MAPLE FORESTS OF THE MONTANE BELT IN THE WESTERN PART OF THE ILLYRIAN FLORAL PROVINCE

Petra KOŠIR*

Abstract: The work deals with the vegetation of maple forests of the montane belt of the Illyrian floral province in Slovenia. The Central European method was adopted, soil conditions were examined using representative soil profiles. Two associations were found: *Omphalado vernae-Aceretum pseudoplatani* P. Košir et Marinček 1999 with three subassociations *O.-A. dentarietosum pentaphylli* subass. nova, *O.-A. petasitetosum albi* subass. nova and *O.-A. typicum* subass. nova in the Dinaric region and *Chrysanthemo macrophylli-Aceretum pseudoplatani* (I. Horvat 1938) Borhidi 1965 with three subassociations *C.-A. scopolietosum carniolicae* subass. nova, *C.-A. abietetosum albae* subass. nova and *C.-A. petasitetosum hybridi* in the pre-Dinaric region of the western part of the Illyrian floral province. The associations dealt with were categorized into the alliance of Illyrian noble hardwood forests *Fraxino-Acerion* Fukarek 1969.

Izvleček: V delu smo obravnavnavali vegetacijo javorjevih gozdov gorskega pasu ilirske florne province v Sloveniji. Popisovali smo po standardni sredjeevropski metodi, talne razmere pa smo proučili s pomočjo reprezentančnih talnih profilov. Ugotovili smo dve asociaciji: *Omphalodo vernae-Aceretum pseudoplatani* P. Košir et Marinček 1999 s tremi subasociacijami *O.-A. dentarietosum pentaphylli* subass. nova, *O.-A. petasitetosum albi* subass. nova in *O.-A. typicum* subass. nova v dinarskem območju in *Chrysanthemo macrophylli-Aceretum pseudoplatani* (I. Horvat 1938) Borhidi 1965 s tremi subasociacijami *C.-A. scopolietosum carniolicae* subass. nova, *C.-A. abietetosum albae* subass. nova in *C.-A. petasitetosum hybridi* subass. nova v preddinarskem območju zahodnega dela ilirske florne province. Obravnavane asociacije so uvrščene v zvezo ilirskih gozdov plemenitih listavcev *Fraxino-Acerion* Fukarek 1969.

Key words: Slovenia, Illyrian floral province, noble hardwood forest, *Fraxino-Acerion*, synsystematics, forest vegetation, *Omphalodo vernae-Aceretum pseudoplatani*, *Chrysanthemo macrophylli-Aceretum pseudoplatani*
Ključne besede: Slovenija, ilirska florna provinca, gozd plemenitih listavcev, *Fraxino-Acerion*, sinsistematika, gozdna vegetacija, *Omphalodo vernae-Aceretum pseudoplatani*, *Chrysanthemo macrophylli-Aceretum pseudoplatani*

1. INTRODUCTION

In the territory of the Illyrian floral province maple forests of the montane belt used to be characterized with a single name, most commonly with *Aceri-Fraxinetum illyricum* (Tomažič 1939, M. Wraber 1960, Petračić & Anić 1952, Regula-Bevilacqua 1978), in Croatia also *Aceri-Fraxinetum croaticum* (I. Horvat 1938), which differentiated them from the related Central-European maple communities. In his graduation thesis, Piskernik (1954) presented maple stands of the montane belt together with the maple stands of the altimontane belt from the region of Mt. Javornik, Mt. Snežnik and the Trnovski gozd plateau with the name of *Aceri-Ulmetum*. In BH, on the border region of Illyrian floral province, Fukarek (1970) described the maple forest of the montane belt in the region of Peručica virgin forest reserve as *Aceri-Fraxinetum typicum*.

M. Wraber (1960) included all noble hardwood forests on carbonate, from the lower to the highest altitudes, into the association *Aceri-Fraxinetum il-*

* Institute of Biology, Scientific Research Centre of the Slovenian Academy of Sciences and Arts, Novi trg 2, p. b. 306, SI-1001 Ljubljana

lyricum. With later research, other authors excluded certain associations in the region of the Illyrian floral province from the above mentioned single Illyrian community of maple forests. The association *Hacquetio-Fraxinetum* (Marinček 1990, 1995, Poldini & Nardini 1993, P. Košir 2002, P. Košir 2004) on calcareous bedrock was thus described as a maple forest of the submontane belt, the association *Lamio orvalae-Aceretum* (P. Košir 2005b) as a maple forest of the altimontane belt, and on non-calcareous bedrock a maple association *Dryopterido affini-Aceretum* (P. Košir 2005a) was determined. In 1999 P. Košir & Marinček described two associations in the montane belt of the western part of the Illyrian floral province on carbonate, each with one relevé; *Omphalodo-Aceretum* in the Dinaric region and *Dentario polyphyllae-Aceretum* (syn.: *Chrysanthemo macrophylli-Aceretum*) in the pre-Dinaric region of the Illyrian floral province. In the montane belt of the sub-Mediterranean region of Slovenia the association *Corydalido ochroleucae-Aceretum* (Accetto 1991) was also described as a maple forest; after a thorough analysis and a synthetic study of Illyrian noble hardwood forests (P. Košir 2004), however, it was classified into the group of lime forests.

In this article, the two previously described associations *Omphalodo-Aceretum* and *Chrysanthemo macrophylli-Aceretum* will be thoroughly analysed and presented with analytic tables. Ecological conditions will be described by means of pedological profiles.

2. METHODS

The relevés were made applying the standard Central-European method (Braun-Blanquet 1964).

The collected vegetation relevés were organised together with the already published relevé material from the territory of the Illyrian floral province, and also some relevé material of similar vegetation from Central Europe, in the TURBOVEG database (Hennekens & Schaminée 2001). To process and analyse the phytosociological relevés and their syntaxonomic classification we used the principal coordinate analysis ordination method (PCoA) and hierarchical classification (Complete Linkage clustering) from the computer package SYN-TAX 2000 (Podani 2001). The dissimilarity coefficient was the similarity ratio.

When processing the vegetation relevés we used also the JUICE 6.1.10 (Tichý 2001) computer program to arrange the large phytosociological tables. When determining the diagnostic species we applied the measure of fidelity, which has become a frequently used method (Chytrý & al. 2002). The coefficient was used in the JUICE (Tichý 2001) program as it allows a comparison of species fidelity in datasets of different size. The species with the highest fidelity values were treated as diagnostic.

Species which occur only once in the table and with a small cover value were excluded from the table and are mentioned in Appendix.

The names of vascular plants follow the *Liste der Gefässpflanzen Mitteleuropas* (Ehrendorfer 1973), except for the genera *Stellaria* and *Helleborus* (Martinčič & al. 1999) and ferns (Kramer 1984). For the names of mosses we used the *Seznam listnatih mahov (Bryopsida) Slovenije* (Martinčič 2003).

The newly described syntaxa were named according to the *Code of phytosociological nomenclature* (Weber & al. 2000). The Code does not treat the syntaxa of the ranks such as geographical race, variant and subvariant, which means that there are no current rules for their denomination.

The soil conditions were studied with the representative soil profiles.

The soil profiles were described by Tomaž Prus, M.Sc., and the chemical analyses were conducted in the laboratories of the Pedology and Environment Protection Centre of the Biotechnical Faculty in Ljubljana.

Climatic conditions in separate regions follow Ogrin (1996). General information was supplemented with specific data on average temperatures of the coldest and the warmest months, as well as with information on average annual precipitation quantities as recorded in meteorological stations closest to our relevés in a specific phytogeographical region. This information was found in “Klimatografija Slovenije – Temperatura zraka: obdobje 1961–1990” (Climatography of Slovenia – Air temperature: period of 1961–1990, Mekinda-Majaron 1995) and “Klimatografija Slovenije – Količina padavin: obdobje 1961–1990” (Climatography of Slovenia – Precipitation quantity: period of 1961–1990, B. Zupančič 1995).

3. RESULTS

3a. Ecological circumstances and the study area

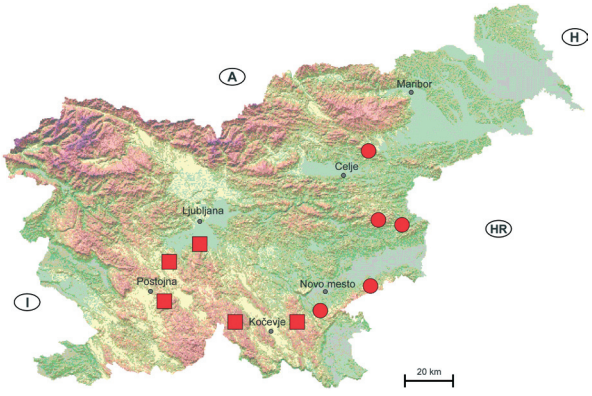

Figure 1: Study areas of the associations *Omphalodo vernae-Aceretum* (■) and *Dentario polyphyllae-Aceretum* (●) in Slovenia
Slika 1: Območja raziskovanja asociacij *Omphalodo vernae-Aceretum* (■) in *Dentario polyphyllae-Aceretum* (●) v Sloveniji

The centre of the distribution area of the community ***Omphalodo-Aceretum*** is in the montane belt of the Dinaric region of Slovenia. The community occurs in the sinkhole karstic region, above all in the area of Goteniška gora, Javorniki, the Logatec plateau, Mt. Krim and Kočevski Rog. The karstic region is very diversified in terms of relief. In general the very stony slopes are crisscrossed with sinkholes and potholes. For the most part, the association does not cover larger surfaces. It occurs only fragmentarily at the bottom, at the foot or on the slopes of sinkholes, where the soil is deeper and unstable (colluvial).

The community occurs intrazonally in the distribution area of the fir-beech forest *Omphalodo-Fagetum* (Tregubov 1957) Marinček et al. 1993.

The community grows on shady sinkhole slopes, most commonly on northern aspects, from NE to NW, but is only rarely found on sunny aspects. The association occurs at the altitudes of 350 (400) to 1000 (900) m. It is located on moderately steep to steep exposures, from 5 ° to 45 °.

The range of stoniness is very large, from 0 to 80 %, with stoniness generally being higher than 30 %. The association *Omphalodo-Aceretum* therefore commonly grows on very stony soil.

Geological bedrock is composed of Jurassic and Cretaceous limestones and dolomites (Slovenija-Geološka karta 1 : 500 000 1993).

Chromic cambisol prevails in the association *Omphalodo-Aceretum*. The soil is slightly lessivaged in certain places at the bottom of sinkholes, where it is the deepest.

The entire Dinaric region lies within the moderate continental climatic type of western and southern Slovenia which is characterized by the sub-Mediterranean precipitation regime with the mean annual precipitation quantity of 1300 to 2800 mm (Koprivnik near Kočevje 1485 mm, Kočevje 1526 mm, Planina (Mirna Gora) 1579 mm, Grčarice 1550 mm, Jurišče 1615 mm, Postojna 1579 mm, Leskova dolina 1922 mm, Mašun 2041 mm, Tomišelj 1501 mm, Rakitna 1687 mm, Logatec 1932 mm, Planina (Rakek) 1808 mm). Such high values result from the exposition in the region of the Alpine-Dinaric barrier, and from the fact that most of the precipitation reaches Slovenia with air masses coming from the west and southwest. Mean temperatures of the coldest month (January) are between 0 and –3 °C, and mean temperatures of the warmest month (July) between 15 and 20 °C (Rakitna –2.6°C / 16.2 °C, Planina (Rakek) – 0.9 °C / 17.9 °C, Kočevje –1.6 °C / 17.8 °C, Planina (Mirna gora) –1.9 °C / 16.9 °C, Postojna – 0.9 °C / 17.7 °C, Mašun –3.1 °C / 14.6 °C). Mean October temperatures are higher than in April. The climate is therefore very humid, relatively mild, explicitly oceanic. The distribution of precipitation throughout the year is very favourable, and relatively high values were measured in the warmest months. There is no water shortage in summer. Most precipitation occurs in autumn with November being the wettest month.

The association ***Chrysanthemo macrophylli-Aceretum*** (syn: ***Dentario polyphyllae-Aceretum***) occurs in the montane belt of the pre-Dinaric region of Slovenia. It is found above all in the massif region of the pre-Dinaric world, although it grows in lower regions as well, provided that the microclimatic conditions are favourable. It occurs on colluvial slopes, in sinkholes, dales, ditches and at the bottom of valleys. Our relevés were made in the region of Bohor, Podsreda, Uršna Sela, the The Gorjanci hills and Konjiška gora. Konjiška gora is situated in the region of the pre-Alpine phytogeographical territory, but the vegetation on Konjiška gora indicates the transitional character between the pre-Dinaric and pre-Alpine phytogeographical territory. The association occurs in the wider distribution area of the pre-Dinaric beech forest *Lamio orvalae-Fagetum* (I. Horvat 1938) Borhidi 1963 var. geogr. *Dentaria polyphylla* Ž. Košir 1962 ex Marinček 1994,

in part also of the pre-Dinaric altimontane beech forest *Cardamini savensi-Fagetum* Ž. Košir 1962.

The association *Chrysanthemo macrophylli-Aceretum* grows exclusively on cold aspects, above all on northern and eastern (NW-E), most of them being northeastern. The association occurs mostly at the altitudes of about 700 to 1000 m, more rarely also lower (down to 400 m). It occupies moderately steep slopes from 5 ° to 25 °, rarely also steeper slopes of 30 ° to 45 ° and plateaus.

In general, the range of stoniness is rather insignificant (0 to 10 %) and the soil without surface stoniness prevails. Only rarely can stoniness be more significant (30 to 40 %), exceptionally even up to 60 %.

The community grows on calcareous bedrock with occasional addition of non-calcareous chert. The proportion of flint is a factor contributing to the more favourable physical structure of the soil, while the influence of chemism hardly shows at all. The influence of the calcareous bedrock is therefore so significant that we speak of the soil on calcareous bedrock. In the The Gorjanci region, Triassic bedded limestone and dolomites prevail, but also Jurassic limestone and dolomites occur. In the western part of the pre-Dinaric region (Uršna Sela) the bedrock is composed mostly of Cretaceous and Jurassic limestones and dolomites. On Konjiška gora we find dominating Triassic dolomite, limestone, marl and sandstone. In the Kozjansko region (Bohor, Podsreda), however, the bedrock is extremely variegated. The prevailing rocks are Triassic dolomite, limestone, marl and sandstone, as well as triassic bedded limestone and dolomite. Also occurring are Triassic limestone with chert and Cretaceous claystone, marl and sandstone with tubers of chert (Slovenija-Geološka karta 1993).

Chromic cambisol, occasionally lessivaged, dominates in the forest community *Chrysanthemo macrophylli-Aceretum.* Also occurring are humic fluvisol and eutric cambisol on alluvial-delluvial deposits.

The entire pre-Dinaric region is in the moderate continental climate of central Slovenia, with a sub-continental precipitation regime and the mean annual precipitation quantity of 1000 to 1300 mm (Dolenjske Toplice 1345 mm, Podbočje 1210 mm, Novo mesto 1138 mm, Planina pri Sevnici 1265 mm, Podsreda 1137 mm, Slovenske Konjice 1076 mm). Characteristic for the continental precipitation regime is that it gets most precipitation in the summer months and the least in winter. The secondary rainfall peak is noticeable in autumn, which is the result of the sub-Mediterranean influence. The annual precipitation quantity decreases towards the east of Slovenia. Mean October temperatures are higher than in April. The mean temperature of the coldest month is between 0 and –3 °C (January), and of the warmest (July) between 15 and 20 °C (Podbočje –0.9 °C / 20.0 °C, Novo mesto –1.3 °C /19.3 °C, Planina pri Sevnici –1.1 °C / 18.2 °C, Slovenske Konjice –0.8 °C / 19.0 °C). On average, the temperatures of both extremes are higher than in the Dinaric region, especially summers are warmer.

3b. The syntaxonomical classification of the associations

The studied communities are synsystematically classified as follows:

Querco-Fagetea Br.-Bl. et Vlieger in Vlieger 1937
Fagetalia sylvaticae Pawłowski in Pawłowski et al. 1928
Fraxino-Acerion Fukarek 1969
Omphalodo vernae-Aceretum pseudoplatani P. Košir et Marinček 1999
Chrysanthemo macrophylli-Aceretum pseudoplatani (I. Horvat 1938) Borhidi 1965

4. *Omphalodo vernae-Aceretum*

4a. Structural and floristic composition

The upper tree layer covers from 60 to 90 % of the surface, and the lower up to 40 %. *Acer pseudoplatanus* dominates the tree layer, but *Ulmus glabra, Fagus sylvatica* (with a higher coverage only in the lower tree layer), *Picea abies, Abies alba,* at lower altitudes often also *Tilia platyphyllos* and *Acer campestre,* occur as well. With its height *Corylus avellana* sometimes reaches the lower tree layer. *Fraxinus excelsior* occurs only exceptionally.

The shrub layer covers between 10 and 40 (70) % of the surface and is very rich in species. The most common are *Corylus avellana, Sambucus nigra, Daphne mezereum* and *Lonicera xylosteum.* At lower altitudes *Staphylea pinnata* is detected as well. *Rhamnus fallax, Rubus fruticosus agg., Rubus idaeus, Sorbus aucuparia, Daphne laureola, Euonymus europaea, Euonymus verrucosa* and *Acer campestre* occur with a very low frequency. The most common tree species in the shrub layer are *Fagus sylvatica, Ulmus*

glabra and *Acer pseudoplatanus,* while the species *Abies alba, Picea abies* and *Tilia platyphyllos* occur only occasionally.

The herb layer is very well developed. Most often it covers between 80 and 100 % of the surface. These values are lower in places with a higher degree of rockiness, but they never fall below 50 %. Species of the alliance *Fraxino-Acerion* are well represented. The following reach the highest frequency and coverage: *Arum maculatum, Actaea spicata, Adoxa moschatellina, Urtica dioica, Stellaria montana, Lamium orvala, Geranium robertianum, Phyllitis scolopendrium, Polystichum braunii, Polystichum* x *luerssenii, Polystichum aculeatum, Circaea lutetiana* and *Scopolia carniolica.* The most numerous are the species of the order *Fagetalia sylvaticae,* among which the following stand out regarding their frequency and coverage*: Dryopteris filix-mas, Dentaria bulbifera, Salvia glutinosa, Symphytum tuberosum, Lamiastrum flavidum, Paris quadrifolia, Corydalis cava, Dentaria pentaphyllos, Petasites albus* and *Mercurialis perennis.* Also well represented are the species of the alliance *Aremonio-Fagion.* The most common and with the highest cover values are*: Omphalodes verna, Dentaria enneaphyllos, Cardamine trifolia* and *Geranium nodosum.* The species of the class *Querco-Fagetea,* alliance *Alno-Ulmion,* class *Vaccinio-Piceetea* and order *Adenostyletalia* are rarer. A higher frequency among the species of the alliance *Alno-Ulmion* reaches only *Chrysosplenium alternifolium, Oxalis acetosella* from the class *Vaccinio-Piceetea,* and *Athyrium filix-femina* from the order *Adenostyletalia.* In accordance with the rocky character of the association the species of the class *Asplenietea trichomanis* are relatively well represented, however, they do not reach high frequencies and coverage. Only the species *Polypodium vulgare* and *Asplenium trichomanes* reach higher frequencies.

The early-spring aspect of the association is for the most part poorly developed. The community reaches its optimal stage of development in late spring and summer, when ferns start growing abundantly. The most numerous are the species *Athyrium filix-femina* and *Dryopteris filix-mas.*

On account of a high degree of stoniness the moss layer is very rich and covers as much as 70 % of the entire surface. The most common is the species *Ctenidium molluscum,* followed with a high frequency by *Plagiomnium undulatum, Eurhynchium striatum, Thamnobryum alopecurum, Brachythecium rutabulum, Plagiochila asplenioides* and *Isothecium alopecuroides.* Twenty-eight different moss species were determined.

4b. Diagnostic species

The differential species of the association are: *Omphalodes verna, Geranium nodosum* and *Calamintha grandiflora.* All of them are characteristic for the Illyrian floral province (the so called Illyrian species). The same species are also character species of the contact fir-beech forest and are syntaxonomically classified into the alliance of Illyrian beech forests *Aremonio-Fagion.*

4c. Division of the association into lower syntaxonomical units

The association *Omphalodo-Aceretum* was subdivided into three subassociations:
O.-A. dentarietosum pentaphylli subass. nova hoc loco
O.-A. typicum subass. nova hoc loco
O.-A. petasitetosum albi subass. nova hoc loco

Subassociation *Omphalodo-Aceretum* P. Košir et Marinček 1999 *dentarietosum pentaphylli* subass. nova hoc loco (Table 7/1–12) covers a more initial soil, which is indicated also by the differential species of the subassociation: *Dentaria pentaphyllos, Scopolia carniolica* and *Mercurialis perennis.* There are a number of species which are indicative of a rocky soil and are syntaxonomically classified into the class *Asplenietea trichomanis.* The species with higher cover values is *Phyllitis scolopendrium*, but other species, such as *Polypodium vulgare, Asplenium trichomanes, Moehringia muscosa, Cystopteris fragilis, Gymnocarpium robertianum, Asplenium viride* and *Cardaminopsis arenosa* occur as well. Due to a higher degree of rockiness mosses are better represented than in the subassociation *O.-A. petasitetosum albi.* In general, the subassociation occurs at lower altitudes, which means that the species of the class *Querco-Fagetea* are better represented than in the subassociation *O.-A. petasitetosum albi.*

The holotypus of the subassociation is relevé No. 2 in Table 7 hoc loco.

The variant with the species *Lunaria rediviva,* found in the region of Krim, and the variant *typica* were distinguished within the subassociation *O.-A. dentarietosum pentaphylli.* Apart from *Lunaria rediviva,* the differential species of the variant with the species *Lunaria rediviva*, which covers rubbly slopes is also *Polystichum setiferum.*

The subassociation *Omphalodo-Aceretum* P. Košir et Marinček 1999 *petasitetosum albi* subass. nova hoc loco (Table 7/17–22) occurs on better developed,

deeper soil, which is evident in the soil profiles dug within the subassociation. Colluvial Chromic cambisol is the prevailing soil type of the subassociation (Table 1). At the bottom of sinkholes, where the soil is the deepest, Chromic cambisol can be slighty lessivaged (Table 2).

The differential species of the subassociation are *Petasites albus, Leucojum vernum, Anthriscus nitida* and *Stachys sylvatica*. The above mentioned species indicate a deeper, better developed and therefore moister soil. Species of the class *Asplenietea trichomanis* are completely absent from the subassociation. Mosses are only poorly represented.

The holotypus of the subassociation is relevé No. 18 in Table 7 hoc loco.

The variant with the species *Matteuccia struthiopteris*, which occurs on the moistest soil, and the variant *typica* were distinguished within this subassociation.

Subassociation *Omphalodo-Aceretum* P. Košir et Marinček 1999 *typicum* subass. nova hoc loco (Table 7/13–16) is ecologically, as well as floristically, the central form of the association, and is without any of the differential species of the above- mentioned subassociations. In terms of similarity it is closer to the subassociation *O.-A. dentarietosum pentaphylli*, as it occurs on rockier soil. Well represented are the species of the class *Asplenietea trichomanis. Phyllitis scolopendrium*, which is characteristic of rocky soils, reaches high frequency and coverage. Mosses are also well represented.

The holotypus of the subassociation is relevé No. 16 in Table 7 hoc loco.

Figure 2 presents relevé ordination of the association from the analytic table (Table 7). The relevés were arranged on axis 1 regarding the stoniness or stage of development of the soil. Stands of the subassociation *O.-A. dentarietosum pentaphylli* therefore cover the most initial and rockiest soil, whereas the stands of the subassociation *O.-A. petasitetosum albi* occur on deeper and better developed soil with less surface stoniness. The subassociation *O.-A. typicum* has the central ecological position in the association.

Table 1: Soil profile description (profile1)
Tabela 1: Opis pedološkega profila (profil 1)

Profile 1:
Locality: Javornik, altitude 910 m, 15°–20° incline, N exposition, foot to slope of a sinkhole, relevé No. 21 (table 7)
Bedrock: limestone
Soil type: Chromic cambisol, colluvial

Profile description:
Ol: 3–0; beech and maple foliage, herbs, ferns
Ah: 0–20 cm; 5YR2, 5/2; subangular to angular blocky structure, strong durable peds are clearly evident, loose and brittle, explicitly humose, very abundant roots, moist, with mycelium
ABrzC: 20–60 cm; 5YR3, 5/2; silty, silty-clayey-loamy, angular blocky structure, strong durable peds are clearly evident, medium density, brittle, very humose, with very abundant roots, moist, 40 % skeleton up to 150 mm
CBrzA: 60–90 cm; 7, 5YR3/2; silty-clayey-loamy, fine angular blocky structure, medium distinct peds of medium stability, medium density, brittle, with common abundance of roots, moist, 80 % skeleton and stones
note: in crevices between larger rocks

	pH	P2O5	K2O	org.	C	N	CN	text.					
				matter			prop.	class					
HORIZON	KCl	mg/100 g		%	%	%							
Ah	6.3	4.6	30	20.7	12	1.05	11.4	MGl					
ABrzC	6.9	4.2	13.4	14.9	8.6	0.73	11.8	MGl					
CBrzA	7.3												
	Ca	Mg	K	Na	H	S	T	V	Ca	Mg	K	Na	H
HORIZON	eqmmol H/100 g							%	%	%	%	%	%
Ah	41.67	2.49	0.78	0.1	18,00	45.04	63.04	71.4	66.1	3.9	1.2	0.2	28.6
ABrzC	44.66	0.92	0.36	0.12	12.7	46.06	58.76	78.4	76	1.6	0.6	0.2	21.6
CBrzA	44.5	0.6	0.32	0.11	7.2	45.53	52.73	86.3	84.4	1.1	0.6	0.2	13.7

Table 2: Soil profile description (profile 2)
Tabela 2: Opis pedološkega profila (profil 2)

Profile 2:
Locality: Javornik, sinkhole, altitude 950 m, 10° incline, S exposition, relevé No. 17 (table 7)
Bedrock: limestone
Soil type: Chromic cambisol, slightly lessivaged

Profile description:
Ol: 3–0.5
Of: 0.5–0
Ah: 0–17; 7, 5YR3/2; subangular blocky structure, strong durable peds are clearly evident, loose and brittle, humose, with very abundant roots, moist
A2: 17–37; 7, 5YR4/2; silty loamy, subangular to angular blocky structure, strong durable peds are clearly evident, medium density, brittle, humose, with very abundant roots, moist
Abrz: 38–80; 7, 5YR4/4; silty-clayey-loamy, angular blocky structure, medium distinct durable peds, medium density, brittle, medium humose, organic matter in root passages, with very abundant roots, moist
Brz: 80–100+; 7, 5YR4/4; silty-clayey loam, medium distinct peds of medium stability, angular blocky structure, dense**,** badly brittle, with abundant roots and individual larger stones, fresh to moist, slightly trampled

	pH	P2O5	K2O	org.	C	N	CN	text.					
				matter			prop.	class					
HORIZON	KCl	mg/100 g		%	%	%							
Ah	5.7	–1	17.5	8.7	5	0.35	14.3	MI					
A2	4.7	–1	7.2	4.3	2.5	0.21	11.9	MGI					
ABrz	4.6			2.5	1.4	0.14	10	MGI					
Brz	4.7												
	Ca	Mg	K	Na	H	S	T	V	Ca	Mg	K	Na	H
HORIZON	eqmmol H/100g							(%)	(%)	(%)	(%)	(%)	(%)
Ah	41.13	1.19	0.49	0.06	15.15	42.87	58.02	73.9	70.9	2.1	0.8	0.1	26.1
A2	6.44	0.49	0.23	0.04	17.45	7.2	24.65	29.2	26.1	2	0.9	0.2	70.8
ABrz	3.99	0.56	0.14	0.04	14.85	4.73	19.58	24.2	20.4	2.9	0.7	0.2	75.8
Brz	8.93	1.01	0.22	0.06	12.2	10.22	22.42	45.6	39.8	4.5	1	0.3	54.4

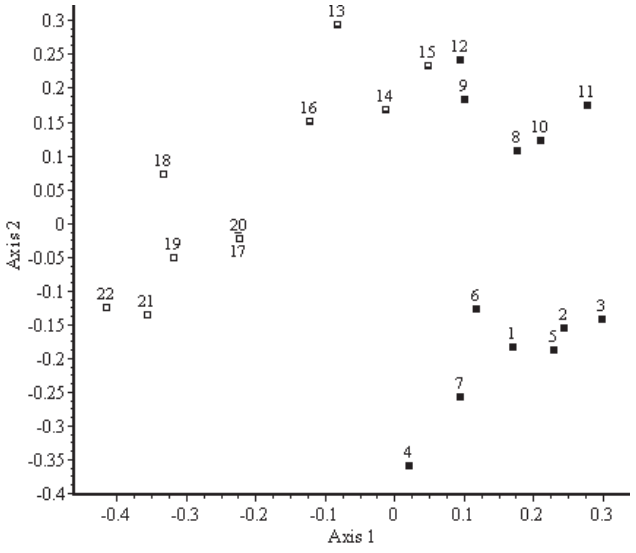

Figure 2: Relevé ordination of the association *Omphalodo-Aceretum* according to the analytic Table (Table 7). Legend: ■ – *O.-A. dentarietosum pentaphylli*, □ – *O.-A. petasitetosum albi*, ⬓ – *O.-A. typicum*.
Slika 2: Ordinacija popisov asociacije *Omphalodo-Aceretum* po analitični tabeli (Tabela 7). Legenda: ■ – *O.-A. dentarietosum pentaphylli*, □ – *O.-A. petasitetosum albi*, ⬓ – *O.-A. typicum*.

5. *Chrysanthemo macrophylli-Aceretum*

5a. Structural and floristic composition

The upper tree layer covers between 70 and 90 (95) % of the surface, only rarely less (50, 60 %). The lower tree layer can be very well developed (covering as much as 40, 50, 70 %), but in most cases it covers only a small part of the surface (5 to 20 %) or is even missing. The tree layer is dominated by *Acer pseudoplatanus*, although the dominant role is occasionally assumed also by *Fraxinus excelsior,* and by *Ulmus glabra* at higher altitudes. In the tree layer, *Abies alba* was found only on Konjiška gora and Bohor, where it occurs also in the contact beech forest. In the stands the species *Acer pseudoplatanus* is commonly joined by the species *Acer platanoides*, which indicates warmer site conditions. Other tree species occur in the tree layer: *Fagus sylvatica* (with higher frequency in the lower tree layer), *Tilia platyphyllos* (at lower altitudes), *Prunus avium, Sorbus aucuparia, Carpinus betulus* (only exceptionally and at lower altitudes), *Acer campestre, Picea abies* and *Salix caprea.* Among the shrub species *Sambucus nigra* and *Corylus avellana* also reach the height of the lower tree layer.

The shrub layer covers from 5 to 70 % of the surface, but coverage higher than 30 % is rare. The shrub layer can even be missing altogether. By far the most common and with highest cover values is *Sambucus nigra,* but the following shrub species were also found in the stands: *Corylus avellana, Daphne mezereum, Euonymus latifolia, Lonicera alpigena, Lonicera xylosteum, Ribes uva-crispa, Rubus fruticosus* agg., *Rubus idaeus* and *Sambucus racemosa.* The shrub layer is composed of the above mentioned tree species as well.

The herb layer is well developed and in most cases covers 100 % of the surface, only rarely less than 90 to 70 %. The association is characterized by optimal, lush development of the herb layer from early spring on (the April aspect with lush flowering of geophytes) to late summer. Relevés of the late spring aspect (May, June) were arranged in the Table. This way our relevés included most of the species occurring in different seasons on the site of the studied association. Here are three examples of the early spring aspect:

Bohor, relevé No. 5 (Table 9), 20.4.1999: *Leucojum vernum* 4, *Corydalis cava* 3, *Acer pseudoplatanus* 1, *Adoxa moschatellina* 1, *Allium ursinum* 1, *Dentaria polyphylla* 1, *Dentaria trifolia* 1, *Arum maculatum* +, *Chrysosplenium alternifolium* +, *Corydalis solida* +, *Dentaria enneaphyllos* +, *Eranthis hyemalis* +, *Gagea lutea* +, *Galanthus nivalis* r, *Isopyrum thalictroides* +, *Lunaria rediviva* +, *Scilla bifolia* +, *Symphytum tuberosum* +, *Urtica dioica* +.

Konjiška gora, relevé No. 20 (Table 9), 2.4.1999: *Allium ursinum* 5, *Leucojum vernum* 3, *Corydalis cava* 1, *Petasites albus* 1, *Arum maculatum* +, *Chrysosplenium alternifolium* +, *Glechoma hirsuta* +, *Isopyrum thalictroides* +, *Oxalis acetosella* +, *Pulmonaria officinalis* +, *Urtica dioica* +.

The Gorjanci, relevé No. 7 (Table 8), 26.4.1999: *Scopolia carniolica* 4, *Corydalis cava* 2, *Acer pseudoplatanus* 1, *Arum maculatum* 1, *Dentaria bulbifera* 1, *Dentaria trifolia* 1, *Leucojum vernum* 1, *Adoxa moschatellina* +, *Anemone nemorosa* +, *Chrysosplenium alternifolium* +, *Dentaria enneaphyllos* +, *Dentaria polyphylla* +, *Glechoma hirsuta* +, *Impatiens noli-tangere* (germs) +, *Isopyrum thalictroides* +, *Phyllitis scolopendrium* +, *Pulmonaria officinalis* +, *Urtica dioica* +.

A large number of geophytes occur. The highest frequency and cover values among them within the alliance *Fraxino-Acerion* are found in the species *Arum maculatum, Adoxa moschatellina* and *Isopyrum thalictroides,* within the alliance *Aremonio-Fagion* the species *Dentaria polyphylla, Dentaria enneaphyllos* and *Dentaria trifolia,* and within the order *Fagetalia sylvaticae* the species *Corydalis cava, Dentaria bulbifera, Leucojum vernum, Symphytum tuberosum, Corydalis solida, Paris quadrifolia* and *Allium ursinum.* In early spring, the species *Scopolia carniolica* (alliance *Fraxino-Acerion*) germinates and also dominates in this aspect; the same species composes also the later late spring-summer aspect. Other species that are not geophytes also occur in early spring, such as for example *Chrysosplenium alternifolium,* which occurs with high frequency.

In spring, as seen in the relevé from Konjiška gora (relevé No. 20, Table 9), *Allium ursinum* is the most dominant species in individual stands of this association in terms of coverage. Also to be considered in this respect is the species *Eranthis hyemalis,* found only on Bohor.

At this time of year, trees at these altitudes have not yet developed leaves, and ferns are not developed yet either. When summer is approaching, geophytes are slowly disappearing and the tree species building the (late spring)-summer aspect take over the dominant role. Those are the mesophilous species and ferns. The species which have the highest frequency and cover values are: *Lunaria rediviva, Circaea lutetiana, Geranium robertianum, Glechoma hirsuta, Urtica dioica, Actaea spicata, Stellaria montana* and *Lamium orvala* (*Fraxino-Acerion*), *Lami-*

astrum montanum and *Galium odoratum* (*Fagetalia sylvaticae*), *Impatiens noli-tangere* (*Alno-Ulmion*), *Anthriscus nitida* (*Adenostyletalia*), in part also *Scopolia carniolica* and some other species of the early spring aspect that keep until the beginning or the middle of summer. Ferns occur as well. *Dryopteris filix-mas* and *Athyrium filix-femina* are the species with the highest frequency. Ferns, such as *Phyllitis scolopendrium, Polystichum setiferum* and the hybrid *Polystichum* x *bicknelli* are represented with high frequency and cover values only within the subassociation *C.-A. scopolietosum carniolici.*

The moss layer is poorly represented, which is in accordance with the small proportion of surface rockiness in the relevé plots. For the most part, mosses cover only about 5 % of the surface or none at all, or they are found only on organic matter. It is only within the subassociation *C.-A. scopolietosum carniolici,* which covers a more initial and rockier soil, that mosses cover also a larger surface of the soil (from 10 to 30 %, exceptionally even up to 50 %). We detected as many as 29 moss species, but most of them occur with very low frequency. The species with the highest frequency is *Brachythecium rutabulum* (even on organic matter within the subassociation *C.-A. abietetosum albae*, which is almost without mosses), followed by *Thamnobryum alopecurum,* whereas other species are rare.

5b. Diagnostic species

The following species were classified as the differential species of the association: *Dentaria polyphylla, Dentaria trifolia, Impatiens noli-tangere* and *Tanacetum macrophyllum.*

Dentaria polyphylla, Dentaria trifolia and *Tanacetum macrophyllum* are the so called Illyrian species, the first two from the alliance *Aremonio-Fagion*, and the last from the alliance *Fraxino-Acerion.* These species are very indicative of the geographical position of the association in the pre-Dinaric region of the Illyrian floral province. *Tanacetum macrophyllum* (= *Chrysanthemum macrophyllum*) occurs only in the stands of this association in Croatia. *Impatiens noli-tangere* is the species of the alliance *Alno-Ulmion* and indicates a higher degree of moisture in the soil of the stands of this association (on account of the generally deeper soil) compared to the other syntaxa of Illyrian maple forests of the montane belt.

5c. Division of the association into lower syntaxonomical units

The community *Chrysanthemo macrophylli-Aceretum pseudoplatani* was subdivided into three subassociations:

- *C.-A. scopolietosum carniolicae* subass. nova hoc loco
- *C.-A. abietetosum albae* subass. nova hoc loco
- *C.-A. petasitetosum hybridi* subass. nova hoc loco

Subassociation *Chrysanthemo macrophylli-Aceretum pseudoplatani* (I. Horvat 1938) Borhidi 1965 *scopolietosum carniolicae* subass. nova hoc loco (Table 8/1–29) occurs on a moist and more initial soil. The differential species of the subassociation are *Phyllitis scolopendrium, Polystichum setiferum, Polystichum* x *bicknellii, Scopolia carniolica, Dentaria enneaphyllos* and *Geranium robertianum.* This subassociation is rockier compared to the other two subassociations.

The representative soil profile represents the most developed soil within the described subassociation.

The holotypus is relevé No. 6 in Table 8 hoc loco.

Three variants were established within this subassociation; the variant with the species *Asarum europaeum*, the variant with the species *Polystichum aculeatum* and the variant *typica.* The variant with *Asarum europaeum* covers lower regions, which is indicated by the following differential species: *Asarum europaeum, Hacquetia epipactis, Helleborus odorus, Helleborus atrorubens.* The variant with *Polystichum aculeatum* covers steep and moist slopes in the wider area of the community *Arunco-Fagetum* Ž. Košir 1962. The differential species of the variant are: *Polystichum aculeatum, Polystichum* x *illyricum, Lonicera xylosteum* and *Aruncus dioicus.*

The subassociation *Chrysanthemo macrophylli-Aceretum pseudoplatani* (I. Horvat 1938) Borhidi 1965 *abietetosum albae* subass. nova hoc loco (Table 9/1–22) is found on a deep and better developed soil (Table 4, 5). There is hardly any or no surface stoniness, which is reflected in the smaller number of mosses (mostly only on organic matter) and in the absence of the species from the class *Asplenietea trichomanis.* The subassociation is distributed on Bohor and Konjiška gora, at generally higher altitudes. The differential species of the subassociation are: *Leucojum vernum, Stellaria montana, Gagea lutea, Eranthis hyemalis, Ulmus glabra, Abies alba* and *Peta-*

Table 3: Soil profile description (profile 3)
Tabela 3: Opis pedološkega profila (profil 3)

Profile 3:
Locality: Podsreda castle, altitude 440 m, incline 30°, NNE exposition, slope of a ditch, relevé No. 22 (table 8)
Bedrock: limestone
Soil type: Chromic cambisol, colluvial

Profile description:
Ol: 3–0
A: 0–11; 7, 5YR3/2; silty-clayey-loamy, strong durable peds are clearly evident, subangular blocky structure, very loose and brittle, explicitly humose, with abundant roots, moist, 3–5 % skeleton up to 10 mm
Abrz: 11–37 cm; 10YR3/3; silty-clayey-loamy, strong durable peds are clearly evident, angular blocky structure, dense, badly brittle, humose, with very abundant roots, moist, 5 % skeleton up to 30 mm
AbrzC: 37–65; 10YR4/3; silty-clayey-loamy, strong durable peds are clearly evident, angular blocky structure, badly brittle, dense, medium humose, with abundant roots, moist, 30 % skeleton up to 30 mm
C/R: CBrz 65+ marl, 97 % skeleton, few roots

	pH	P2O5	K2O	org.	C	N	CN	text.					
				matter			prop.	class					
HORIZON	KCl	mg/100 g		%	%	%							
A	6.9	1.5	21.1	12.1	7	0.57	12.3	MGl					
ABrz	7	–1	10.3	7.9	4.6	0.44	10.5	MGl					
ABrzC	7.4			3.6	2.1	0.18	11.7	MGl					
	Ca	Mg	K	Na	H	S	T	V	Ca	Mg	K	Na	H
HORIZON	eqmmol H/100g							(%)	(%)	(%)	(%)	(%)	(%)
A	24.83	10.29	0.58	0.06	5.35	35.76	41.11	87	60.4	25	1.4	0.1	13
ABrz	22.08	9.08	0.31	0.07	6.4	31.54	37.94	83.1	58.2	23.9	0.8	0.2	16.9
ABrzC	22.52	6.56	0.19	0.06	2.95	29.33	32.28	90.9	69.8	20.3	0.6	0.2	9.1

sites albus. Leucojum vernum, Petasites albus, Stellaria montana, Gagea lutea indicate deep and moist soils. *Eranthis hyemalis,* which was found on Bohor, grows in the eastern part of Slovenia. *Abies alba* has the highest frequency in this subassociation as it grows in the wider region of the so far only vaguely determined fir-beech forest treated by Ž. Košir (1979) on Bohor as a specific form of the community *Cardamine savensi-Fagetum.* Brown calcareous soil is mixed with a higher or smaller proportion of Werfen sandstones. This makes the soil moister, more acid and colder (Ž. Košir 1979), which are favourable conditions for the development of fir. A stronger presence of *Ulmus glabra* indicates the montane character of the subassociation.

The soil profile dug on Bohor (Table 4) is rather different from those in the series of the soil profiles from the forest community *Dentario polyphyllae-Aceretum.* On account of mixed calcareous-noncalcareous bedrock the soil is very deep and more acid in comparison with other soil profiles (from 4,3 to 5,5 pH in KCl), with signs of initial draining (base transfer). Another cause of soil acidity can be an occasionally higher proportion of the noncalcareous component.

The holotypus of the subassociation is relevé No. 12 in Table 9 hoc loco.

Three variants were established within this subassociation – the variant with the species *Scopolia carniolica,* the variant with the species *Petasites albus* and the variant *typica.* The variant with *Scopolia carniolica* is differentiated by the species *Scopolia carniolica, Geranium robertianum* and *Polystichum aculeatum,* which indicate a more initial soil. The variant with *Petasites albus* is characterized by high cover values of this species, which is the consequence of a moister soil.

Within the variant with the species *Scopolia carniolica* and the variant with the species *Petasites albus* we established also two subvariants with the species *Fraxinus excelsior,* whose tree layer is dominated by the the above-mentioned tree species.

Subassociation *Chrysanthemo macrophylli-Aceretum pseudoplatani* (I. Horvat 1938) Borhidi 1965

Table 4: Soil profile description (profile 4)
Tabela 4: opis pedološkega profila (profil 4)

Profile 4:
Locality: Konjiška gora, altitude 780 m, incline 20°, slope of a ditch, NE exposition, relevé No. 20 (table 9)
Bedrock: limestone
Soil type: Chromic cambisol, colluvial

Profile description:
Ol: 3–0.5 cm; maple and beech foliage, twigs, herbs
Of: 0.55–0 cm; mouldering foliage, spruce needles, covered with mycelium
Oh: 0–5 cm; 5YR2, 5/2; medium distinct peds of medium stability, cloddy structure, loose, brittle, organic, with very abundant roots, fresh to moist
A: 5–15 cm; 5YR3/2; silty-loamy, durable peds are medium distinct, subangular blocky structure, loose, brittle, explicitly humose, with very abundant roots, moist
ABrz: 15–36 cm; 7, 5YR3/2; silty-loamy, medium distinct durable peds, subangular blocky structure, loose, brittle, humose, with very abundant roots, moist
Brz: 36–41 cm; 10YR4/3; silty-clayey-loamy, medium distinct durable peds, fine angular blocky structure, loose, brittle, humose with abundant roots, moist
C/R: C 41+ rubble with 5% material from the Brz horizon

	pH	P2O5	K2O	org.	C	N	CN	text.					
				matter			prop.	class					
HORIZON	KCl	mg/100 g		%	%	%							
Oh	4.4	7.1	31.2	40.9	23.7	1.23	19.3	MI					
A	5.8	–1	9.6	11.6	6.7	0.48	14	MI					
ABrz	6.3	–1	5.8	9.4	5.4	0.39	13.8	MGI					
Brz	7	–1	5	5.9	3.4	0.28	12.1						
	Ca	Mg	K	Na	H	S	T	V	Ca	Mg	K	Na	H
HORIZON	eqmmol H/100g							(%)	(%)	(%)	(%)	(%)	(%)
Oh	24.45	3.41	0.87	0.12	31.05	28.85	59.9	48.2	40.8	5.7	1.5	0.2	51.8
A	24.5	1.69	0.29	0.1	15.85	26.58	42.43	62.6	57.7	4	0.7	0.2	37.4
ABrz	25	1.22	0.18	0.11	10.9	26.51	37.41	70.9	66.8	3.3	0.5	0.3	29.1
Brz	34.56	0.88	0.16	0.11	6	35.71	41.71	85.6	82.9	2.1	0.4	0.3	14.4

Table 5: Soil profile description (profile 5)
Tabela 5: Opis pedološkega profila (profil 5)

Profile 5:
Locality: Bohor, altitude 880 m, incline 5°, NNE exposition, slope, relevé No. 4 (table 9)
Bedrock: dolomite underneath, skeleton is sandstone
Soil type: lessivaged Chromic cambisol

Profile description:
Ol: 3–0.5; fresh litter
Of: 0.5–0
A1: 0–13; 7, 5YR3/2; silty-loamy, clearly evident peds of medium stability, subangular blocky structure, loose, brittle, explicitly humose, with very abundant roots, moist
A2: 13–32; 7, 5YR3, 5/2; clayey-loamy, strong durable peds are clearly evident, subangular blocky structure, dense, brittle, humose, with very abundant roots, moist, 5 % skeleton up to 5 mm
Brz1: 32–85; 7, 5YR4/4; clayey-loamy, strong durable peds are clearly evident, angular blocky structure, dense, badly brittle, poorly humose, with abundant roots, moist, 10 % skeleton up to 10 mm
Brz2: 85–108; 7, 5YR5/6; clayey, weakly distinct peds of bad stability, fine angular blocky structure, dense, kneadable, organic matter in root passages, with few roots, moist, note: transition between Brz1 and Brz2 – mixed

Brz3: 108–125; 5YR4/6; clayey, medium distinct peds of medium stability, angular blocky structure, very dense, brittle, mineral, few roots, with individual dolomite stones, moist
C/R: C 125 cm +, dolomite stones and thick sandy dolomite moder

	pH	P2O5	K2O	org.	C	N	CN	text.				
				matter			prop.	class				
HORIZON	KCl	mg/100 g		%	%	%						
A1	4.8	9.1	20	10.2	5.9	0.48	12.3	MI				
A2	4.3	6.7	6.7	4.7	2.7	0.23	11.7	GI				
Brz1	4.7			1.9	1.1	0.09	12.2	GI				
Brz2	4.7							G				
Brz3	5.5							G				
	Ca	Mg	K	Na	H	S	T	V	Ca	Mg	K	Na	H
HORIZON								(%)	(%)	(%)	(%)	(%)	(%)
A1	11.92	2.53	0.57	0.05	22.23	15.07	37.32	40.4	31.9	6.8	1.5	0.1	59.6
A2	4.99	1.52	0.23	0.04	21.9	6.78	28.68	23.6	17.4	5.3	0.8	0.1	76.4
Brz1	5.93	1.94	0.24	0.04	15.45	8.15	23.6	34.5	25.1	8.2	1	0.2	65.5
Brz2	9.37	5.28	0.42	0.06	14.15	15.13	29.28	51.7	32	18	1.4	0.2	48.3
Brz3	13.51	8.26	0.52	0.08	11.4	22.37	33.77	66.2	40	24.5	1.5	0.2	33.8

Table 6: Soil profile description (profile 6)
Tabela 6: Opis pedološkega profila (profil 6)

Profile 6
Locality: Gorjanci, Vahta, relevé No. 2 (table 10), the bottom of a smaller valley, non rocky
Bedrock: sandy rubbly alluvium
Soil type: Humic fluvisol

Profile description:
Ol: 1–0 cm; little litter; ash, elm, maple and herb remains (*Allium*)
A1: 0–20 cm; subangular blocky silty loam, explicitly humose; strong durable peds are clearly evident; dense and badly brittle in consistence; the colour is dark brown, 7,5YR 3/2; fresh with abundant roots; no skeleton; C/N proportion is still characteristic for mull.
A2: 20–45 cm; loam of angular blocky structure, explicitly humose; medium distinct peds of medium stability; dense and medium brittle in consistence; the colour is dark brown to brown, 7,5YR 4/2; fresh with abundant roots; singular skeleton composed of sharp-edged particles up to 5 cm; C/N proportion is characteristic for moder
A3: 45–60 cm; angular blocky silty loam, explicitly humose; weakly distinct peds of medium stability; consistence is dense and medium brittle; the colour is dark brown to brown, 7,5YR 4/2; fresh to moist with few roots; 15 % of skeleton which is composed of sharp-edged particles up to 1 cm; C/N proportion is characteristic for moder; weakly distinct brown patches on greyish background – weakly distinct marbling
C: 60+ cm

		pH	P2O5	K2O	org.	C	CN
			AL	AL	matter		prop.
HORIZON	depth	CaCl2	mg/100g		%	%	
A1	0–20 cm	7.1	1.7	18.8	12.8	7.4	13.7
A2	20–45 cm	7.2			11	6.4	22.1
A3	45–60 cm	7.3			12.1	7	22.6

NOTE: A relatively high pH is the consequence of calcareous sand. Badly decomposed organic matter in deeper horizons is the result of occasional strong saturation with water on the one hand and draining of nitric compounds on the other.

***petasitetosum hybridae* subass. nova hoc loco (Table 10/1–7)** was found in the region of the Gorjanci, where it covers the valley floor, often along streams and forest roads. The differential species of the subassociation *C.-A. petasitetosum hybridi* are *Fraxinus excelsior*, *Petasites hybridus*, *Geranium phaeum*, *Carex sylvatica* and *Geum urbanum*. All of them are indicative of very moist sites and prove that the stands of this subassociation occur on deep and the moistest soils within the association. As the stands are located on easily accessible spots along forest roads there is likely to be an anthropogenous influence, which is reflected to a certain extent also in the selected differential species.

The stands of the studied subassociation occur on calcareous sandy-gravelly alluvium, on alluvial – delluvial deposits and on relic alluvial or torrential deposits and colluvia from slopes.

Two variants were established within the subassociation; the variant with the species *Allium ursinum* and the variant *typica*.

The differential species of the variant with *Allium ursinum* are: *Allium ursinum*, *Chaerophyllum hirsutum*, *Caltha palustris* and *Equisetum telmateia*. Except for *Allium ursinum* all of the listed species belong to the alliance *Alno-Ulmion*. The stands of this variant cover plateaus along mountain streams and are transitional stands between the alliances *Alno-Ulmion* and *Fraxino-Acerion*. These stands grow on moister soils within the subassociation. The humic fluvisol prevails (Table 6).

The stands of the variant *typica* are characterized by large coverage of the species *Scopolia carniolica*. These stands cover valley floors without streams. A higher degree of moisture in these stands is provided on account of the water and snow that flow down into the bottom of these valleys from the neighbouring slopes. Eutric cambisol on alluvial-delluvial deposits occurs.

The holotypus of the subassociation *C.-A. petasitetosum hybridi* is relevé No. 5 in Table 10 hoc loco.

Figure 3 presents relevé ordination of the association *Chrysanthemo macrophylli-Aceretum* in Slovenia (relevés from analytic tables 8, 9 and 10). The relevés were arranged along axis 1 regarding the stoniness of the site, and along axis 2 regarding the soil moisture. In accordance with the above findings the stands of the subassociation *C.-A. scopolietosum carniolicae* cover the stoniest, and in comparison with the stands of the subassociation *C.-A. abietetosum albae* also moister soils. The stands of the subassociation *C.-A. petasitetosum hybridi* occur on the non-stony and the moistest soil. A less moist and non-stony soil is covered by the stands of the subassociation *C.-A. abietetosum albae* which occur at the highest altitudes within the association.

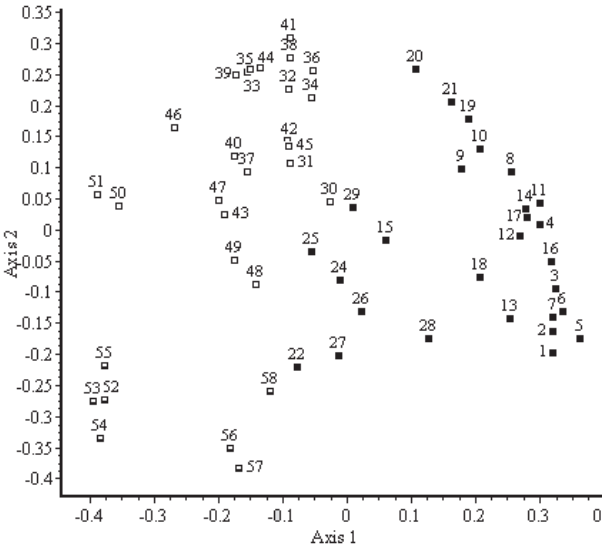

Figure 3: Relevé ordination of the association *Chrysanthemo macrophylli-Aceretum* in Slovenia (according to analytic tables 8, 9 and 10). Legend: ■ – *C.-A. scopolietosum carniolicae*, □ – *C.-A. abietetosum albae*, ⬓ – *C.-A. petasitetosum hybridi*.
Slika 3: Ordinacija popisov asociacije *Chrysanthemo macrophylli-Aceretum* v Sloveniji (po analitičnih tabelah 8, 9 in 10). Legenda: ■ – *C.-A. scopolietosum carniolicae*, □ – *C.-A. abietetosum albae*, ⬓ – *C.-A. petasitetosum hybridi*.

6. Discussion

A comparison of both associations and their division into lower syntaxonomical units is presented in the synthetic table (Table 11). Divison of specific syntaxa (subassociations) into two independent associations is presented by means of hierarchical classification (Figure 4).

A certain resemblance to the association *Omphalodo-Aceretum* is visible also in the syntaxon *Aceri-Fraxinetum typicum* (Fukarek 1970), which occurs in the montane belt in the region of the Peručica virgin forest reserve (BH). There are no differential species of the association *Omphalodo-Aceretum* in these stands, which is congruent with the findings of Surina (2002), who established in his study on the distribution of the Illyrian-Dinaric association *Omphalodo-Fagetum* that the stands east of the river Una (Grmeč, Igman, Peručica-BH) and the Piva valley (Montenegro) could be treated as a specific

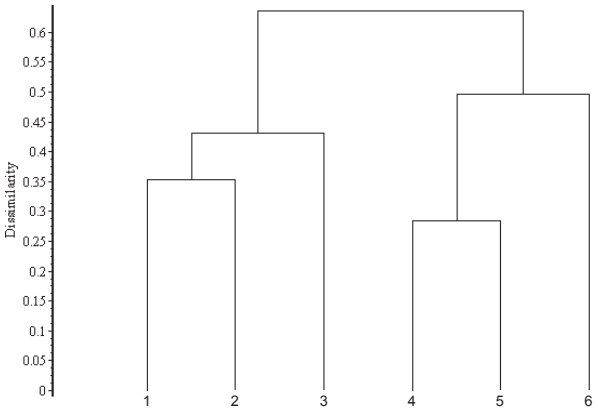

Figure 4: Hierarchical classification of the subassociations of the associations *Omphalodo vernae-Aceretum* (syntaxons 1, 2, 3) and *Chrysanthemo macrophylli-Aceretum* (syntaxons 4, 5, 6) in Slovenia (numbers of syntaxons correspond with numbers of syntaxons in Table 11).
Slika 4: Hierarhična klasifikacija subasociacij asociacij *Omphalodo vernae-Aceretum* (sintaksoni 1, 2, 3) in *Chrysanthemo macrophylli-Aceretum* (sintaksoni 4, 5, 6) v Sloveniji (številke sintaksonov se ujemajo s številkami sintaksonov v tabeli 11).

Dinaric association. Noble hardwood forests which occur intrazonally within zonal Dinaric beech forests of the montane belt certainly differentiate in the same sense. The species of the alliance *Fraxino-Acerion* are relatively well represented in the herb layer of the stands of the syntaxon, most abundant being the growth of the species *Lunaria rediviva*. In the tree layer, however, except for one relevé dominated by *Fraxinus excelsior,* beech (*Fagus moesiaca*) is the dominant species of the stands. It is for this reason that the syntaxon was not treated in the framework of Illyrian noble hardwood forests, as those are possibly the stands of beech forest on moister sites. The stands will require further study in order to determine whether they can be classified into the studied vegetation.

Noble hardwood forests in the Dinaric region of Slovenia were studied also by Piskernik (1954), who united the stands into the association *Acereto-Ulmetum*. This is a heterogeneous relevé material. The larger part could be classified within the association *Omphalodo-Aceretum,* but some of the stands belong to the altimontane association *Lamio orvalae-Aceretum*. Certain relevés have a transitional character between both associations. In the stands, beech and fir are often represented with high cover values and even dominate the noble hardwoods in certain stands, which, however, is not in accordance with the definition of noble hardwood forests. For all these reasons, we disregarded this relevé material in our analysis of the Illyrian maple forests of the montane belt.

The stands of the association *Chrysanthemo macrophylli-Aceretum* were described in Slovenia as *Dentario polyphyllae-Aceretum* by P. Košir and Marinček (1999). However, our comparison of relevés of Illyrian maple forests demonstrated that the stands described as the association *Dentario polyphyllae-Aceretum* were similar to the stands described in Croatia under the name of *Aceri-Fraxinetum croaticum* or *Aceri-Fraxinetum illyricum* (Horvat 1938, Petračič and Anič 1952, Regula-Bevilacqua 1978). The association *Aceri-Fraxinetum croaticum* was later accurately renamed *Chrysanthemo macrophylli-Aceretum*.

The above-mentioned stands from Croatia, classified into the association *Chrysanthemo macrophylli-Aceretum*, were also joined to the table (Table 11). They are most similar to the stands of the subassociation *C.-A. petasitetosum hybridi* which covers the moistest sites within the association, whereas the tree layer is dominated by the species *Fraxinus excelsior* (with the exception of a syntaxon 7 from Strahinjščica, where *Acer pseudoplatanus* occurs in a larger proportion). Three syntaxa from the territory of Croatia are therefore presented in the synthetic table: a syntaxon with one relevé from the region of Lika (Horvat 1938), a syntaxon with five relevés from the region of Medvednica (Petračič and Anič 1952, relevés 1–5, relevé No. 6 is without the tree layer) and a syntaxon with three relevés from the region of Strahinščica in Hrvaško Zagorje (Regula-Bevilacqua 1978). Only relevés Nos. 1–3 in Table No. 39 were included into the synthetic table from the last-mentioned syntaxon (*Aceri-Fraxinetum illyricum*, Regula-Bevilacqua 1978). This is due to the fact that the differential species of the association are missing from relevés 4 and 5 and that noble hardwoods are only poorly represented. We therefore believe they do not belong within the studied association. In the future, the stands from Croatia will require a more thorough investigation as there was too little relevé material published so far, and even that was incomplete in certain cases (Petračić and Anić 1952). As a result, a thorough analysis of these stands is impossible and comparison with other Illyrian stands remains difficult.

Ecological differences, and therefore also differences in the floristic composition, are presented not only in the synthetic table (Table 11), but also with the syntaxonomical spectrum of both associations (Figure 5).

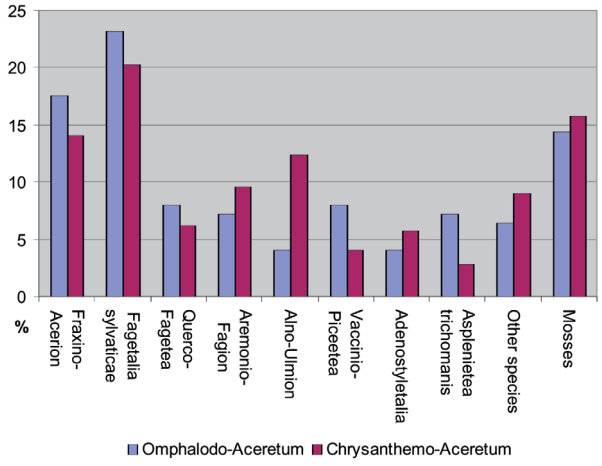

Figure 5: Syntaxonomical spectrum of the associations *Omphalodo vernae-Aceretum* (light grey) in *Chrysanthemo macrophylli-Aceretum* (dark grey)
Slika 5: Sintaksonomski spekter asociacij *Omphalodo vernae-Aceretum* (svetlo siva) in *Chrysanthemo macrophylli-Aceretum* (temno siva)

Consistent with the general character of the Dinaric world, which is stony and crisscrossed with sinkholes, the association *Omphalodo-Aceretum* covers stonier and generally not as developed soils as the association *Chrysanthemo macrophylli-Aceretum.* A higher degree of stoniness of the association is demonstrated also by a stronger representation of mosses and the species of the class *Asplenietea trichomanis.* The association occurs on smaller surfaces, fragmentarily, above all in sinkholes. Characteristic for the association is an abundant growth of ferns. *Fraxinus excelsior,* which is well represented in the association *Chrysanthemo macrophylli-Aceretum*, occurs here only exceptionally.

The differential species of the association *Chrysanthemo macrophylli-Aceretum Impatiens noli-tangere,* as well as a relatively higher proportion of the species of the alliance *Alno-Ulmion* compared to the association *Omphalodo-Aceretum,* indicate a higher degree of moisture in the soil (due to the generally deeper soil). Surface rockiness is lower, which is demonstrated in a poorer representation of mosses and the species of the class *Asplenietea trichomanis.* The presence of the tree species *Acer platanoides*, which was not detected in the association *Omphalodo-Aceretum,* indicates generally warmer site conditions. The differential species *Dentaria polyphylla* and *Dentaria trifolia* are very indicative of the geographical position of the association in the pre-Dinaric region of the Illyrian floral province in Slovenia. The stands of the association are generally distributed on larger surfaces, while the association *Omphalodo-Aceretum* is found only fragmentarily, on smaller surfaces. The association occurs on colluvial slopes, sinkholes, dales and ditches. In contrast to the association *Omphalodo-Aceretum* which grows above all on limestone, this association is found within the wider spectrum of parent material. It does occur mostly on calcareous soils, which are in places mixed with chert. The soil is generally deeper and more developed. The association is differentiated from the association *Omphalodo-Aceretum* by an abundant early-spring aspect of geophytes.

4. CONCLUSIONS

In central Europe, associations of maple forests within the alliance *Tilio-Acerion* are ecologically clearly defined regarding the various soil conditions, altitude and bedrock (Clot 1990, Müller 1992, Wallnöfer & al. 1993). The above-mentioned groups of differential species, however, do not manifest themselves well within the syntaxa, as noble hardwood forests often occur on sites with mosaically intertwined different soil types, from skeletal to deeper soils, in pockets between rocks. All this makes the syntaxonomical classification of the stands difficult. However, within the alliance *Fraxino-Acerion,* the associations are described not only with consideration of different altitudes and types of bedrock, but also with regard to their phytogeographical position in different phytogeographical regions of the Illyrian floral province. As those are soil conditioned communities on small surfaces occurring in the distribution area of zonal communities, our description of the communities proceeded from contact zonal communities. Two communities treated in this article, namely *Omphalodo vernae-Aceretum* and *Chrysanthemo macrophylli-Aceretum* (syn.: *Dentario polyphyllae-Aceretum*), are also defined in this way. We are of the opinion that classification based both on ecological as well as geographical differential groups is more generally applicable than classification considering only ecological differences. Nevertheless, the differences in geographical position which result in different macroclimatic conditions, are therefore reflected together with the ecological.

5. POVZETEK

Javorjevi gozdovi montanskega pasu zahodnega dela ilirske florne province

Obravnavali smo javorjeve gozdove gorskega sveta v dinarskem območju in preddinarskem območju ilirske florne province v Sloveniji. Ugotovili smo dve asociaciji, ki se pojavljata intraconalno v okviru conalnih bukovih gozdov.

Popisovali smo po standardni srednjeevropski metodi, talne razmere pa smo proučili s pomočjo reprezentančnih talnih profilov.

Asociacija *Omphalodo vernae-Aceretum pseudoplatani* P. Košir et Marinček 1999 se pojavlja v dinarskem območju (Goteniška gora, Javorniki, Logaška planota, Krim, Kočevski Rog) ilirske florne province v Sloveniji. Uspeva v območju razširjenosti asociacije *Omphalodo-Fagetum* (Tregubov 1957) Marinček et al. 1993. Asociacijo najdemo predvsem v vrtačah. Matična podlaga so jurski in kredni apnenci. V primerjavi z asociacijo *Chrysanthemo macrophylli-Aceretum* porašča kamnitejša in v splošnem slabše razvita tla. Prevladujejo rjava koluvialna pokarbonatna tla. Pojavlja se na manjših površinah, le fragmentarno. Asociacijo označuje bujna razrast praproti. Asociacijo smo razčlenili na tri subasociacije: subasociacijo *O.-A. dentarietosum pentaphylli* subass. nova, ki porašča inicialnejša tla, subasociacijo *O.-A. petasitetosum albi* subass. nova, ki jo najdemo na globljih, razvitejših tleh ter subasociacijo *O.-A. typicum* subass. nova brez razlikovalne skupine vrst. V okviru subasociacije *O.-A. dentarietosum pentaphylli* smo ločili varianto z vrsto *Lunaria rediviva* in varianto *typica*, v okviru subasociacije *O.-A. petasitetosum albae* pa varianto z vrsto *Matteuccia struthiopteris* na vlažnejših tleh in varianto *typica*.

Asociacija *Chrysanthemo macrophylli-Aceretum* (syn: *Dentario polyphyllae-Aceretum pseudoplatani* P. Košir et Marinček 1999) uspeva na koluvialnih pobočjih, vrtačah, grabnih in jarkih v preddinarskem območju (Bohor, Podsreda, Uršna Sela, Gorjanci, Konjiška gora). Pojavlja se v širšem arealu asociacij *Lamio orvalae-Fagetum* (I. Horvat 1938) Borhidi 1963 var. geogr. *Dentaria polyphylla* Ž. Košir 1962 ex Marinček 1994 in *Cardamini savensi-Fagetum* Ž. Košir 1962. Asociacijo najdemo na širšem spektru matičnih kamnin. Večinoma sicer uspeva na karbonatnih tleh, ki pa jim je ponekod lahko primešan tudi roženec. Tla so v splošnem globlja, bolj razvita in imajo manjšo površinsko skalovitost. Prevladujejo rjava pokarbonatna koluvialna tla. Zaradi v splošnem globljih tal so ta rastišča vlažnejša. Asociacijo ločujejo tudi vrste, ki nakazujejo relativno toplejše rastiščne razmere (preddinarsko območje). Sestoji so v splošnem razširjeni na večjih površinah. Značilen je bogat zgodnjepomladanski aspekt geofitov. V okviru asociacije smo ločili tri subasociacije: *C.-A. scopolietosum carniolicae* subass. nova, ki uspeva na vlažnejših, bolj inicialnih tleh, subasociacijo *C.-A. abietetosum albae* subass. nova na globokih, razvitejših tleh brez površinske skalovitosti in na v splošnem višjih nadmorskih višinah ter subasociacijo *C.-A. petasitetosum hybridi* na nekamnitih in najvlažnejših tleh. V okviru subasociacije *C.-A. scopolietosum carniolicae* smo ločili tri variante: varianto z vrsto *Asarum europaeum* na nižjih nadmorskih višinah, varianto z vrsto *Polystichum aculeatum* na strmejših, vlažnejših pobočjih, in varianto *typica*. V okviru subasociacije *C.-A. abietetosum albae* smo prav tako izločili tri variante: varianto z vrsto *Scopolia carniolica*, varianto z vrsto *Petasites albus* in v okviru teh dveh še subvarianti z vrsto *Fraxinus excelsior*, ter varianto *typica*. V okviru subasociacije *C.-A. petasitetosum hybridi* smo ločili dve varianti: varianta *typica* in varianta z vrsto *Allium ursinum* na najvlažnejših tleh v okviru te subasociacije. Obe asociaciji smo uvrstili v ilirsko zvezo gozdov plemenitih listavcev *Fraxino-Acerion* Fukarek 1969 v okviru reda *Fagetalia sylvaticae*.

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8. APPENDIX

Appendix to Table 8:

Relevé locations: **1.** Radoha, near Uršna Sela, slope to the foot of the sinkhole, **2.** Radoha near Uršna Sela, the foot of the sinkhole, **3.** Radoha near Uršna Sela, slope of the sinkhole, **4.** Under Veliki Trebež, slope of the sinkhole, the Gorjanci, **5.** Near the hunting lodge in the direction from Oštrc toward Veliki Trebež, the Gorjanci, slope of a large sinkhole, **6.** Dolenski Polom, under Veliki Trebež, the Gorjanci, slope to the foot of the sinkhole, **7.** Dolenski Polom, under Veliki Trebež, the Gorjanci, slope to the foot of the sinkhole, **8.** Under Veliki Trebež, the bottom to the foot of the sinkhole, the Gorjanci, **9.** Under Veliki Trebež, the Gorjanci, slope of the sinkhole, **10.** Under Veliki Trebež, the Gorjanci, slope of a large sinkhole, **11.** Under Veliki Trebež, the Gorjanci, the foot and the slope of the sinkhole, **12.** Under Veliki Trebež, the bottom to the foot of the sinkhole, the Gorjanci, **13.** Under Lipni vrh, Radoha near Uršna Sela, the bottom and the foot of the sinkhole, **14.** Under Veliki Trebež, the Gorjanci, the foot of the sinkhole, **15.** Under Cesar, Radoha near Uršna Sela, the bottom of a shallow sinkhole, **16.** Under Veliki Trebež, The Gorjanci, slope of the sinkhole, **17.** Under Veliki Trebež, the Gorjanci, slope of a large sinkhole, **18.** Under Kilovec, near Uršna Sela, slope of the sinkhole, **19.** Under Veliki Trebež, slope of the sinkhole, the Gorjanci, **20.** Under Veliki Trebež, the Gorjanci, slope of the sinkhole, **21.** Under Veliki Trebež, slope of the sinkhole, the Gorjanci, **22.–24.** Castle Podsreda, slope of the ditch, **25.** Cerov Log in the direction of Minutnik, the Gorjanci, along the stream, **26.** Jesenovski jarek ditch, the Gorjanci, steep slope, **27.** Jesenovski jarek ditch, the Gorjanci, a steep slope, **28.** Jesenovski jarek ditch, the Gorjanci, slope in the dale, **29.** Under Mirčev grič, the Gorjanci, a steep slope.

The species occurring only once in the Table (rare species): **FA;** *Fraxinus excelsior* Ia 22 (3), *Fraxinus excelsior* Ib 22 (+), **F**; Sanicula europaea 1 (+), *Dryopteris affinis* 4 (+), *Carex sylvatica* 13 (+), *Lonicera alpigena* II 15 (+), *Euphorbia dulcis* 22 (r), *Petasites albus* 22 (+), *Carpinus betulus* Ib 25 (+), *Festuca altissima* 26 (+), *Milium effusum* 27 (+), *Epipactis helleborine* 29 (+), **QF**; *Tamus communis* 15 (+), **AF**; *Erythronium dens-canis* 24 (r), *Cardamine trifolia* 25 (+), **AU**; *Dryopteris carthusiana* 23 (+), *Brachypodium sylvaticum* 26 (+), *Cirsium oleraceum* 28 (+), **A**; *Veratrum album* 17 (+), **VP;** *Dryopteris expansa* 13 (+), **AT**; *Asplenium trichomanes* 24 (+), **O**; *Alliaria petiolata* 25 (+), *Hypericum hirsutum* 29 (+), *Salix caprea* Ia 29 (1), **M**; *Anomodon viticulosus* IV 3 (+), *Neckera complanata* IV 3 (+), *Plagiothecium denticulatum* IV 23 (+), *Rhynchostegium rotundifolium* IV 23 (+), *Mnium thomsonii* IV 26 (+), *Anomodon longifolius* IV 29 (+).

Appendix to Table 9:

Relevé locations: **1.** Near a hunting lodge, Konjiška gora, a shallow sinkhole, **2.** Near a hunting lodge, Konjiška gora, a shallow sinkhole, **3.** Between Mali and Veliki Javornik, Bohor, slope of the ditch, **4.** Between Mali and Veliki Javornik, Bohor, slope of the ditch, **5.** Under Veliki Koprivnik, Bohor, a colluvial slope, **6.** Mali Javornik, Bohor, a colluvial slope, **7.** Under Oslica, Bohor, a colluvial slope under a large rock block, **8.** Bohor hunting lodge, under the peak of Možnica, Bohor, a colluvial slope, **9.** Under Skalica, Bohor, slope of a ditch, **10.** Under Oslica, Bohor, a colluvial slope, **11.** Under Oslica, Bohor, ditch, **12.** Mali Javornik, Bohor, a colluvial slope, **13.** Under Stolpnik, Konjiška gora, ditch, **14.** Bohor hunting lodge, under the peak of Možnica, a

colluvial slope, Bohor, **15.** Bohor hunting lodge, under the peak of Možnica, Bohor, a colluvial slope, **16.** Under Stolpnik, Konjiška gora, ditch, **17.** Under Debeli vrh, Bohor, ditch, **18.** Under Debeli vrh, Bohor, slope of the ditch, **19.** Veliki Javornik, Bohor, a colluvial slope, **20.** Under Ribežljev vrh (Kraljevi vrh), Konjiška gora, ditch, **21.** Veliki Javornik, Bohor, a colluvial slope, **22.** Veliki Javornik, Bohor, a colluvial slope.

The species occurring only once in the Table (rare species): **FA**; *Euonymus latifolia* II 9 (+), *Tilia platyphyllos* Ia 18 (+), *Tilia platyphyllos* Ib 18 (+), *Aruncus dioicus* 18 (+), *Ribes uva-crispa* II 22 (+), **F**; *Prenanthes purpurea* 13 (+), *Euphorbia amygdaloides* 16 (+), *Sambucus racemosa* II 16 *(+), Carex sylvatica* 18 (r), *Lilium martagon* 18 (+), *Hordelymus europaeus* 19 (+), *Myosotis sylvatica* 19 (+), *Pulmonaria officinalis* 20 (+), *Sanicula europaea* 20 (+), *Viola reichenbachiana* 20 (+), **QF***; Corylus avellana* II 7 (+), *Hedera helix* 10 (+), *Cirsium erisithales* 13 (r), *Sorbus aria* II 51 (+), *Lonicera xylosteum* II 20 (1), **AF**; *Cyclamen purpurascens* 13 (r), *Helleborus niger* 13 (r), *Cardamine trifolia* 20 (+), **AU;** *Dryopteris carthusiana* 2 (+), *Cardamine impatiens* 18 (r), *Cirsium oleraceum* 20 (+), **VP;** *Gentiana asclepiadea* 20 (+), **A**; *Polygonatum verticillatum* 21 (+), **AT;** *Polystichum X illyricum* 13 (+), **O**; *Cardamine flexuosa* 17 (+), *Arctium lappa* 18 (+), **M**; *Cirriphyllum tommasinii* 2 (+), *Homalothecium philipeanum* 2 (+), *Plagiomnium cuspidatum* 2 (+), *Brachythecium salebrosum* 3 (+), *Rhizomnium punctatum* IV 5 (+), *Eurhynchium striatum* 13 (+), *Fissidens taxifolius* IV 15 (+), *Herzogiella seligeri* IV 19 (+), *Plagiochila asplenioides* 20 (+), *Thamnobryum alopecurum* 20 (+).

Appendix to table 10:

Relevé locations: **1.** The Gorjanci, from Vahta toward Gospodična, the plateau along the stream, the valley floor, **2.** The Gorjanci, from Vahta toward Gospodična, the plateau along the stream, the valley floor, **3.** The Gorjanci, from Vahta toward Gospodična, the plateau along the stream, the valley floor, **4.** The Gorjanci, from Vahta toward Gospodična, the plateau along the stream, the valley floor, **5.** The Gorjanci, Jesenovski jarek ditch, the bottom of a deep, narrow valley, **6.** The Gorjanci, Jesenovski jarek ditch, the bottom of a deep, narrow valley, **7.** The Gorjanci, Jesenovski jarek ditch, the bottom of a deep, narrow valley.

The species occurring only once in the Table (rare species): **FA;** *Euonymus latifolia* 1 (r), *Actaea spicata* 3 (r), *Geranium robertianum* 3 (+), *Acer platanoides* II 4 (r), **F;** *Sanicula europaea* 1 (+), *Asarum europaeum* 2 (+), *Euphorbia amygdaloides* 3 (+), *Euphorbia dulcis* 3 (+), *Scrophularia nodosa* 3 (+),*Galium schultesii* 4 (+), **QF;** *Cephalanthera longifolia* 1 (r), **AF;** *Cyclamen purpurascens* 4 (+), **AU;** *Angelica sylvestris* 1 (+), *Festuca gigantea* 1 (+), *Equisetum arvense* 1 (+), *Carex pendula* 3 (r), *Deschampsia cespitosa* 6 (+), **VP;** *Gentiana asclepiadea* 3 (r), **O;** *Aesculus hippocastanum* 1 (r), *Dactylorhiza maculata* 1 (r), *Alliaria petiolata* 3 (+), *Galium aparine* 3 (r), *Rumex species* 3 (r), *Solanum dulcamara* 3 (+), *Hypericum hirsutum* 6 (+), *Veronica chamaedrys* 7 (r), **M;** *Hypnum cupressiforme* 1 (+), *Fissidens taxifolius* 2 (+), *Bryum species* 4 (+), *Ctenidium molluscum* 4 (+), *Dicranum scoparium* 6 (+), *Encalypta streptocarpa* 4 (+), *Fissidens dubius* 4 (+), *Homalothecium philippeanum* 4 (+).

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Table 7: Analytic table of the association *Omphalodo vernae-Aceretum* P. Košir et Marinček 1999
Tabela 7: Analitična tabela asociacije *Omphalodo vernae-Aceretum* P. Košir et Marinček 1999

	Relevé number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
	Date: day		6	6	7	6	6	6	6	7	24	9	9	9	20	16	16	20	16	20	16	16	16	16
	month		5	5	5	5	5	5	5	5	5	6	6	6	6	5	5	5	5	5	5	5	5	5
	year		99	99	99	99	99	99	99	99	99	99	99	99	98	98	98	99	98	99	98	98	98	98
	Relevé area (m2)		200	400	200	400	200	400	400	400	200	400	400	400	300	200	200	200	300	400	300	300	400	400
	Altitude (m)		480	470	475	455	455	450	455	490	730	370	460	640	850	890	920	840	950	800	910	760	910	910
	Aspect		EES	NW	SW	NE	NW	N	SSW	E	SE	N	NE	NNW	W	E	NW	N	S	N	NW	W	N	NW
	Slope (degrees)		30	25	20	5	20	10	10	30	30	45	20	20	30	45	25	15	10	20	25	10	20	20
	Cover bare rock (%)		50	40	50	5	50	35	30	80	70	5	60	70	30	30	70	40	10	1	10	0	10	20
	Cover of separate layers (%)																							
	Upper tree layer	Ia	90	90	80	90	80	90	70	90	95	70	70	80	80	60	70	75	80	80	70	80	70	70
	Lower tree layer	Ib	30	30	5	5	30	10	5	40	10	30	30	20	10	30	20	20	20	20	40	10	30	20
	Shrub layer	II	10	10	40	20	10	10	10	40	10	70	40	40	20	40	30	20	10	10	5	40	10	10
	Herb layer	III	70	90	80	100	80	100	100	50	50	60	90	80	80	70	50	80	95	100	80	90	90	90
	Moss layer	IV	40	40	50	5	50	30	5	70	60	10	40	50	30	40	50	50	10	5	10	10	10	20

			dentarietosum pentaphylli (a)												*typicum* (b)				*petasitetosum albi* (c)						presence	frequency	presence (a)	frequency (a)	presence (b)	presence (c)	frequency (c)
			var. *typica*									var. *Lunaria rediviva*							var. *typica*				var. *Matteuc. struthiopteris*								
	DIFFERENTIAL SPECIES OF THE ASSOCIATION																														
AF	*Omphalodes verna*	III	.	+	+	.	.	+	+	+	2	+	+	+	3	+	1	2	1	2	+	+	+	+	19	86	9	75	4	6	100
AF	*Cardamine trifolia*	III	+	+	.	+	.	+	+	+	+	.	.	.	1	1	+	1	+	.	1	+	1	1	16	73	7	58	4	5	83
AF	*Geranium nodosum*	III	+	+	+	+	+	+	+	+	.	.	.	.	.	1	.	.	1	.	+	+	1	1	14	64	8	67	1	5	83
FA	*Polystichum braunii et X luerssenii*	III	.	+	.	+	1	+	.	+	.	.	.	.	.	1	.	1	.	+	+	.	+	+	11	50	5	42	2	4	67
AF	*Calamintha grandiflora*	III	.	+	.	.	.	.	.	+	+	.	.	.	+	+	.	.	+	+	.	.	.	.	7	32	3	25	2	2	33
	DIFFERENTIAL SPECIES OF SUBASS. AND VAR.																														
F	*Dentaria pentaphyllos*	III	2	2	1	1	2	1	3	2	.	2	3	2	.	.	.	.	1	.	.	.	.	.	12	55	11	92	.	1	17
FA	*Scopolia carniolica*	III	3	4	4	3	4	4	4	.	2	2	.	.	.	.	.	.	.	+	.	.	.	.	10	45	9	75	.	1	17
F	*Mercurialis perennis*	III	1	3	1	+	.	.	.	+	.	1	+	1	.	.	.	.	+	.	.	.	.	.	9	41	8	67	.	1	17
FA	*Lunaria rediviva*	III	.	.	.	.	.	.	.	.	.	1	4	3	.	.	.	.	.	.	.	.	.	.	3	14	3	25	.	.	.
FA	*Polystichum setiferum et X bicknellii*	III	.	.	.	.	.	.	.	.	.	2	+	1	.	.	.	.	.	.	.	.	.	.	3	14	3	25	.	.	.

F	*Petasites albus*	III	.	.	.	1	.	.	+	.	.	1	.	+	.	.	.	.	+	1	4	2	3	3	3	11	50	4	33	1	6	100
F	*Leucojum vernum*	III	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	3	2	3	.	1	3	6	27	1	8	.	5	83
A	*Anthriscus nitida*	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	1	+	+	5	23	.	.	.	5	83
AU	*Stachys sylvatica*	III	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	1	.	+	+	1	1	1	7	32	1	8	1	5	83
AU	*Matteuccia struthiopteris*	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4	2	2	9	.	.	.	2	33
FA	***FRAXINO-ACERION***																														
	Acer pseudoplatanus	Ia	5	4	3	5	2	5	4	3	5	4	3	4	4	2	4	4		4	4	3	4	4	3	22	100	12	100	4	6	100
	Acer pseudoplatanus	Ib	.	+	.	.	.	+	+	+	+	1	+	1	+	+	1	+		+	.	+	1	1	+	17	77	8	67	4	5	83
	Acer pseudoplatanus	II	.	+	.	.	.	.	.	.	.	.	+	+	.	.	+	.		.	.	+	+	+	+	8	36	3	25	1	4	67
	Acer pseudoplatanus	III	+	+	+	+	1	1	+	+	+	.	+	1	+	.	+	1		.	+	+	.	+	.	17	77	11	92	3	3	50
	Arum maculatum	III	+	+	1	+	+	+	+	1	+	+	1	+	.	+	2	+		+	.	.	1	+	+	19	86	12	100	3	4	67
	Urtica dioica	III	2	+	2	2	1	+	2	+	.	.	+	.	.	+	+	+		1	+	+	1	1	1	18	82	9	75	3	6	100
	Actaea spicata	III	+	+	.	.	+	.	r	+	r	+	.	+	.	1	+	1		+	+	+	.	+	+	16	73	8	67	3	5	83
	Adoxa moschatellina	III	+	+	2	1	+	+	1	+	.	.	1	+	+	1	1	1		+	.	.	+	.	.	16	73	10	83	4	2	33
	Stellaria montana	III	1	+	+	+	1	1	+	+	.	.	.	.	1	.	.	+		1	+	+	1	1	1	16	73	8	67	2	6	100
	Geranium robertianum	III	+	+	+	.	+	+	+	1	+	+	+	+	+	1	+	1		.	+	.	.	.	.	16	73	11	92	4	1	17
	Phyllitis scolopendrium	III	2	2	1	.	1	+	.	1	2	2	2	1	1	2	2	1		.	.	+	.	.	.	15	68	10	83	4	1	17
	Ulmus glabra	Ia	.	.	.	.	.	.	+	2	.	.	.	.	+	.	.	+		1	+	.	+	+	2	9	41	2	17	2	5	83
	Ulmus glabra	Ib	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	1		.	.	.	.	.	.	2	9	1	8	1	.	.
	Ulmus glabra	II	.	.	+	.	+	.	+	.	.	.	+	+	+	.	.	.		+	+	.	+	+	.	10	45	5	42	1	4	67
	Ulmus glabra	III	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	+		.	.	.	.	.	.	2	9	1	8	1	.	.
	Polystichum aculeatum	III	.	1	+	.	+	.	+	+	1	.	.	.	+	1	+	+		.	.	.	.	.	+	11	50	6	50	4	1	17
	Circaea lutetiana	III	.	.	.	+	+	+	1	.	.	.	.	+	.	.	.	1		+	+	.	1	+	+	11	50	5	42	1	5	83
	Doronicum austriacum	III	.	.	.	.	.	.	.	.	.	.	.	.	+	.	+	1		.	+	+	.	1	1	7	32	.	.	3	4	67
	Tilia platyphyllos	Ia	.	1	2	.	3	+	.	.	.	.	2	.	.	.	.	.		.	.	.	.	.	.	5	23	5	42	.	.	.
	Tilia platyphyllos	Ib	.	+	.	.	.	.	.	2	.	.	.	.	.	.	.	.		.	.	.	.	.	.	2	9	2	17	.	.	.
	Tilia platyphyllos	II	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.		.	.	.	.	.	.	1	5	1	8	.	.	.
	Tilia platyphyllos	III	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.		.	.	.	.	.	.	1	5	1	8	.	.	.
	Staphylea pinnata	II	.	.	2	.	.	.	.	3	.	+	+	+	.	.	.	.		.	.	.	.	.	.	5	23	5	42	.	.	.
	Circaea X intermedia	III	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	+		.	.	.	.	.	.	2	9	1	8	1	.	.
	Ribes uva-crispa	II	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.		.	.	.	.	.	.	1	5	.	.	1	.	.
	Fraxinus excelsior	Ib	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.		.	.	.	.	.	.	1	5	1	8	.	.	.
	Fraxinus excelsior	III	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.		.	.	.	.	.	.	1	5	.	.	1	.	.

	Relevé number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22							
F	***FAGETALIA SYLVATICAE***																														
	Dryopteris filix-mas	III	+	1	1	+	+	+	1	+	+	+	1	1	2	1	1	2	+	+	1	+	1	.	21	95	12	100	4	5	83
	Fagus sylvatica	Ia	+	+	.	+	+	.	.	.	.	+	.	+	.	1	.	.	.	+	1	.	.	+	10	45	6	50	1	3	50
	Fagus sylvatica	Ib	2	1	.	+	2	+	.	1	+	+	+	.	+	+	+	.	2	+	2	.	+	1	17	77	9	75	3	5	83
	Fagus sylvatica	II	+	.	.	.	.	+	.	+	.	.	.	+	+	.	.	+	+	+	.	.	.	+	9	41	4	33	2	3	50
	Fagus sylvatica	III	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	+	.	2	9	.	.	1	1	17
	Sambucus nigra	II	+	+	1	.	.	+	+	+	+	+	+	+	+	1	+	+	.	+	+	+	+	+	19	86	10	83	4	5	83
	Dentaria bulbifera	III	1	+	1	1	+	.	+	+	+	+	.	+	.	1	1	.	1	+	2	+	1	1	18	82	10	83	2	6	100
	Salvia glutinosa	III	r	+	+	+	+	+	+	.	.	+	.	+	.	.	.	+	+	+	+	+	+	+	16	73	9	75	1	6	100
	Symphytum tuberosum	III	.	.	.	+	.	2	1	+	.	.	.	.	+	1	+	+	+	+	1	+	1	1	14	64	4	33	4	6	100
	Daphne mezereum	II	+	+	+	.	.	+	+	.	+	+	.	+	+	+	.	+	+	+	.	+	.	.	14	64	8	67	3	3	50
	Lamiastrum flavidum	III	+	+	+	.	.	.	+	+	+	.	.	.	+	+	.	+	1	.	+	.	+	+	13	59	6	50	3	4	67
	Paris quadrifolia	III	.	.	.	+	+	+	.	+	+	.	+	+	+	+	+	r	+	+	.	.	.	.	13	59	7	58	4	2	33
	Corydalis cava	III	1	1	.	3	1	+	2	.	.	.	+	.	.	.	.	.	+	.	1	+	2	1	12	55	7	58	.	5	83
	Mycelis muralis	III	.	.	.	.	.	.	+	+	+	.	+	.	+	+	r	+	.	+	.	.	.	.	9	41	4	33	4	1	17
	Galium odoratum	III	.	.	+	.	+	+	.	.	+	.	.	+	.	.	.	+	+	1	.	.	.	.	8	36	5	42	1	2	33
	Carex sylvatica	III	.	.	+	.	+	.	+	.	+	.	.	.	+	.	.	+	+	+	.	.	.	.	8	36	4	33	2	2	33
	Polygonatum multiflorum	III	+	.	+	.	.	.	+	.	r	.	.	.	.	+	.	+	.	.	.	.	+	.	7	32	4	33	2	1	17
	Galanthus nivalis	III	+	+	+	+	.	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	6	27	6	50	.	.	.
	Pulmonaria officinalis	III	.	.	+	.	.	.	+	+	.	+	.	+	.	.	.	.	.	.	.	.	.	.	5	23	5	42	.	.	.
	Milium effusum	III	.	.	.	.	+	+	+	.	.	.	.	.	.	.	.	.	.	.	.	+	.	+	5	23	3	25	.	2	33
	Sanicula europaea	III	.	.	.	.	.	.	.	.	+	.	.	.	+	.	.	.	+	+	.	.	+	.	5	23	1	8	1	3	50
	Lonicera alpigena	II	.	.	.	.	.	+	.	.	.	.	.	+	1	.	1	.	.	.	.	.	.	.	4	18	2	17	2	.	.
	Asarum europaeum	III	.	.	+	.	.	.	.	+	.	+	+	.	.	.	.	.	.	.	.	.	.	.	4	18	4	33	.	.	.
	Ranunculus lanuginosus	III	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	1	.	.	+	+	4	18	.	.	1	3	50
	Viola reichenbachiana	III	.	.	.	.	.	.	.	.	r	.	.	.	+	.	.	.	.	+	.	.	.	.	3	14	1	8	1	1	17
	Lamiastrum montanum	III	.	.	.	.	.	.	.	.	.	+	.	+	.	.	.	.	.	.	.	.	.	.	2	9	.	.	.	.	.
	Dryopteris affinis	III	.	.	.	.	.	+	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	2	9	2	17	.	.	.
	Festuca altissima	III	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	+	.	.	.	.	.	2	9	.	.	1	1	17
	Euphorbia amygdaloides	III	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	+	.	.	.	.	.	2	9	1	8	.	1	17
	Allium ursinum	III	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	+	.	.	.	2	9	1	8	.	1	17
	Lathyrus vernus	III	.	r	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	2	9	1	8	1	.	.

QF	***QUERCO-FAGETEA***																													
	Corylus avellana	Ib	.	.	.	.	.	.	.	.	.	1	.	+	.	.	.	.	.	.	.	+	.	.	3	14	2	17	.	1	17
	Corylus avellana	II	.	.	+	.	1	1	1	+	+	3	2	2	+	2	1	1	1	.	.	2	+	.	16	73	9	75	4	3	50
	Lonicera xylosteum	II	.	.	+	.	.	+	.	.	.	+	+	+	+	.	.	+	.	.	.	+	.	.	8	36	5	42	2	1	17
	Anemone nemorosa	III	.	.	.	.	.	.	.	.	r	.	.	+	+	.	.	.	.	1	.	.	.	.	4	18	2	17	1	1	17
	Acer campestre	Ib	.	.	+	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	2	9	2	17	.	.	.
	Acer campestre	II	.	.	+	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	9	2	17	.	.	.
	Aegopodium podagraria	III	.	.	.	+	.	.	+	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	3	14	3	25	.	.	.
	Moehringia trinervia	III	.	.	+	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	9	2	17	.	.	.
	Scilla bifolia	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	r	2	9	.	.	.	2	33
	Tamus communis	III	.	.	.	.	.	.	.	+	.	+	.	.	.	.	.	.	.	.	.	.	.	.	2	9	2	17	.	.	.
	Stellaria holostea	III	.	.	.	.	+	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	9	2	17	.	.	.
AF	***AREMONIO-FAGION* s. lat.**																													
	Dentaria enneaphyllos	III	2	1	+	+	1	2	.	+	+	+	1	+	.	3	+	2	1	+	2	.	+	1	19	86	11	92	3	5	83
	Lamium orvala	III	.	r	.	.	.	.	.	3	1	2	+	1	.	.	.	.	.	.	.	+	.	.	7	32	6	50	.	1	17
	Aremonia agrimonoides	III	.	.	.	.	.	.	.	.	r	.	.	.	+	+	.	.	+	+	.	.	.	.	5	23	1	8	2	2	33
	Vicia oroboides	III	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	+	.	.	.	2	9	.	.	1	1	17
	Dentaria polyphylla	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	1	5	.	.	.	1	17
AU	***ALNO-ULMION***																													
	Chrysosplenium alternifolium	III	.	+	+	+	+	+	1	+	+	.	1	.	.	+	+	+	.	.	+	+	+	+	16	73	9	75	3	4	67
	Dryopteris carthusiana	III	+	+	.	+	.	.	.	.	+	.	.	.	.	+	.	.	.	.	.	.	.	+	.	6	27	4	33	1	1	17
	Brachypodium sylvaticum	III	.	.	+	.	.	.	.	.	.	+	.	.	.	.	+	+	+	.	.	.	.	.	.	5	23	2	17	2	1	17
	Cardamine impatiens	III	.	.	+	.	+	.	+	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	4	18	3	25	1	.	.
VP	***VACCINIO-PICEETEA***																													
	Oxalis acetosella	III	+	+	+	+	+	1	+	+	1	+	+	+	2	1	1	2	+	1	1	1	+	1	22	100	12	100	4	6	100
	Abies alba	Ia	.	+	.	.	.	.	.	+	.	.	.	.	+	.	.	.	.	+	.	1	.	.	5	23	2	17	1	2	33
	Abies alba	Ib	.	.	.	+	.	.	.	.	.	.	+	1	.	.	.	.	.	.	+	1	.	.	5	23	3	25	.	2	33
	Abies alba	II	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	r	.	.	.	.	.	.	2	9	.	.	2	.	.
	Abies alba	III	.	.	.	.	+	.	+	.	1	.	1	+	+	.	+	+	.	+	.	.	+	.	10	45	5	42	3	2	33
	Picea abies	Ia	.	.	.	.	.	.	.	.	.	.	.	.	+	1	+	.	.	.	.	.	.	.	3	14	.	.	3	.	.
	Picea abies	Ib	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	+	.	.	.	.	3	14	1	8	1	1	17

	Relevé number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22							
	Picea abies	II	.	.	+	+	.	+	.	.	.	+	.	.	.	.	+	+	.	.	.	.	.	.	6	27	4	33	2	.	.
	Picea abies	III	.	+	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	+	.	.	3	14	1	8	1	1	17
	Gentiana asclepiadea	III	.	.	.	+	.	.	.	.	.	.	.	.	+	.	.	+	.	+	+	.	.	.	5	23	1	8	2	2	33
	Dryopteris expansa	III	.	.	+	.	.	.	+	.	.	.	+	.	+	.	.	.	.	.	.	.	.	.	4	18	3	25	1	.	.
	Dryopteris dilatata	III	.	.	+	.	+	+	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	4	18	3	25	1	.	.
	Phegopteris connectilis	III	.	.	.	.	.	.	.	.	.	.	+	.	+	.	.	+	.	.	.	.	.	.	3	14	1	8	2	.	.
	Lonicera nigra	II	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.	.	.	2	9	.	.	2	.	.
	Gymnocarpium dryopteris	III	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	+	.	.	.	.	.	.	2	9	.	.	2	.	.
A	***ADENOSTYLETALIA***																														
	Athyrium filix-femina	III	+	+	+	2	2	2	2	+	1	+	+	1	2	2	+	2	2	+	2	+	1	2	22	100	12	100	4	6	100
	Senecio fuchsii	III	r	.	.	.	+	.	.	.	+	+	.	+	+	1	+	+	1	1	+	+	.	.	13	59	5	42	4	4	67
	Veratrum album	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	+	+	.	+	+	5	23	.	.	1	4	67
	Myosotis sylvatica	III	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	+	.	+	.	.	.	.	4	18	.	.	3	1	17
AT	***ASPLENIETEA TRICHOMANIS***																														
	Polypodium vulgare	III	.	+	+	.	+	.	.	+	.	.	+	.	+	+	+	+	.	.	.	.	.	.	9	41	5	42	4	.	.
	Asplenium trichomanes	III	.	.	+	.	.	+	+	+	+	.	.	+	+	+	+	.	.	.	.	.	.	.	9	41	6	50	3	.	.
	Polystichum x illyricum	III	+	+	+	.	+	.	.	+	+	.	+	.	.	.	+	.	.	.	.	.	.	.	8	36	7	58	1	.	.
	Polystichum lonchitis	III	.	.	.	.	.	.	.	+	r	.	r	.	.	.	.	+	.	.	.	.	.	.	4	18	3	25	1	.	.
	Moehringia muscosa	III	+	.	+	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	14	3	25	.	.	.
	Cystopteris fragilis	III	.	+	.	.	+	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	3	14	2	17	1	.	.
	Gymnocarpium robertianum	III	.	+	.	.	.	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	14	3	25	.	.	.
	Asplenium viride	III	+	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	9	2	17	.	.	.
	Cardaminopsis arenosa	III	.	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	9	2	17	.	.	.
O	**OTHER SPECIES**																														
	Lamium maculatum	III	.	+	2	3	.	.	2	+	.	.	.	.	.	.	.	1	.	.	.	1	+	.	8	36	5	42	1	2	33
	Solanum dulcamara	III	.	.	+	.	+	.	.	+	r	+	.	.	.	.	+	.	.	.	.	.	.	.	6	27	5	42	1	.	.
	Rubus fruticosus agg.	II	.	.	.	.	.	.	.	.	+	.	.	+	+	.	+	.	.	+	.	.	.	.	5	23	2	17	2	1	17
	Fragaria vesca	III	+	.	.	.	.	.	r	.	.	.	.	.	+	.	.	.	+	.	.	.	.	.	4	18	2	17	1	1	17
	Galeopsis speciosa	III	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	+	.	3	14	1	8	.	2	33
	Rubus idaeus	II	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	1	.	.	.	.	2	9	.	.	1	1	17

	Cardamine flexuosa	III	.	.	.	+	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	9	2	17	.	.	.
	Arctium lappa	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	+	.	.	2	9	.	.	.	2	33
M	**MOSSES**																													
	Ctenidium molluscum	IV	3	1	1	+	+	+	+	1	3	+	+	3	+	1	2	1	+	+	+	.	+	1	21	95	12	100	4	5	83
	Plagiomnium undulatum	IV	+	2	+	2	3	2	+	3	3	+	2	1	+	1	1	3	.	.	.	1	+	.	18	82	12	100	4	2	33
	Eurhynchium striatum	IV	1	+	3	1	2	+	2	3	+	.	3	+	+	1	.	2	.	+	.	.	+	+	17	77	11	92	3	3	50
	Thamnobryum alopecurum	IV	+	+	+	+	2	+	1	2	2	.	1	+	.	1	2	+	.	.	.	.	+	.	15	68	11	92	3	1	17
	Brachythecium rutabulum	IV	1	.	.	.	+	.	1	+	+	+	+	2	.	.	+	.	+	.	+	+	+	+	14	64	8	67	1	5	83
	Plagiochila asplenioides	IV	.	+	.	.	+	+	.	+	1	.	+	+	+	2	.	1	.	.	+	.	.	+	12	55	7	58	3	2	33
	Isothecium alopecuroides	IV	+	.	+	.	+	.	.	.	+	.	.	+	+	2	.	.	.	.	1	.	+	1	10	45	5	42	2	3	50
	Hypnum cupressiforme	IV	+	+	.	.	.	.	+	.	.	.	.	.	.	+	1	.	+	+	.	+	.	.	8	36	3	25	2	3	50
	Plagiothecium denticulatum	IV	.	+	.	.	.	.	+	.	.	.	+	.	.	1	.	.	.	.	.	+	+	+	7	32	3	25	1	3	50
	Neckera crispa	IV	.	.	+	.	.	.	.	+	1	.	.	+	+	1	2	.	.	.	.	.	.	.	7	32	4	33	3	.	.
	Plagiomnium cuspidatum	IV	1	.	.	.	.	.	+	.	.	+	1	+	.	.	.	.	.	.	.	.	.	.	5	23	5	42	.	.	.
	Thuidium tamariscinum	IV	.	.	1	.	.	+	.	.	+	.	+	.	+	.	.	.	.	.	.	.	.	.	5	23	4	33	1	.	.
	Brachythecium populeum	IV	.	.	.	.	.	.	.	+	.	+	+	.	.	.	.	.	+	.	.	.	.	.	4	18	3	25	.	1	17
	Cirriphyllum tommasinii	IV	+	.	+	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	3	14	3	25	.	.	.
	Brachythecium salebrosum	IV	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	2	9	1	8	1	.	.
	Plagiothecium nemorale	IV	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	+	.	2	9	1	8	.	1	17
	Tortella tortuosa	IV	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.	.	.	.	2	9	1	8	1	.	.
	Plagiomnium affine	IV	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.	.	.	2	9	.	.	2	.	.

Table 8: Analyitic table of the subassociation *Chrysanthemo macrophylli-Aceretum* (I. Horvat 1938) Borhidi 1965 *scopolietosum carniolicae* subass. nova hoc loco
Tabela 8: Analitična tabela subasociacije *Chrysanthemo macrophylli-Aceretum* (I. Horvat 1938) Borhidi 1965 *scopolietosum carniolicae* subass. nova hoc loco

	Relevé number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29		
	Date: day		13	13	13	3	14	14	14	3	3	3	3	3	13	3	13	3	3	13	3	3	3	5	5	5	2	2	2	2	2		
	month		5	5	5	5	6	6	6	5	5	5	5	5	5	5	5	5	5	5	5	5	5	6	6	6	6	6	6	6	6		
	year		99	99	99	88	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	98	98	98	98	98	98	98	98		
	Relevé area (m2)		400	400	400	400	400	400	400	200	300	400	400	200	400	300	400	400	400	400	200	300	400	400	400	400	300	300	300	300	200		
	Altitude (m)		520	455	440	780	570	730	730	735	735	770	760	780	480	730	570	750	770	585	745	780	730	440	430	410	350	800	800	970	740		
	Aspect		E	N	NEE	N	NNW	E	NE	NNW	NE	NNW	N	NE	N	NW	-	N	NE	N	NNE	NE	E	NNE	NW	NE	NW	E	NE	NW	NW		
	Slope (degrees)		30	25	28	25	45	25	20	10	20	10	20	10	5	10	0	25	15	25	20	15	15	30	40	25	2	40	40	30	35		
	Cover bare rock (%)		40	40	30	30	60	40	30	30	60	5	20	10	5	20	1	30	10	10	40	5	30	5	5	5	1	0	5	5	50		
	Cover of separate layers (%)																																
	Upper tree layer	Ia	90	95	95	80	95	90	90	80	90	80	90	90	90	90	90	80	80	80	70	80	90	85	80	80	80	90	70	80	80		
	Lower tree layer	Ib	0	5	50	30	0	0	10	10	30	10	20	5	0	10	20	5	5	15	10	20	15	15	30	30	20	40	50	10	0		
	Shrub layer	II	50	20	20	5	5	15	20	5	10	10	5	5	60	5	40	20	10	10	10	0	20	50	70	40	40	30	40	35	60		
	Herb layer	III	90	90	80	90	100	90	100	90	70	100	95	100	100	95	70	90	100	100	80	100	100	90	90	85	95	95	90	100	80		
	Moss layer	IV	30	40	30	20	15	30	20	30	50	5	10	10	5	10	5	20	5	5	30	3	10	5	5	15	5	1	5	10	50		
			var. *typica*																					var. *Asarum europaeum*				var. *Polystichum aculeatum*				presence	frequency
	DIFFERENTIAL SPECIES OF THE ASSOCIATION																																
AF	*Dentaria polyphylla*	III	.	+	2	3	+	+	+	3	.	2	2	+	+	2	1	2	1	.	1	3	3	1	1	.	+	+	+	.	+	24	83
AF	*Dentaria trifolia*	III	.	.	.	1	+	+	+	.	+	.	1	1	.	.	.	+	.	.	.	+	.	.	.	.	3	+	.	.	+	12	41
FA	*Isopyrum thalictroides*	III	1	+	+	+	.	.	.	.	.	.	+	+	.	.	+	.	+	1	1	1	+	.	.	.	+	.	.	.	+	14	48
AU	*Impatiens noli-tangere*	III	.	+	.	1	+	+	+	1	.	2	+	+	.	1	.	3	1	.	2	1	1	.	+	+	1	+	+	1	+	22	76
FA	*Glechoma hirsuta*	III	.	.	.	+	.	+	+	.	.	.	.	+	.	.	1	.	.	.	.	.	.	+	.	1	1	.	.	.	.	8	28
F	*Corydalis solida*	III	.	+	.	+	.	+	.	.	.	+	+	+	.	+	r	.	+	.	+	+	+	.	.	.	+	+	+	.	+	16	55
	DIFFERENTIAL SPECIES OF SUBASSOCIATION																																
FA	*Phyllitis scolopendrium*	III	2	3	2	2	4	3	2	2	2	1	2	2	+	1	+	1	1	3	2	+	2	3	3	3	+	+	+	2	2	29	100
FA	*Polystichum setiferum et X bicknellii*	III	3	2	2	1	+	+	+	2	1	2	2	+	+	+	+	2	1	2	1	+	2	2	2	2	+	+	.	.	+	27	93
FA	*Scopolia carniolica*	III	5	4	3	3	4	4	5	2	1	1	3	5	5	4	+	3	5	1	1	.	.	.	.	.	1	3	4	4	.	23	79
AF	*Dentaria enneaphyllos*	III	+	+	+	1	+	+	+	1	2	+	1	+	2	2	2	.	.	.	.	+	.	+	+	+	+	+	+	+	+	24	83
FA	*Geranium robertianum*	III	+	+	+	+	+	r	r	+	+	+	.	.	.	.	.	+	.	.	.	+	+	+	+	+	.	+	+	+	1	20	69

	DIFFERENTIAL SPECIES OF VARIANTS																																
F	*Asarum europaeum*	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	+	+	+	.	.	.	.	4	14
AF	*Hacquetia epipactis*	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	1	1	.	.	.	.	+	4	14
AF	*Helleborus odorus*	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	+	+	.	.	.	.	4	14
AF	*Helleborus atrorubens*	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.	2	7
FA	*Polystichum aculeatum*	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	+	+	+	+	5	17
AT	*Polystichum X illyricum*	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	+	+	+	4	14
QF	*Lonicera xylosteum*	II	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	1	+	.	3	10
FA	*Aruncus dioicus*	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	+	.	3	10
FA	***FRAXINO-ACERION***																																
	Acer pseudoplatanus	Ia	5	5	5	5	5	5	5	5	4	5	5	5	5	5	4	5	4	4	4	5	5	3	4	4	5	4	.	4	4	28	97
	Acer pseudoplatanus	Ib	.	+	.	.	.	.	+	.	.	.	+	+	.	.	.	.	.	.	.	+	.	1	1	1	+	1	+	1	.	12	41
	Acer pseudoplatanus	II	+	+	+	.	.	.	.	.	.	.	+	.	+	.	.	.	.	+	.	.	.	1	+	+	1	.	+	1	2	13	45
	Acer pseudoplatanus	III	.	+	+	+	+	+	1	1	1	.	.	1	.	1	.	1	1	.	+	+	+	.	+	.	.	1	1	+	+	20	69
	Arum maculatum	III	1	1	1	+	+	+	+	1	1	+	+	+	1	+	1	1	.	+	+	1	1	1	+	+	1	+	1	1	1	28	97
	Urtica dioica	III	.	.	.	1	+	+	+	1	1	2	1	1	1	1	+	.	1	+	1	1	1	+	+	+	1	2	+	1	2	25	86
	Adoxa moschatellina	III	.	1	+	1	+	.	+	2	2	+	1	+	.	+	.	2	+	.	+	1	1	+	+	.	+	+	.	+	.	21	72
	Geranium robertianum	III	+	+	+	+	+	r	r	+	+	+	.	.	.	.	.	+	.	.	.	+	+	+	+	+	.	+	+	+	1	20	69
	Circaea lutetiana	III	+	1	.	.	.	+	+	+	+	+	.	.	1	.	1	+	+	+	1	+	.	2	1	.	.	+	+	+	.	19	66
	Lunaria rediviva	III	.	.	.	+	.	.	.	3	3	2	2	2	.	2	.	.	2	.	4	3	4	.	.	+	3	1	+	2	3	17	59
	Actaea spicata	III	+	+	+	+	.	.	.	.	.	.	.	.	+	.	1	.	.	+	.	.	.	+	+	+	.	+	+	+	+	14	48
	Ulmus glabra	Ia	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	+	.	.	.	+	+	+	.	2	+	.	.	7	24
	Ulmus glabra	Ib	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	1	+	.	+	+	.	.	5	17
	Ulmus glabra	II	1	+	1	.	.	.	.	.	+	.	.	.	+	.	1	.	+	+	.	.	.	+	+	+	1	+	.	.	.	13	45
	Stellaria montana	III	.	.	.	.	.	.	.	.	.	+	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	1	1	1	+	2	7	24
	Doronicum austriacum	III	.	.	.	.	.	.	+	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	2	+	+	6	21
	Euonymus latifolia	II	.	.	r	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	+	+	+	.	.	.	.	.	5	17
	Acer platanoides	Ia	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	+	.	+	.	.	3	.	.	4	14
	Acer platanoides	Ib	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	1	.	.	2	7
	Acer platanoides	II	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	+	.	+	.	.	+	.	.	4	14
	Acer platanoides	III	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	3
	Tilia platyphyllos	Ia	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	+	.	.	.	.	.	2	7
	Tilia platyphyllos	Ib	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.	2	7

	Relevé number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29		
	Tilia platyphyllos	II	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	+	.	.	.	.	.	4	14
	Hesperis candida	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	2	7
F	***FAGETALIA SYLVATICAE***																																
	Dryopteris filix-mas	III	+	1	1	1	+	1	+	+	+	1	+	1	1	+	2	+	+	1	+	+	+	1	+	+	+	1	1	+	1	29	100
	Sambucus nigra	Ib	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	1	3
	Sambucus nigra	II	3	2	+	+	+	1	2	+	+	+	+	+	3	+	+	2	+	1	1	.	2	3	3	2	1	+	+	1	2	28	97
	Sambucus nigra	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	1	3
	Dentaria bulbifera	III	1	1	+	+	+	+	+	+	.	.	.	+	1	+	+	+	+	+	+	+	+	+	+	+	1	+	+	.	1	25	86
	Corydalis cava	III	.	+	.	1	.	+	+	1	.	2	1	+	+	1	+	+	2	+	3	2	3	+	+	+	+	+	+	+	+	25	86
	Lamiastrum montanum	III	+	+	.	2	+	2	2	+	+	+	1	2	+	1	+	1	2	+	+	+	.	.	1	1	2	.	.	1	+	24	83
	Fagus sylvatica	Ia	+	+	+	.	.	.	.	.	+	.	+	.	+	.	1	.	+	+	+	+	.	.	.	+	.	.	1	.	.	13	45
	Fagus sylvatica	Ib	.	+	3	+	.	.	.	1	2	1	1	+	.	1	1	+	.	1	+	1	1	.	.	+	.	+	1	.	.	18	62
	Fagus sylvatica	II	.	+	.	.	.	.	.	.	+	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	+	.	.	+	.	5	17
	Galium odoratum	III	+	1	+	+	.	.	.	+	.	.	.	.	1	.	1	.	.	1	.	.	.	+	+	1	.	+	1	.	+	14	48
	Symphytum tuberosum	III	.	.	.	+	.	.	.	.	1	+	+	+	.	.	.	1	.	1	.	+	+	.	+	.	+	.	+	.	.	12	41
	Paris quadrifolia	III	+	+	.	+	.	.	.	r	.	.	.	.	+	.	+	+	.	+	.	+	+	.	.	+	.	.	.	.	.	11	38
	Mercurialis perennis	III	.	+	+	.	.	.	.	.	+	.	.	.	.	.	+	.	.	.	.	.	.	1	+	+	.	1	1	+	1	11	38
	Polygonatum multiflorum	III	.	.	r	.	.	.	.	.	.	.	.	.	+	.	+	.	.	.	.	+	+	+	+	+	.	+	+	.	+	11	38
	Prunus avium	Ia	.	.	.	.	.	.	.	+	+	.	+	.	.	+	.	.	+	1	.	.	+	.	.	.	.	.	.	.	+	8	28
	Prunus avium	Ib	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	1	3
	Prunus avium	II	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	+	.	.	.	.	+	.	.	.	.	.	.	3	10
	Salvia glutinosa	III	+	.	.	.	+	.	.	+	.	.	.	.	.	.	+	.	.	.	.	.	.	+	+	+	.	.	.	+	+	9	31
	Mycelis muralis	III	.	.	.	.	+	+	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	+	.	.	+	+	+	+	8	28
	Pulmonaria officinalis	III	.	.	+	.	.	.	+	.	.	.	.	.	.	.	+	.	.	+	.	.	.	+	+	.	+	.	.	.	.	7	24
	Ranunculus lanuginosus	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	+	+	.	+	+	+	.	+	7	24
	Heracleum sphondylium	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	+	.	+	1	+	+	7	24
	Leucojum vernum	III	.	.	.	.	.	+	+	.	.	.	.	.	.	.	1	.	.	.	+	2	1	.	.	.	.	.	.	.	.	6	21
	Allium ursinum	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	1	3	2	+	.	.	.	.	5	17
	Galanthus nivalis	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	+	+	.	.	.	+	5	17
	Viola reichenbachiana	III	.	.	.	.	.	.	.	.	.	.	.	.	+	.	+	.	.	.	.	.	.	.	.	.	.	+	.	.	.	3	10
	Lilium martagon	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	+	.	+	.	.	.	3	10
	Daphne mezereum	II	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	+	.	3	10
	Bromus ramosus	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	+	3	10

Scrophularia nodosa	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	1	.	+	3	10
Euphorbia amygdaloides	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	+	2	7
Epilobium montanum	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	+	.	2	7
Myosotis sylvatica	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	+	2	7
QF *QUERCO-FAGETEA*																																			
Corylus avellana	Ib	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	+	+	.	3	10
Corylus avellana	II	.	+	+	.	+	+	+	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	+	2	.	+	1	+	+	+	13	45
Anemone nemorosa	III	.	+	+	.	.	+	+	.	+	.	.	.	+	r	.	.	.	+	.	+	.	.	.	.	.	.	+	.	.	10	34
Anemone ranunculoides	III	.	+	.	.	.	+	.	.	.	.	.	.	+	.	+	.	.	.	.	.	+	.	.	+	+	.	.	.	.	7	24
Hedera helix	III	+	.	r	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	+	1	1	.	.	.	.	.	6	21
Aegopodium podagraria	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	+	2	2	.	.	.	.	4	14
Scilla bifolia	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	+	.	.	3	10
Ranunculus ficaria	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	2	7
Acer campestre	Ib	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	1	3
Acer campestre	II	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	1	.	.	.	.	2	7
AF *AREMONIO-FAGION* s. lat.																																			
Lamium orvala	III	+	2	1	.	+	+	+	.	.	.	+	+	1	+	+	.	.	2	.	+	.	1	1	+	+	+	+	+	+	21	72
Cyclamen purpurascens	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	+	+	+	.	+	+	.	+	7	24
Vicia oroboides	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	r	r	.	.	.	.	r	4	14
Ruscus hypoglossum	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	+	.	.	.	.	.	2	7
AU *ALNO-ULMION*																																			
Chrysosplenium alternifolium	III	.	+	.	+	+	+	+	.	+	+	1	+	.	+	+	.	1	+	.	.	.	+	.	1	1	1	+	2	+	20	69
Geranium phaeum	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	+	+	+	+	.	+	7	24
Stachys sylvatica	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	3	1	1	.	.	4	14
Stellaria nemorum	III	.	1	.	.	.	.	.	.	.	.	.	.	+	.	1	.	.	1	.	.	.	.	.	.	.	.	.	.	.	4	14
Carex pendula	III	+	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	3	10
Veronica montana	III	.	.	.	.	.	.	.	.	.	+	.	.	.	.	+	.	.	.	.	.	+	.	.	.	.	.	.	.	.	3	10
Gagea lutea	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	+	+	.	.	.	.	3	10
Cardamine impatiens	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	2	7

	Relevé number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29		
VP	***VACCINIO-PICEETEA***																																
	Picea abies	Ia	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	1	.	3	10
	Picea abies	Ib	.	.	.	+	.	.	.	+	+	.	.	.	.	.	.	.	.	.	+	.	+	+	1	.	.	.	.	+	.	8	28
	Picea abies	II	.	.	.	.	.	+	.	.	.	+	+	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	+	.	5	17
	Oxalis acetosella	III	+	+	+	.	+	.	.	.	.	.	.	.	1	.	+	.	.	+	.	.	.	.	+	+	+	.	.	+	.	11	38
	Abies alba	II	1	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	1	.	.	.	.	.	+	.	.	.	.	.	+	5	17
	Abies alba	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	+	.	.	.	.	.	.	.	.	2	7
	Gentiana asclepiadea	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	2	7
A	***ADENOSTYLETALIA***																																
	Athyrium filix-femina	III	+	1	1	1	.	+	+	+	+	1	+	+	2	1	2	1	+	1	+	1	+	+	+	+	.	+	.	.	+	25	86
	Anthriscus nitida	III	.	.	.	.	+	r	r	.	.	+	.	+	.	r	.	.	.	.	.	+	.	1	+	+	3	3	+	3	.	14	48
	Senecio fuchsii	III	.	.	.	.	.	.	.	+	.	.	.	.	.	.	+	.	.	.	+	.	.	+	.	+	.	+	+	1	+	9	31
	Aconitum vulparia	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	+	1	.	.	.	.	+	4	14
	Silene dioica	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	+	.	3	10
	Aconitum paniculatum	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	+	.	2	7
AT	***ASPLENIETEA TRICHOMANIS***																																
	Polypodium vulgare	III	.	.	.	.	+	.	.	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	4	14
	Asplenium viride	III	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	+	.	+	.	4	14
	Cystopteris fragilis	III	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	+	.	3	10
O	**OTHER SPECIES**																																
	Rubus fruticosus agg.	II	+	.	.	.	.	.	.	.	.	.	.	.	+	.	1	.	.	1	.	.	.	+	+	1	+	.	+	.	+	10	34
	Solanum dulcamara	III	+	.	.	.	.	.	.	.	.	.	.	.	+	.	+	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	4	14
	Galeopsis speciosa	III	.	.	.	.	.	.	.	.	.	.	.	.	+	.	+	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	3	10
	Parietaria officinalis	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.	2	7
	Arctium lappa	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	+	2	7
	Lamium maculatum	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	2	7
M	**MOSSES**																																
	Brachythecium rutabulum	IV	+	+	+	1	2	3	1	1	2	.	1	+	+	+	.	1	+	+	+	+	+	+	+	.	+	.	+	1	25	86
	Thamnobryum alopecurum	IV	2	2	2	+	.	1	+	+	2	+	1	1	1	1	+	+	+	.	2	.	+	.	.	+	+	.	.	.	2	21	72

Ctenidium molluscum	IV	1	1	+	.	.	.	.	+	.	.	.	.	+	+	+	.	+	.	+	+	+	+	.	1	+	.	.	1	2	16	55
Cirriphyllum tommasinii	IV	+	+	+	.	.	+	.	+	1	+	+	.	.	.	+	+	.	.	2	+	+	.	.	.	.	.	.	.	.	13	45
Eurhynchium striatum	IV	.	3	+	.	+	+	.	1	.	.	.	.	+	.	+	1	+	.	.	.	.	.	.	.	.	.	.	+	.	10	34
Plagiochila asplenioides	IV	.	+	.	+	.	.	+	+	.	+	+	+	.	.	.	.	.	.	+	.	.	.	.	.	.	.	+	.	+	10	34
Plagiomnium undulatum	IV	2	2	2	.	.	.	.	1	1	.	.	.	+	.	+	.	.	.	.	.	.	.	.	.	+	.	.	.	.	8	28
Eurhynchium sp.	IV	.	.	.	+	.	.	.	.	.	.	+	.	.	.	.	.	.	+	.	.	.	+	+	.	+	.	.	+	.	7	24
Isothecium alopecuroides	IV	.	.	.	.	.	.	.	+	1	+	.	.	.	.	+	+	.	.	+	.	.	.	.	.	.	.	+	.	.	7	24
Anomodon attenuatus	IV	+	.	.	.	.	.	.	.	.	.	.	+	.	.	+	.	.	.	.	.	.	.	.	+	+	.	.	.	2	6	21
Plagiomnium cuspidatum	IV	.	.	+	.	.	+	1	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	+	.	.	.	.	5	17
Homalothecium philippeanum	IV	.	.	.	1	.	+	.	.	.	.	.	+	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	+	.	5	17
Brachythecium populeum	IV	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	+	+	.	.	.	1	5	17
Plagiothecium nemorale	IV	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	+	.	.	.	.	+	+	+	.	5	17
Taxiphyllum wissgrillii	IV	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	+	.	.	.	.	.	4	14
Hypnum cupressiforme	IV	.	.	.	+	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	1	4	14
Homomallium incurvatum	IV	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	+	+	.	.	.	.	.	.	3	10
Brachythecium salebrosum	IV	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	2	7
Rhynchostegium murale	IV	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	2	7
Mnium stellare	IV	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	2	7

Table 9: Analytic table of the subassociation *Chrysanthemo macrophylli-Aceretum* (I. Horvat 1938) Borhidi 1965 *abietetosum albae* subass. nova hoc loco
Tabela 9: Analitična tabela subasociacije *Chrysanthemo macrophylli-Aceretum* (I. Horvat 1938) Borhidi 1965 *abietetosum albae* subass. nova hoc loco

	Relevé number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22		
	Date: day		22	15	10	10	10	10	10	11	11	10	10	10	15	11	11	15	19	19	10	15	10	10		
	month		5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	6	6	6	6		
	year		98	98	99	99	99	99	99	99	99	99	99	99	98	99	99	98	99	99	99	98	99	99		
	Relevé area (m2)		300	200	400	400	400	400	400	400	400	400	400	400	400	400	400	400	200	400	200	400	400	400		
	Altitude (m)		760	760	880	880	880	940	880	900	870	860	830	940	800	890	850	850	800	850	990	780	1010	990		
	Aspect		NE	NW	NNW	NE	NNE	E	NEE	NE	NNE	SE	NE	NE	N	NEE	NNW	EES	NW	NE	SE	NE	N	E		
	Slope (degrees)		10	15	20	15	5	5	20	5	5	10	25	5	25	15	15	10	15	20	30	20	15	15		
	Cover bare rock (%)		10	10	1	1	0	0	10	0	0	0	0	0	5	0	1	5	5	1	2	5	0	0		
	Cover of separate layers (%)																									
	Upper tree layer	Ia	70	60	80	70	80	70	70	80	90	80	90	80	70	70	80	70	60	50	90	90	90	80		
	Lower tree layer	Ib	50	50	10	40	5	30	40	10	20	10	40	30	10	30	20	10	70	30	10	20	40	40		
	Shrub layer	II	5	10	20	10	15	10	30	5	5	20	20	10	10	5	30	10	30	30	5	30	15	5		
	Herb layer	III	100	100	100	100	100	100	100	100	100	100	100	100	100	100	80	100	100	80	100	100	100	100		
	Moss layer	IV	10	10	5	1	5	1	5	5	5	0	5	1	5	0	5	5	5	1	5	5	5	5		
			var.*Scopolia carniolica*				var. *typica*											var. *Petasites albus*								
					subvar. *Frax. excelsior*																		subvar. *Frax. excelsior*		presence	frequency
	DIFFERENTIAL SPECIES OF THE ASSOCIATION																									
AF	*Dentaria polyphylla*	III	.	.	1	+	1	+	+	+	1	+	1	+	.	1	2	.	2	.	1	.	1	+	16	73
AF	*Dentaria trifolia*	III	.	.	+	.	2	+	1	1	+	.	2	+	.	+	+	.	+	+	.	+	+	+	15	68
FA	*Isopyrum thalictroides*	III	r	+	.	.	+	.	+	.	+	.	.	.	+	+	+	+	+	+	+	+	.	.	13	59
AU	*Impatiens noli-tangere*	III	+	+	1	+	1	+	+	1	2	.	+	+	+	+	1	+	.	1	1	1	+	1	20	91
FA	*Glechoma hirsuta*	III	+	.	1	+	+	+	+	+	.	2	+	+	+	+	.	1	+	.	1	1	+	1	18	82
F	*Corydalis solida*	III	+	.	r	.	r	.	+	+	+	.	+	.	.	r	.	.	+	.	.	.	r	.	10	45
	DIFFERENTIAL SPECIES OF SUBASSOCIATION																									
F	*Leucojum vernum*	III	2	+	+	+	+	2	+	+	+	.	+	+	+	+	+	+	3	+	+	+	+	+	21	95
FA	*Ulmus glabra*	Ia	.	.	2	.	.	3	.	.	.	+	.	2	.	.	.	1	.	.	3	+	+	+	9	41
FA	*Ulmus glabra*	Ib	2	3	1	2	r	.	+	1	.	+	2	+	.	1	.	.	3	+	+	.	2	3	16	73
FA	*Ulmus glabra*	II	.	+	.	+	+	.	.	.	r	1	.	.	+	.	.	+	+	+	r	r	+	.	12	55
FA	*Ulmus glabra*	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	1	5

VP	*Abies alba*	Ia	1	.	.	.	+	.	.	.	.	+	.	.	+	.	.	+	.	.	.	.	.	.	5	23
VP	*Abies alba*	Ib	+	1	+	.	.	.	.	.	2	+	.	1	+	.	+	+	+	.	.	1	+	1	13	59
VP	*Abies alba*	II	.	.	1	+	.	+	.	+	.	+	+	+	.	+	.	.	.	+	+	1	1	.	12	55
VP	*Abies alba*	III	.	.	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	3	14
FA	*Stellaria montana*	III	+	.	+	+	+	.	.	+	+	.	+	+	+	.	+	+	+	1	+	2	+	+	17	77
AU	*Gagea lutea*	III	.	.	.	+	+	.	+	+	+	.	.	+	.	+	+	.	.	.	+	.	.	+	10	45
AF	*Eranthis hyemalis*	III	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	+	1	4	18
	DIFFERENTIAL SPECIES OF VARIANTS AND SUBVARIANTS																									
FA	*Scopolia carniolica*	III	3	2	4	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4	18
FA	*Geranium robertianum*	III	r	+	+	.	.	.	+	.	.	.	.	.	.	.	.	+	.	r	.	.	.	.	6	27
FA	*Polystichum aculeatum*	III	+	+	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	14
F	*Petasites albus*	III	.	.	.	+	.	.	.	+	+	+	+	+	+	1	1	2	2	2	2	3	3	3	16	73
FA	*Fraxinus excelsior*	Ia	.	.	4	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	5	4	5	23
FA	*Fraxinus excelsior*	Ib	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	+	.	+	+	4	18
FA	*Fraxinus excelsior*	II	.	.	.	.	.	.	.	.	.	+	.	.	+	.	2	+	.	.	.	.	+	.	5	23
FA	*Fraxinus excelsior*	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	+	.	2	9
FA	***FRAXINO-ACERION***																									
	Acer pseudoplatanus	Ia	4	4	+	1	5	3	4	4	5	4	5	4	4	4	4	3	3	3	2	4	.	1	21	95
	Acer pseudoplatanus	Ib	+	.	+	+	+	+	3	.	+	.	2	+	+	1	+	+	1	.	+	+	+	.	17	77
	Acer pseudoplatanus	II	.	+	+	+	+	+	+	.	.	+	.	+	+	+	.	+	+	.	.	.	+	+	14	64
	Acer pseudoplatanus	III	+	.	1	1	+	+	+	.	+	1	+	+	.	+	+	.	1	+	+	1	+	1	18	82
	Urtica dioica	III	+	2	+	+	3	2	3	3	1	4	1	1	1	2	2	1	1	1	+	1	1	+	22	100
	Lunaria rediviva	III	2	3	3	4	5	3	4	2	3	+	5	4	3	4	1	.	3	2	3	1	3	3	21	95
	Arum maculatum	III	+	.	+	+	+	.	+	.	+	+	+	.	+	+	+	.	+	+	+	+	+	+	17	77
	Adoxa moschatellina	III	+	.	+	1	1	.	+	.	+	1	+	+	.	+	.	.	1	+	+	.	+	1	15	68
	Acer platanoides	Ia	.	.	.	.	+	+	+	.	+	1	+	+	.	.	.	+	.	.	.	+	.	.	9	41
	Acer platanoides	Ib	.	.	.	.	.	+	.	.	.	+	.	.	.	+	.	.	1	.	.	.	.	.	4	18
	Acer platanoides	II	.	.	.	.	.	.	+	.	.	+	.	.	.	.	.	.	.	+	r	.	.	.	4	18
	Acer platanoides	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	1	5
	Circaea lutetiana	III	.	.	.	.	+	+	+	.	+	1	.	.	1	+	+	1	.	1	.	+	.	+	12	55
	Actaea spicata	III	+	.	.	+	.	.	.	.	r	.	+	.	+	.	+	+	+	.	+	+	+	.	11	50
	Doronicum austriacum	III	.	.	.	.	.	.	.	.	+	1	.	.	.	.	.	.	+	.	.	.	+	+	5	23

	Relevé number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22		
	Polystichum setiferum et X bicknellii	III	.	.	+	+	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	4	18
	Phyllitis scolopendrium	III	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	3	14
	Circaea X intermedia	III	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	+	.	.	.	.	.	.	2	9
F	***FAGETALIA SYLVATICAE***																									
	Dryopteris filix-mas	III	1	+	+	+	1	2	1	2	1	+	+	2	1	1	2	2	1	2	2	+	1	2	22	100
	Sambucus nigra	II	+	+	+	1	1	+	2	+	+	1	2	1	+	.	+	+	2	2	1	2	+	+	21	95
	Corydalis cava	III	+	+	+	+	+	+	+	.	+	.	+	+	+	+	+	r	+	+	+	+	+	+	20	91
	Fagus sylvatica	Ia	.	+	.	.	.	.	.	+	.	.	.	1	+	.	2	+	1	.	+	.	+	.	9	41
	Fagus sylvatica	Ib	+	.	+	2	.	2	.	+	+	.	+	1	.	1	1	+	+	2	1	.	.	.	14	64
	Fagus sylvatica	II	.	.	.	.	.	+	.	+	.	.	.	.	+	.	.	+	.	.	.	+	.	.	5	23
	Fagus sylvatica	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	1	5
	Dentaria bulbifera	III	.	.	+	.	+	+	+	+	+	1	+	.	.	+	+	+	+	+	+	+	+	+	17	77
	Galium odoratum	III	.	.	+	+	+	.	+	1	1	2	.	+	.	1	1	+	+	+	+	.	1	+	16	73
	Allium ursinum	III	4	3	2	3	+	1	.	1	+	.	+	2	2	.	.	2	r	.	+	4	.	1	16	73
	Symphytum tuberosum	III	.	.	+	+	+	+	+	+	+	1	+	+	+	+	+	.	+	.	.	+	.	.	15	68
	Lamiastrum montanum	III	+	.	+	+	r	1	1	.	1	.	1	1	+	+	.	.	+	.	.	+	1	.	14	64
	Paris quadrifolia	III	.	.	+	r	+	+	+	.	+	.	.	.	.	r	+	.	.	+	+	.	+	+	12	55
	Ranunculus lanuginosus	III	.	+	.	+	+	.	.	.	.	.	.	+	.	+	.	.	r	+	+	.	+	+	10	45
	Salvia glutinosa	III	.	.	.	.	.	+	.	+	.	.	.	.	+	.	+	1	.	+	+	+	.	.	8	36
	Daphne mezereum	II	.	.	.	.	.	+	+	+	+	.	.	.	+	.	1	+	.	.	.	+	.	.	8	36
	Heracleum sphondylium	III	.	+	+	.	.	.	.	.	.	.	.	.	.	r	.	.	.	+	r	.	r	+	7	32
	Polygonatum multiflorum	III	.	.	.	.	.	.	+	+	r	.	.	.	r	.	.	+	.	+	+	.	.	.	7	32
	Mercurialis perennis	III	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	+	.	+	+	+	+	1	7	32
	Bromus ramosus	III	+	.	.	.	.	.	.	+	.	.	.	.	.	.	+	+	.	.	+	.	.	.	5	23
	Galanthus nivalis	III	+	+	.	.	+	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	4	18
	Milium effusum	III	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	+	.	.	+	3	14
	Mycelis muralis	III	+	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	2	9
	Scrophularia nodosa	III	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	+	.	.	.	.	.	.	2	9
	Euphorbia dulcis	III	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	+	.	.	2	9
	Festuca altissima	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	+	.	.	2	9
QF	***QUERCO-FAGETEA***																									
	Aegopodium podagraria	III	.	.	.	.	.	.	2	+	+	2	1	+	.	+	.	.	.	.	+	+	+	+	11	50
	Anemone nemorosa	III	.	.	+	.	.	+	+	.	.	+	r	.	.	.	.	.	.	+	.	.	+	+	8	36

	Ranunculus ficaria subsp. ficaria	III	.	.	.	.	.	.	+	+	.	.	.	.	.	+	.	.	.	.	+	.	.	.	4	18
	Scilla bifolia	III	.	.	.	.	+	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	9
	Anemone ranunculoides	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	r	2	9
AF	***AREMONIO-FAGION s. lat.***																									
	Lamium orvala	III	1	+	1	1	+	+	+	.	.	.	+	+	1	1	1	2	.	2	+	3	.	+	17	77
	Dentaria enneaphyllos	III	.	.	+	.	+	+	+	.	.	.	.	+	+	.	.	.	.	1	+	+	.	.	9	41
	Aremonia agrimonoides	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	+	.	.	2	9
AU	***ALNO-ULMION***																									
	Chrysosplenium alternifolium	III	+	.	+	1	+	.	.	.	+	.	+	+	.	+	+	+	+	+	.	+	+	.	14	64
	Stachys sylvatica	III	.	.	.	+	+	+	+	.	.	+	.	+	+	.	.	+	.	+	.	.	+	.	10	45
	Geranium phaeum	III	.	.	.	.	+	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	2	9
VP	***VACCINIO-PICEETEA***																									
	Oxalis acetosella	III	+	.	+	+	.	.	.	+	.	.	.	.	1	.	.	+	.	.	.	1	+	.	8	36
	Picea abies	Ia	.	.	.	.	.	.	+	+	.	.	+	.	.	.	.	.	.	.	.	1	.	.	4	18
	Picea abies	Ib	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	1	5
	Picea abies	II	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	2	9
	Dryopteris expansa	III	+	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	+	.	.	3	14
	Dryopteris dilatata	III	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	3	14
A	***ADENOSTYLETALIA***																									
	Athyrium filix-femina	III	+	+	+	+	2	+	+	.	2	+	+	1	1	+	+	+	1	1	.	3	+	+	20	91
	Anthriscus nitida	III	.	+	+	+	+	+	.	.	.	+	.	+	+	.	r	+	+	+	1	+	+	+	16	73
	Senecio fuchsii	III	+	+	+	.	.	+	.	+	.	+	.	.	3	.	+	2	+	+	+	+	+	+	15	68
	Aconitum vulparia	III	.	.	.	.	.	.	.	.	+	.	.	+	.	.	.	.	+	+	+	.	+	+	7	32
O	**OTHER SPECIES**																									
	Galeopsis speciosa	III	.	.	.	+	.	+	+	.	+	+	r	.	.	.	.	.	r	+	.	.	.	.	8	36
	Rubus fruticosus agg.	II	.	.	.	.	.	.	.	.	.	1	+	.	.	.	+	.	1	.	+	.	.	.	5	23
	Lamium maculatum	III	.	.	.	+	.	+	+	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	4	18
	Eupatorium cannabinum	III	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	+	.	+	.	+	.	.	4	18
	Rubus idaeus	II	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	+	.	+	.	+	.	.	4	18
	Alliaria petiolata	III	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	+	.	.	+	3	14
	Sorbus aucuparia	Ib	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	1	.	.	2	9

	Relevé number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22		
	Sorbus aucuparia	II	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	1	5
M	**MOSSES**																									
	Brachythecium rutabulum	IV	1	+	+	+	+	.	.	+	+	.	.	.	+	+	+	+	+	+	.	+	+	+	16	73
	Plagiothecium nemorale	IV	+	+	+	+	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	+	+	.	7	32
	Hypnum cupressiforme	IV	.	+	.	.	+	.	.	+	.	.	.	.	+	.	+	.	.	.	.	+	.	+	7	32
	Eurhynchium sp.	IV	.	+	.	.	.	.	.	.	.	.	.	.	+	.	+	.	.	+	.	.	.	.	4	18
	Taxiphyllum wissgrillii	IV	.	+	.	.	.	.	.	.	.	.	.	.	+	.	.	+	.	.	.	+	.	.	4	18
	Ctenidium molluscum	IV	1	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	1	.	.	3	14
	Isothecium alopecuroides	IV	.	.	.	.	.	.	.	+	.	.	.	.	.	.	+	.	.	.	.	+	.	.	3	14
	Anomodon attenuatus	IV	.	+	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	+	.	.	3	14
	Brachythecium populeum	IV	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	+	3	14

Table 10: Analytic table of the subassociation *Chrysanthemo macrophylli-Aceretum* (I. Horvat 1938) Borhidi 1965 *petasitetosum hybridi* subass. nova hoc loco
Tabela 10: Analitična tabela subasociacije *Chrysanthemo macrophylli-Aceretum* (I. Horvat 1938) Borhidi 1965 *petasitetosum hybridi* subass. nova hoc loco

	Relevé number		1	2	3	4	5	6	7		
	Date: day		18	18	18	18	23	23	23		
	month		5	5	5	5	5	5	5		
	year		2000	2000	2000	2000	2000	2000	2000		
	Relevé area (m2)		300	400	400	200	400	200	300		
	Altitude (m)		640	660	690	720	710	710	720		
	Aspect					SE			EEN		
	Slope (degrees)		0	0	0	5	0	0	5		
	Cover bare rock (%)		0	1	0	0	0	0	0		
	Cover of separate layers (%)										
	Upper tree layer	Ia	70	70	70	60	80	90	80		
	Lower tree layer	Ib	20	40	20	40	20	40	40		
	Shrub layer	II	40	40	35	10	10	20	15	presence	frequency
	Herb layer	III	100	100	100	100	100	100	100		
	Moss layer	IV	0	0	0	0	0	0	0		
			var. *Allium ursinum*				var. *typica*				
	DIFFERENTIAL SPECIES OF THE ASSOCIATION										
AF	*Dentaria polyphylla*	III	+	.	.	+	r	+	+	5	71
AF	*Dentaria trifolia*	III	.	+	+	.	.	.	+	3	43
AU	*Impatiens noli-tangere*	III	.	.	+	+	1	+	3	5	71
	DIFFERENTIAL SPECIES OF THE SUBASSOCIATION										
FA	*Fraxinus excelsior*	Ia	4	4	4	4	5	5	5	7	100
FA	*Fraxinus excelsior*	Ib	+	1	1	+	1	2	2	7	100
FA	*Fraxinus excelsior*	II	+	+	2	.	+	+	+	6	86
FA	*Fraxinus excelsior*	III	.	+	.	.	.	r	.	2	29
AU	*Geranium phaeum*	III	+	+	1	+	1	+	+	7	100
AU	*Petasites hybridus*	III	2	3	3	+	3	r	.	6	86
F	*Carex sylvatica*	III	.	+	+	.	+	+	1	5	71
FA	*Geum urbanum*	III	+	.	.	.	+	+	+	4	57
	DIFFERENTIAL SPECIES OF THE VARIANT										
F	Allium ursinum	III	5	5	3	5	.	.	.	4	57
AU	Chaerophyllum hirsutum	III	2	+	3	+	.	.	.	4	57
AU	Caltha palustris	III	+	+	+	+	.	.	.	4	57
AU	Equisetum telmateia	III	r	+	r	.	.	.	.	3	43
FA	***FRAXINO-ACERION***										
	Lunaria rediviva	III	+	1	+	1	1	1	1	7	100
	Adoxa moschatellina	III	+	1	2	1	+	+	+	7	100
	Urtica dioica	III	+	+	1	+	2	1	2	7	100
	Arum maculatum	III	+	+	+	+	+	+	+	7	100
	Stellaria montana	III	+	+	+	+	+	+	+	7	100
	Doronicum austriacum	III	r	+	+	+	+	+	+	7	100
	Sambucus nigra	Ib	.	.	.	.	.	.	+	1	14
	Sambucus nigra	II	+	+	1	+	1	+	+	7	100
	Glechoma hirsuta	III	+	1	1	+	+	+	.	6	86
	Acer pseudoplatanus	Ia	1	+	+	.	+	.	+	5	71
	Acer pseudoplatanus	Ib	+	1	.	2	+	.	+	5	71
	Acer pseudoplatanus	II	+	+	+	.	+	.	+	5	71

	Relevé number		1	2	3	4	5	6	7		
	Acer pseudoplatanus	III	.	+	+	.	.	.	.	2	29
	Lamium orvala	III	.	+	+	+	+	+	+	6	86
	Isopyrum thalictroides	III	+	+	.	+	+	.	r	5	71
	Ulmus glabra	Ia	.	+	.	.	.	.	.	1	14
	Ulmus glabra	Ib	+	+	.	1	.	.	+	4	57
	Ulmus glabra	II	.	1	.	+	.	.	.	2	29
	Circaea lutetiana	III	.	+	.	.	+	+	+	4	57
	Scopolia carniolica	III	.	.	.	.	3	4	4	3	43
	Aruncus dioicus	III	.	.	.	.	+	+	+	3	43
	Hesperis candida	III	.	.	.	.	+	+	+	3	43
	Phyllitis scolopendrium	III	.	.	.	.	.	+	r	2	29
F	***FAGETALIA SYLVATICAE***										
	Ranunculus lanuginosus	III	+	+	+	+	+	+	+	7	100
	Symphytum tuberosum	III	+	+	+	+	+	+	+	7	100
	Lamiastrum montanum	III	r	+	+	1	+	+	+	7	100
	Heracleum sphondylium	III	+	+	+	+	+	+	r	7	100
	Dentaria bulbifera	III	+	+	+	1	+	.	+	6	86
	Fagus sylvatica	Ib	.	.	.	.	r	.	+	2	29
	Fagus sylvatica	II	.	+	+	.	+	.	+	4	57
	Fagus sylvatica	III	+	.	.	.	r	r	.	3	43
	Dryopteris filix-mas	III	r	r	.	+	+	1	1	6	86
	Paris quadrifolia	III	.	r	+	+	+	+	+	6	86
	Daphne mezereum	II	.	+	+	+	+	+	+	6	86
	Galium odoratum	III	1	+	.	+	.	+	+	5	71
	Corydalis cava	III	+	+	.	.	+	+	+	5	71
	Galanthus nivalis	III	+	.	+	+	.	+	+	5	71
	Mercurialis perennis	III	.	+	+	+	+	+	.	5	71
	Salvia glutinosa	III	.	+	+	+	+	+	.	5	71
	Corydalis solida	III	.	+	+	+	+	.	+	5	71
	Pulmonaria officinalis	III	+	+	+	+	.	.	.	4	57
	Phyteuma spicatum	III	.	+	+	r	.	.	.	3	43
	Lilium martagon	III	.	r	+	r	.	.	.	3	43
	Milium effusum	III	.	.	.	+	1	+	.	3	43
	Polygonatum multiflorum	III	.	.	.	.	+	+	+	3	43
	Petasites albus	III	.	.	r	+	.	.	.	2	29
QF	***QUERCO-FAGETEA***										
	Anemone nemorosa	III	+	+	+	.	+	r	+	6	86
	Corylus avellana	Ib	+	+	.	.	.	1	.	3	43
	Corylus avellana	II	.	+	+	.	.	+	1	4	57
	Aegopodium podagraria	III	1	1	.	.	.	+	1	4	57
	Lonicera xylosteum	II	.	.	.	+	+	+	+	4	57
	Acer campestre	Ib	1	1	.	.	.	.	.	2	29
	Acer campestre	II	.	1	+	.	.	.	.	2	29
	Ranunculus ficaria	III	+	+	.	+	.	.	.	3	43
	Anemone ranunculoides	III	.	+	.	.	+	.	+	3	43
	Scilla bifolia	III	.	.	.	.	+	+	+	3	43
	Brachypodium sylvaticum	III	+	.	.	.	.	+	.	2	29
AF	***AREMONIO-FAGION* s. lat.**										
	Vicia oroboides	III	+	+	+	+	+	.	.	5	71
	Aposeris foetida	III	+	+	+	r	.	r	.	5	71
	Knautia drymeia	III	+	+	+	+	.	.	.	4	57

	Relevé number		1	2	3	4	5	6	7		
	Euphorbia carniolica	III	+	+	.	+	+	.	.	4	57
	Dentaria enneaphyllos	III	.	r	.	+	+	.	+	4	57
	Cardamine trifolia	III	.	+	.	1	.	.	.	2	29
AU	***ALNO-ULMION***										
	Chrysosplenium alternifolium	III	+	+	+	1	1	1	1	7	100
	Stachys sylvatica	III	.	+	+	.	1	2	1	5	71
	Colchicum autumnale	III	+	+	+	.	.	.	r	4	57
	Cardamine amara	III	+	r	.	+	.	.	r	4	57
	Cardamine impatiens	III	.	+	+	+	.	.	.	3	43
VP	***VACCINIO-PICEETEA***										
	Picea abies	Ib	.	.	+	.	.	.	.	1	14
	Picea abies	II	.	+	+	.	r	.	.	3	43
	Abies alba	III	.	+	.	+	.	.	.	2	29
	Oxalis acetosella	III	.	r	.	+	.	.	.	2	29
A	***ADENOSTYLETALIA***										
	Anthriscus nitida	III	+	+	+	+	2	2	+	7	100
	Senecio fuchsii	III	.	+	+	+	.	+	1	5	71
	Myrrhis odorata	III	2	+	+	1	.	.	.	4	57
	Silene dioica	III	.	.	+	+	+	.	+	4	57
	Athyrium filix-femina	III	.	.	+	.	+	1	+	4	57
	Myosotis sylvatica	III	.	+	+	.	+	.	.	3	43
	Aconitum paniculatum	III	.	.	.	.	+	+	+	3	43
	Geum rivale	III	.	1	+	.	.	.	.	2	29
	Veratrum album	III	.	.	.	.	.	+	r	2	29
O	**OTHER SPECIES**										
	Rubus fruticosus agg.	II	3	2	+	+	.	.	.	4	57
	Lamium maculatum	III	.	.	+	.	1	1	1	4	57
	Arctium lappa	III	.	r	.	.	.	.	r	2	29
	Galeopsis speciosa	III	.	.	+	.	.	.	r	2	29
M	**MOSSES**										
	Eurhynchium praelongum	IV	+	+	.	.	+	.	+	4	57
	Plagiomnium undulatum	IV	+	+	.	+	.	.	.	3	43
	Brachythecium rutabulum	IV	+	.	.	.	+	.	+	3	43
	Plagiomnium cuspidatum	IV	+	.	.	.	+	.	+	3	43
	Eurinchium angustirete	IV	+	.	.	.	+	.	.	2	29
	Plagiomnium rostratum	IV	.	+	.	.	+	.	.	2	29

Table 11: Shortened synoptic table of associations *Omphalodo vernae-Aceretum* and *Chrysanthemo macrophylli-Aceretum*
Tabela 11: Skrajšana sintezna tabela asociacij *Omphalodo vernae-Aceretum* in *Chrysanthemo macrophylli-Aceretum*

	Number of syntaxon		1	2	3	4	5	6	7	8	9
	Number of relevés		12	4	6	29	22	7	3	5	1
	DIFFERENTIAL SPECIES OF ASSOCIATIONS AND SUBASSOCIATIONS										
	Omphalodo-Aceretum										
AF	*Omphalodes verna*	III	75	100	100	.	.	.	.	.	.
AF	*Calamintha grandiflolia*	III	25	50	33	.	.	.	.	.	.
AF	*Geranium nodosum*	III	67	25	83	.	.	.	.	.	.
	O.-A. dentarietosum pentaphylli										
F	*Dentaria pentaphyllos*	III	92	.	17	.	.	.	.	.	.
FA	*Scopolia carniolica*	III	75	.	17	79	18	43	.	.	.
F	*Mercurialis perennis*	III	67	.	17	38	32	71	2	100	1
	O.-A. petasitetosum albi										
F	*Petasites albus*	III	33	25	100	3	73	29	1	100	.
F	*Leucojum vernum*	III	8	.	83	21	95	.	.	100	1
A	*Anthriscus nitida*	III	.	.	83	48	73	100	.	.	.
AU	*Stachys sylvatica*	III	8	25	83	14	45	71	.	.	.
	Chrysanthemo-Aceretum										
AF	*Dentaria polyphylla*	III	.	.	17	83	73	57	.	80	.
AF	*Dentaria trifolia*	III	.	.	.	41	68	43	3	.	1
AU	*Impatiens noli-tangere*	III	.	.	.	76	91	71	3	100	1
FA	*Tanacetum macrophyllum*	III	.	.	.	.	.	.	.	100	1
	C.-A. scopolietosum carniolicae										
FA	*Phyllitis scolopendrium*	III	83	100	17	100	14	29	3	.	.
FA	*Polystichum setiferum et xbicknellii*	III	25	.	.	93	18	.	.	.	.
FA (p)	*Scopolia carniolica*	III	75	.	17	79	18	43	.	.	.
AF	*Dentaria enneaphyllos*	III	92	75	83	83	41	57	3	100	1
FA	*Geranium robertianum*	III	92	100	17	69	27	14	2	100	.
	C.-A. abietetosum albae										
F (p)	*Leucojum vernum*	III	8	.	83	21	95	.	.	100	1
FA	*Ulmus glabra*	I	17	50	83	28	86	57	1	40	.
FA	*Ulmus glabra*	II	42	25	67	45	55	29	1	60	1
FA	*Ulmus glabra*	III	8	25	.	.	5	.	2	40	.
VP	*Abies alba*	I	42	25	50	.	64	.	.	80	1
VP	*Abies alba*	II	.	50	.	17	55	.	.	100	1
VP	*Abies alba*	III	42	75	33	7	14	29	.	60	1
AU	*Gagea lutea*	III	.	.	.	10	45	.	.	.	1
AF	*Eranthis hyemalis*	III	.	.	.	.	18	.	.	.	.
	C.-A. petasitetosum hybridi										
FA	*Fraxinus excelsior*	I	8	.	.	3	27	100	3	100	1
FA	*Fraxinus excelsior*	II	.	.	.	.	23	86	.	40	1
FA	*Fraxinus excelsior*	III	.	25	.	.	9	29	3	100	1
AU	*Geranium phaeum*	III	.	.	.	24	9	100	3	100	1

	Number of syntaxon		1	2	3	4	5	6	7	8	9
	Number of relevés		12	4	6	29	22	7	3	5	1
AU	*Petasites hybridus*	III	.	.	.	.	.	86	.	.	.
F	*Carex sylvatica*	III	33	50	33	3	5	71	2	60	.
FA	*Geum urbanum*	III	.	.	.	.	.	57	3	100	1
	FRAXINO-ACERION										
	Acer platanoides	I	.	.	.	14	50	.	2	40	1
	Acer platanoides	II	.	.	.	14	18	14	.	40	.
	Acer platanoides	III	.	.	.	3	5	.	3	20	.
	Acer pseudoplatanus	I	100	100	100	100	100	86	3	80	1
	Acer pseudoplatanus	II	25	25	67	45	64	71	1	40	1
	Acer pseudoplatanus	III	92	75	50	69	82	29	1	40	1
	Actaea spicata	III	67	75	83	48	50	14	3	100	.
	Adoxa moschatellina	III	83	100	33	72	68	100	.	.	1
	Arum maculatum	III	100	75	67	97	77	100	2	40	1
	Aruncus dioicus	III	.	.	.	10	5	43	1	20	.
	Circaea lutetiana	III	42	25	83	66	55	57	3	100	.
	Circaea x intermedia	III	8	25	.	.	9	.	.	.	.
	Doronicum austriacum	III	.	75	67	21	23	100	1	60	.
	Euonymus latifolia	II	.	.	.	17	5	.	.	.	.
	Euonymus latifolia	III	.	.	.	.	.	14	1	.	.
	Glechoma hederacea agg.	III	.	.	.	28	82	86	3	100	1
	Hesperis matronalis	III	.	.	.	7	.	43	.	.	.
	Lunaria rediviva	III	25	.	.	59	95	100	3	100	1
	Polystichum aculeatum	III	50	100	17	17	14	.	1	.	.
	Polystichum braunii et xluerssenii	III	42	50	67	.	.	.	.	.	.
	Ribes uva-crispa	II	.	25	.	.	.	.	.	.	.
	Sambucus nigra	I	.	.	.	3	.	14	.	.	.
	Sambucus nigra	II	83	100	83	97	95	100	3	100	1
	Sambucus nigra	III	.	.	.	3	.	.	3	.	.
	Staphylea pinnata	II	42	.	.	.	.	.	1	.	.
	Stellaria montana	III	67	50	100	24	77	100	.	.	.
	Tilia platyphyllos	I	50	.	.	10	5	.	.	.	.
	Tilia platyphyllos	II	8	.	.	14	.	.	.	.	.
	Tilia platyphyllos	III	8	.	.	.	.	.	.	.	.
	Urtica dioica	III	75	75	100	86	100	100	3	100	1
	FAGETALIA SYLVATICAE										
	Allium ursinum	III	8	.	17	17	73	57	.	60	.
	Asarum europaeum	III	33	.	.	14	.	14	.	80	.
	Bromus ramosus	III	.	.	.	10	23	.	.	.	1
	Carpinus betulus	II	.	.	.	.	.	.	.	20	.
	Cephalanthera damasonium	III	.	.	.	.	.	.	.	100	.
	Corydalis cava	III	58	.	83	86	91	71	.	.	.
	Corydalis solida	III	.	.	.	55	45	71	.	.	1
	Daphne mezereum	II	67	75	50	10	36	86	.	.	.
	Daphne mezereum	III	.	.	.	.	.	.	2	40	.
	Dentaria bulbifera	III	83	50	100	86	77	86	3	100	1
	Dryopteris filix-mas	III	100	100	83	100	100	86	3	100	1
	Epilobium montanum	III	.	.	.	7	.	.	.	100	1
	Euphorbia amygdaloides	III	8	.	17	7	5	14	1	.	.
	Euphorbia dulcis	III	.	.	.	3	9	14	.	100	.

Number of syntaxon		1	2	3	4	5	6	7	8	9
Number of relevés		12	4	6	29	22	7	3	5	1
Fagus sylvatica	I	83	75	83	72	77	29	3	80	1
Fagus sylvatica	II	33	50	50	17	23	57	2	20	.
Fagus sylvatica	III	.	25	17	.	5	43	.	20	.
Festuca altissima	III	.	25	17	3	9	.	.	.	.
Galanthus nivalis	III	50	.	.	17	18	71	.	40	.
Lamiastrum galeobdolon agg.	III	67	75	67	83	64	100	2	40	1
Galium odoratum	III	42	25	33	48	73	71	3	100	1
Galium schultesii	III	.	.	.	.	.	14	.	.	.
Heracleum sphondylium	III	.	.	.	24	32	100	1	100	1
Hordelymus europaeus	III	.	.	.	.	.	.	1	.	.
Lathyrus vernus	III	8	25	.	.	.	.	.	40	.
Lilium martagon	III	.	.	.	10	5	43	.	80	1
Lonicera alpigena	II	17	50	.	.	.	.	.	.	.
Lonicera alpigena	III	.	.	.	.	.	.	3	.	.
Milium effusum	III	25	.	33	3	14	43	.	60	1
Mycelis muralis	III	33	100	17	28	9	.	1	100	1
Paris quadrifolia	III	58	100	33	38	55	86	3	100	1
Phyteuma spicatum	III	.	.	.	.	.	43	.	100	.
Polygonatum multiflorum	III	33	50	17	38	32	43	1	100	1
Prenanthes purpurea	III	.	.	.	.	.	.	2	100	.
Prunus avium	I	.	.	.	31	.	.	.	.	.
Prunus avium	II	.	.	.	10	.	.	.	.	.
Prunus avium	III	.	.	.	.	.	.	1	.	.
Pulmonaria officinalis	III	42	.	.	24	5	57	1	100	.
Ranunculus lanuginosus	III	.	25	50	24	45	100	.	40	.
Salvia glutinosa	III	75	25	100	31	36	71	2	.	.
Sanicula europaea	III	8	25	50	3	5	14	.	100	.
Scrophularia nodosa	III	.	.	.	10	9	14	.	100	1
Symphytum tuberosum	III	33	100	100	41	68	100	3	100	1
Viola reichenbachiana	III	8	25	17	10	5	.	1	80	.
QUERCO-FAGETEA										
Acer campestre	I	17	.	.	3	.	29	.	.	.
Acer campestre	II	17	.	.	7	.	29	.	.	.
Aegopodium podagraria	III	25	.	.	14	50	57	1	60	1
Anemone nemorosa	III	17	25	17	34	36	86	.	100	1
Anemone ranunculoides	III	.	.	.	24	9	43	.	.	.
Brachypodium sylvaticum	III	17	50	17	.	.	29	1	.	.
Castanea sativa	II	.	.	.	.	.	.	.	20	.
Cephalanthera longifolia	III	.	.	.	.	.	14	.	.	.
Cephalanthera rubra	III	.	.	.	.	.	.	.	40	.
Corylus avellana	I	17	.	17	10	.	43	.	.	.
Corylus avellana	II	75	100	50	45	5	57	3	60	.
Corylus avellana	III	.	.	.	.	.	.	1	.	.
Crataegus monogyna	II	.	.	.	.	.	.	.	20	.
Daphne laureola	III	.	.	.	.	.	.	.	40	.
Digitalis grandiflora	III	.	.	.	.	.	.	.	20	.
Galium sylvaticum	III	.	.	.	.	.	.	.	40	.
Galium vernum	III	.	.	.	.	.	.	.	40	.
Hedera helix	III	.	.	.	21	5	.	1	.	.
Hypericum montanum	III	.	.	.	.	.	.	.	80	.
Hypericum perforatum	III	.	.	.	.	.	.	.	60	.

Number of syntaxon		1	2	3	4	5	6	7	8	9
Number of relevés		12	4	6	29	22	7	3	5	1
Lonicera xylosteum	II	42	50	17	10	5	57	.	.	.
Malus sylvestris	II	.	.	.	.	.	.	.	20	.
Moehringia trinervia	III	17	.	.	.	.	.	2	.	.
Platanthera bifolia	III	.	.	.	.	.	.	.	60	.
Potentilla micrantha	III	.	.	.	.	.	.	.	20	.
Ranunculus ficaria	III	.	.	.	7	18	43	.	.	.
Scilla bifolia	III	.	.	33	10	9	43	.	20	1
Stellaria holostea	III	17	.	.	.	.	.	.	40	.
Tamus communis	III	17	.	.	.	.	.	.	.	.
Veronica officinalis	III	.	.	.	.	.	.	.	20	.
AREMONIO-FAGION										
Aposeris foetida	III	.	.	.	.	.	71	.	60	.
Aremonia agrimonoides	III	8	50	33	.	9	.	.	40	1
Cardamine trifolia	III	58	100	83	3	5	29	.	100	.
Cyclamen purpurascens	III	.	.	.	24	5	14	1	40	1
Erythronium dens-canis	III	.	.	.	.	.	.	.	40	.
Euphorbia carniolica	III	.	.	.	.	.	57	.	.	.
Hacquetia epipactis	III	.	.	.	14	.	.	.	20	.
Helleborus atrorubens	III	.	.	.	7	.	.	.	.	.
Helleborus odorus	III	.	.	.	14	.	.	.	.	.
Isopyrum thalictroides	III	.	.	.	48	59	71	2	.	1
Knautia drymeia	III	.	.	.	.	.	57	.	20	.
Lamium orvala	III	50	.	17	72	77	86	3	80	.
Primula vulgaris	III	.	.	.	.	.	.	.	60	.
Ruscus hypoglossum	III	.	.	.	7	.	.	.	.	.
Vicia oroboides	III	.	25	17	14	.	71	.	60	.
ALNO-ULMION										
Angelica sylvestris	III	.	.	.	.	.	14	.	80	.
Caltha palustris	III	.	.	.	.	.	57	.	.	.
Cardamine amara	III	.	.	.	.	.	57	.	.	.
Cardamine impatiens	III	25	25	.	7	5	43	.	.	.
Carex pendula	III	.	.	.	10	.	14	.	.	.
Chaerophyllum hirsutum	III	.	.	.	.	.	57	.	100	.
Chrysosplenium alternifolium	III	75	75	67	69	64	100	.	.	.
Cirsium oleraceum	III	.	.	.	3	5	.	.	.	.
Colchicum autumnale	III	.	.	.	.	.	57	.	.	.
Deschampsia cespitosa	III	.	.	.	.	.	14	.	.	.
Dryopteris carthusiana	III	33	25	17	3	5	.	.	.	.
Equisetum arvense	III	.	.	.	.	.	14	.	.	.
Equisetum telmateia	III	.	.	.	.	.	43	.	.	.
Festuca gigantea	III	.	.	.	.	.	14	.	20	1
Galium mollugo	III	.	.	.	.	.	.	.	20	.
Matteuccia struthiopteris	III	.	.	33	.	.	.	.	.	.
Parietaria officinalis	III	.	.	.	7	.	.	.	.	.
Stellaria nemorum	III	.	.	.	14	.	.	.	.	.
Veronica montana	III	.	.	.	10	.	.	.	.	.
VACCINIO-PICEETEA										
Dryopteris affinis	III	17	.	.	.	.	.	.	.	.
Dryopteris dilatata	III	25	25	.	.	14	.	.	.	.

Number of syntaxon		1	2	3	4	5	6	7	8	9
Number of relevés		12	4	6	29	22	7	3	5	1
Dryopteris expansa	III	25	25	.	3	14	.	.	.	.
Galium rotundifolium	III	.	.	.	.	.	.	.	40	.
Gentiana asclepiadea	III	8	50	33	7	5	14	.	100	1
Gymnocarpium dryopteris	III	.	50	.	.	.	.	.	.	.
Lonicera nigra	II	.	50	.	.	.	.	.	.	.
Luzula luzuloides	III	.	.	.	.	.	.	.	20	.
Melampyrum sylvaticum	III	.	.	.	.	.	.	.	.	1
Oxalis acetosella	III	100	100	100	38	36	29	3	100	.
Phegopteris connectilis	III	8	50	.	.	.	.	.	.	.
Picea abies	I	8	100	17	34	23	14	.	.	1
Picea abies	II	33	50	.	17	9	43	.	.	.
Picea abies	III	8	25	17	.	.	.	.	.	.
Pyrola rotundifolia	III	.	.	.	.	.	.	.	20	.
ADENOSTYLETALIA										
Aconitum paniculatum	III	.	.	.	7	.	43	.	.	.
Aconitum vulparia	III	.	.	.	14	32	.	2	100	1
Athyrium filix-femina	III	100	100	100	86	91	57	3	80	1
Geum rivale	III	.	.	.	.	.	29	.	.	.
Myosotis sylvatica	III	.	75	17	7	5	43	.	.	.
Myrrhis odorata	III	.	.	.	.	.	57	.	.	.
Rumex alpestris	III	.	.	.	.	.	.	.	80	.
Senecio nemorensis	III	.	.	.	.	.	.	.	100	1
Senecio ovatus	III	42	100	67	31	68	71	3	.	.
Silene dioica	III	.	.	.	10	.	57	.	80	.
Veratrum album	III	.	25	67	.	.	29	.	20	.
ASPLENIETEA TRICHOMANIS										
Asplenium trichomanes	III	50	75	.	.	.	.	1	.	.
Asplenium viride	III	17	.	.	14	.	.	.	.	.
Cardaminopsis arenosa	III	17	.	.	.	.	.	.	.	.
Cystopteris fragilis	III	17	25	.	10	.	.	.	.	.
Gymnocarpium robertianum	III	25	.	.	.	.	.	.	.	.
Moehringia muscosa	III	25	.	.	.	.	.	.	.	.
Polypodium vulgare	III	42	100	.	14	.	.	1	.	.
Polystichum lonchitis	III	25	25	.	.	.	.	.	.	.
Polystichum x illyricum	III	58	25	.	14	5	.	.	.	.
Sedum maximum	III	.	.	.	.	.	.	.	20	.
OTHER SPECIES										
Aesculus hippocastanum	III	.	.	.	.	.	14	.	.	.
Alliaria petiolata	III	.	.	.	3	14	14	1	100	.
Anthriscus sylvestris	III	.	.	.	.	.	.	.	80	.
Arctium lappa	III	.	.	33	7	5	29	.	.	.
Atropa bella-donna	III	.	.	.	.	.	.	.	20	.
Betula pendula	I	.	.	.	.	.	.	.	20	.
Campanula patula	III	.	.	.	.	.	.	.	60	.
Cardamine flexuosa	III	17	.	.	.	.	.	.	100	.
Chaerophyllum species	III	.	.	.	.	.	.	.	.	1
Chelidonium majus	III	.	.	.	.	.	.	.	80	.
Corydalis species	III	.	.	.	.	.	.	.	100	.
Cruciata laevipes	III	.	.	.	.	.	.	.	40	.

Number of syntaxon		1	2	3	4	5	6	7	8	9
Number of relevés		12	4	6	29	22	7	3	5	1
Dactylis glomerata	III	.	.	.	.	.	.	.	20	.
Dactylorhiza maculata	III	.	.	.	.	.	14	.	.	.
Epilobium angustifolium	III	.	.	.	.	.	.	.	20	.
Eupatorium cannabinum	III	.	.	.	.	18	.	.	20	.
Fallopia dumetorum	III	.	.	.	.	.	.	.	20	.
Fragaria vesca	III	17	25	17	.	.	.	.	100	1
Galeopsis speciosa	III	8	.	33	10	36	29	.	100	.
Galeopsis tetrahit	III	.	.	.	.	.	.	.	.	1
Galium aparine	III	.	.	.	.	.	14	.	40	.
Galium verum	III	.	.	.	.	.	.	.	20	.
Holcus lanatus	III	.	.	.	.	.	.	.	40	.
Hypericum hirsutum	III	.	.	.	.	.	14	.	.	.
Lamium maculatum	III	42	25	33	7	18	57	.	40	.
Lapsana communis	III	.	.	.	.	.	.	1	100	.
Leucanthemum vulgare	III	.	.	.	.	.	.	.	40	.
Luzula campestris	III	.	.	.	.	.	.	.	20	.
Lysimachia punctata	III	.	.	.	.	.	.	.	20	.
Orchis species	III	.	.	.	.	.	.	.	20	1
Prunella vulgaris	III	.	.	.	.	.	.	.	40	.
Pteridium aquilinum	III	.	.	.	.	.	.	1	.	.
Rosa species	III	.	.	.	.	.	.	1	.	.
Rubus fruticosus agg.	II	17	50	17	34	23	57	.	.	.
Rubus fruticosus agg.	III	.	.	.	.	.	.	3	100	.
Rubus idaeus	II	.	25	17	.	18	.	.	.	1
Rubus idaeus	III	.	.	.	.	.	.	1	60	.
Rubus species	III	.	.	.	.	.	.	.	.	1
Rumex species	III	.	.	.	.	.	14	.	.	.
Salix caprea	I	.	.	.	3	.	.	2	.	.
Salix caprea	II	.	.	.	.	.	.	.	40	.
Sambucus racemosa	II	.	.	.	.	.	.	.	20	.
Solanum dulcamara	III	42	25	.	14	.	14	.	.	.
Sorbus aucuparia	I	.	.	.	.	9	.	3	.	.
Sorbus aucuparia	II	.	.	.	.	5	.	.	.	.
Sorbus aucuparia	III	.	.	.	.	.	.	2	.	.
Verbascum austriacum	III	.	.	.	.	.	.	.	20	.
Veronica chamaedrys	III	.	.	.	.	.	14	.	40	.
MOSSES										
Anomodon attenuatus	IV	.	.	.	21	14	.	.	.	.
Brachythecium populeum	IV	25	.	17	17	14	.	.	.	.
Brachythecium rutabulum	IV	67	25	83	86	73	43	.	.	.
Brachythecium salebrosum	IV	8	25	.	7	5	.	.	.	.
Bryum species	IV	.	.	.	.	.	14	.	.	.
Cirriphyllum tommasinii	IV	25	.	.	45	5	.	.	.	.
Ctenidium molluscum	IV	100	100	83	55	14	14	.	.	.
Dicranum scoparium	IV	.	.	.	.	.	14	.	.	.
Encalypta streptocarpa	IV	.	.	.	.	.	14	.	.	.
Eurhynchium praelongum	IV	.	.	.	.	.	57	.	.	.
Eurhynchium species	IV	.	.	.	24	18	.	.	.	.
Eurhynchium striatum	IV	92	75	50	34	5	29	.	.	.
Fissidens dubius	IV	.	.	.	.	.	14	.	.	.
Fissidens taxifolius	IV	.	.	.	.	.	14	.	.	.

Number of syntaxon		1	2	3	4	5	6	7	8	9
Number of relevés		12	4	6	29	22	7	3	5	1
Homalothecium philippeanum	IV	.	.	.	17	5	14	.	.	.
Homomallium incurvatum	IV	.	.	.	10	.	.	.	.	.
Hypnum cupressiforme	IV	25	50	50	14	32	14	.	.	.
Isotechyum alopecuroides	IV	42	50	50	24	14	.	.	.	.
Plagiomnium cuspidatum	IV	42	.	.	17	5	43	.	.	.
Mnium stellare	IV	.	.	.	7	.	.	.	.	.
Neckera crispa	IV	33	75	.	.	.	.	.	.	.
Plagiochila asplenioides	IV	58	75	33	34	5	.	.	.	.
Plagiomnium affine	IV	.	50	.	.	.	.	.	.	.
Plagiomnium rostratum	IV	.	.	.	.	.	29	.	.	.
Plagiomnium undulatum	IV	100	100	33	28	.	43	.	.	.
Plagiothecium denticulatum	IV	25	25	50	.	.	.	.	.	.
Plagiothecium nemorale	IV	8	.	17	17	32	.	.	.	.
Rhynchostegium murale	IV	.	.	.	7	.	.	.	.	.
Taxiphyllum wisgrillii	IV	.	.	.	14	18	.	.	.	.
Thamnobryum alopecurum	IV	92	75	17	72	5	.	.	.	.
Thuidium tamariscinum	IV	33	25	.	.	.	.	.	.	.
Tortella tortuosa	IV	8	25	.	.	.	.	.	.	.

1. *Omphalodo vernae-Aceretum dentarietosum pentaphylli* (P. Košir 2005 hoc loco: Table)
2. *Omphalodo vernae-Aceretum typicum* (P. Košir 2005 hoc loco: Table)
3. *Omphalodo vernae-Aceretum petasitetosum albi* (P. Košir 2005 hoc loco: Table)
4. *Chrysanthemo macrophylli-Aceretum scopolietosum carniolicae* (P. Košir 2005 hoc loco: Table)
5. *Chrysanthemo macrophylli-Aceretum abietetosum albae* (P. Košir 2005 hoc loco: Table)
6. *Chrysanthemo macrophylli-Aceretum petasitetosum hybridi* (P. Košir 2005 hoc loco: Table)
7. *Aceri-Fraxinetum illyricum* (Regula-Bevilacqua 1978:Tabel 39, relevés 1–3)
8. *Aceri-Fraxinetum* (Petračić & Anić 1952: Table 2, relevés 1–5)
9. *Aceri-Fraxinetum croaticum* (Horvat 1938: 1 relevé)

(p) … species is present in the table more than once