetum roboris-pedunculiflorae* Simon 1960;
19. *Fraxino pallisae-Quercetum pedunculiflorae* (Popescu et al. 1979) Oprea 1997;
20. *Corno-Quercetum pubescentis* Jakucs et Zolyomi ex Mathe et Kovacs 1962**;**
21. ***Aceri**tatarico-Quercetum pubescenti-roboris* Zolyomi 1957;
22. *Quercetum pedunculiflorae-cerris* Morariu 1944;
23. *Quercetum pedunculiflorae* Borza 1937**;**
24. *Quercetum frainetto-cerris* (Georgescu 1945) Rudski 1949**;**
25. *Aremonio agrimonioidi-Fagetum* Boscaiu 1971;
26. *Quercetum petraeae-cerris* **Só**o (1957) 1969 (including the subass. *tilietosum tomentosae* Pop et Cristea 2000);
27. *Cytiso-Quercetum cerris* Boşcaiu et al 1941**;**
28. *Aremonio-Quercetum petraeae* Hoborka 1980;
29. *Tilio argenteae-Quercetum petraeae*-cerris Soo 1957;
30. *Quercetum cerris* Georgescu 1941;
31. *Quercetum frainetto-cerris* (Georgescu 1945) Rudski 1949;
32. *Carpino-Quercetum cerris* Klika 1938 (Boscaiu et al. 1969);
33. *Quercetum frainetto* Paun 1964;
34. *Pulmonario rubrae-Fagetum* **(Só**o 1964) Tauber 1987 (inclusiv subas. *taxetosum baccatae* rivers (*Ulmenion minoris*); CLAS. PAL.: 44.4;
8. 91H0* - Pannonian woods with *Quercus pubescens*; CLAS. PAL.: 41.7373, 41.7374;
9. 91I0* - Euro-Siberian steppic woods with Quercus spp.; CLAS. PAL.: 41.7A;
10. 91K0 - Illyrian *Fagus sylvatica* forests(*Aremonio-Fagion*); CLAS. PAL.: 41.1C;
11. 91L0 - Illyrian oakhornbeam forests (*Erythronio-Carpinion*);CLAS. PAL.: 41.2A;
12. 91M0 - Pannonian-Balkanic turkey oak -sessile oak forests; CLAS. PAL.: 41.76;
13. 91V0 - Dacian Beech forests (*Symphyto- Fagion*);CLAS. PAL.: 41.1D2;
14. 91Y0 - Dacian oak-hornbeam forests; CLAS. PAL.: 41.2C ;
15. 91AA* - Eastern white oak woods; CLAS. PAL.: 41.7371, 41.7372;
16. 9260 - *Castanea sativa* woods; CLAS. PAL.: 41.9;
17. 92A0 - *Salix alba* and *Populus alba* galleries; CLAS. PAL.: 44.141, 44.162 şi 44;
18. 9410 - Acidophilous *Picea* forests of the montane to alpine levels (*Vaccinio-Piceetea*)]; CLAS. PAL.: 42.21 până la 42.23, 42.25

Comes et Tauber 1977); 35. *Leucanthemo waldsteinii-Fagetum* (Sóo 1964) Tauber 1987; 36. *Symphyto cordati-Fagetum* Vida 1959 (inclusiv subas. *taxetosum baccatae* Hodoreanu 1981); 37. *Phyllitidi-Fagetum* Vida (1959) 1963**;** 38. *Lathyro hallersteinii-Carpinetum* Coldea 1975; 39. *Tilio tomentosae-Carpinetum betuli* Donita 1968; 40. *Melampyro bihariense-Carpinetum* (Borza 1941) Soo 1964 em. Coldea 1975; 41. *Ornithogalo-Tilio-Quercetum* Dihoru 1976; 42. *Lathyro collini-Quercetum pubescentis* Klika 1932**;** 43. *Castaneo-Quercetum* Horvat 1938 44. *Genisto tinctoriae-Quercetum petraeae* Klika 1932**;** 45. *Salici-Populetum* Meijer-Drees 1936 46. *Hieracio rotundati-Piceetum* Pawl. et Br.-Bl.**;** 47. *Carpinetum orientalis* Rudscki ap. Horvat 1946**.**	

According to the geobotanical research in the upper basin of the Luncavăţ river, it has been noted that in the *Pruno spinosae-Crataegetum monogynae* (Soó 1927) Hueck 1931 plant community *Rosa canina* it is characterized by a big abundance-dominance and high constancy (Tab. 3). The underwoods edified by *Prunus spinosa* and *Crataegus monogyna* are frequently met in the hilly floor and with a less frequency in the lower mountain sub-floor (Niculescu, 2006).

The phytocoenoses of this plant community in meet at the edge of forests**,** on the slopes with varying exposure (Singuru Hill), but at the edge of rangelands (Horezu), at altitudes ranging between 480 m and 650 m (Niculescu, 2009).

Table 3

Ass. *Pruno spinosae-Crataegetum monogynae* (Soó 1927) Hueck 1931

No. of relevée	1	2	3	4	5	6	7	K
Altitude m.o.s. (x 10 m)	55	48	48	48	48	65	65	
Exposure	-	S	S	V	V	E	E	
Inclination (in grades)	-	5	5	15	10	15	10	
Canopy	100	90	90	100	100	100	95	
Sampling surface (m2)	50	100	50	100	100	200	200	
Char. ass.								
Crataegus monogyna	4	4	3-4	4	4	4	5	V
Prunis spinosa	2	1	2	2	2	1	+	V
Prunetalia et Prunion spinosae								
Rosa canina	1	1	1-2	1	2	2	1	V
Geum urbanum	+	+	+	-	+	+	+	IV
Ligustrum vulgare	+	-	+	+	1	+	-	IV

Fagetalia								
Fagus sylvatica (reg.)	-	+	-	+	-	-	+	III
Euphorbia amygdaloides	-	-	+	+	+	-	-	III
Viola reinchenbachiana	+	+	-	+	+	+	+	V
Rubus hirtus	-	-	-	-	+	+	+	III
Luzula luzuloides	-	+	1	+	+	1	1	V
Querco – Fagetea								
Campanula rapunculoides	-	-	+	-	+	+	-	III
Fragaria vesca	1	+	+	+	+	-	+	IV
Prunela vulgaris	+	+	-	+	-	-	-	III
Poa nemoralis	-	+	+	-	-	+	+	III
Moehringia trinervia	1	-	+	-	-	+	+	III
Variae Syntaxa								
Galium aparine	+	-	-	+	+	+	-	III
Urtica dioica	+	-	-	-	+-1	+-1	+	III
Geranium robertianum	-	+	+	-	-	+	+	III
Thynus pulegioides	-	+	+	+	+	+	+	V
Veronica chamaedrys	+	+	+	+	+	-	-	IV
Potentilla chyrsanta	-	-	-	+	-	+	-	II
Hypericum perforatum	+	-	-	+	-	+	-	III
Glechoma hederacea	+	+	1	+-1	+-1	+	+	V
Cruciata laevipes	-	+	+	+	+	-	+	IV
Viola tricolor	+	+	+	-	+	+	+	V
Stellaria media	+	+	+	+	-	-	+	IV
Ranunculus repens	+	+	+	+	+	+	+	V
Place and data of the relevés:**:** 1, 2 – Vaideeni, 7.VI.2014; 2, 3, 4, 5 - Horezu, 21.VI.2009, 6, 7 - Singuru Hill, 5.VI.2002 (M.Niculescu)								

CONCLUSION

In the present research work, is presented a study on the presence of *Rosa canina* in different plant communities in Romania. This plant communities is divided into the following groups: forestry, shrublands, grasslands and ruderal. The *Rosa canina* species and its inter-taxa were identified in the 59 plant communities. The *Rosa canina* species and inter-taxa are included in various types of NATURA 2000 Habitats. The review of phytosociological data reveals the presence of the *Rosa canina* and its inter-taxa in 22 habitat types with scientific significance. *Rosa canina* are characteristic for the alliances **Berberidion** Br.-Bl. 1950 (**Prunion spinosae** Soó (1930) n.n 1940).

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