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PHYTOSOCIOLOGY AND ECOLOGY OF THE DINARIC FIR-BEECH FORESTS (*OMPHALODO-FAGETUM*) AT THE NORTH-WESTERN PART OF THE ILLYRIAN FLORAL PROVINCE (NW DINARIC ALPS)

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Abstract

We studied the phytosociology, ecology and biogeography of the Dinaric fir-beech stands (*Omphalodo-Fagetum*) in the Trnovski gozd plateau, at the north-western part of the Illyrian floral province. We identified and confirmed two geographical variants (var. geogr. *Saxifraga cuneifolia* – central and western part of the plateau, and var. geogr. *Calamintha grandiflora* – eastern part of the plateau), and 10 floristically and ecologically well differentiated subassociations (*-rhododendretosum hirsuti,-saxifragetosum cuneifoliae, -adenostyletosum glabrae, -festucetosum altissimae, -calamagrostietosum arundinaceae, -stellarietosum montanae, -seslerietosum autumnalis, -calamagrostietosum variae, -sambucetosum nigrae* and *-asaretosum europei*). The most frequent stands bellong to the subassociation *-festucetosum altissimae* and *-calamagrostietosum arundinaceae*, which, in terms of site ecology and floristic composition, represent the central forest types in the research area. They are floristically impoverished and lack majority of association's characteristic species which is in line with the biogeographic peculiarites of the research area.

Key words: *Aremonio-Fagion*, biogeography, Dinaric Alps, Illyrian floral province, Fir-Beech forest, *Omphalodo-Fagetum*, Trnovski gozd plateau, phytosociology, vegetation.

Izvleček

Podali smo fitocenološko, ekološko in biogeografsko oznako gozdov bukve in jelke (*Omphalodo-Fagetum*) v Trnovskem gozdu, ki v biogeografskem oziru predstavlja severozahodni rob Ilirske florne province. Ugotovili in potrdili smo dve geografski varianti (var. geogr. *Saxifraga cuneifolia* – osrednji in zahodni del planote in var. geogr. *Calamintha grandiflora* – vzhodni del planote) in 10 subasociacij, ki se floristično in okoljsko dobro razlikujejo (*-rhododendretosum hirsuti, -saxifragetosum cuneifoliae, -adenostyletosum glabrae, -festucetosum altissimae, -calamagrostietosum arundinaceae, -stellarietosum montanae, -seslerietosum autumnalis, -calamagrostietosum variae, -sambucetosum nigrae* in *-asaretosum europei*). Osrednjo in najbolj pogosto obliko dinarskih jelovo bukovih gozdov predstavljajo sestoji *-festucetosum altissimae* in *-calamagrostietosum arundinaceae*. Sestoji teh subasociacij so floristično obubožani, zastopanost značilnih vrst dinarskega gozda jelke in bukve pa najmanjša, kar je skladno z biogeografskimi značilnostmi območja.

Ključne besede: *Aremonio-Fagion*, biogeografija, Dinaridi, Ilirska florna provinca, jelovo-bukov gozd, *Omphalodo-Fagetum*, Trnovski gozd, fitocenologija, vegetacija.

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1. INTRODUCTION

1.1 Fir-beech stands in the north-western Dinaric Alps (*Omphalodo-Fagetum* s. lat.)

Dinaric Alps, streching between South-eastern Calcareous Alps and the Pindos mountain range, represent a backbone of the Illyrian floral province of the Central European floral region. Circumscribed on the basis of classical biogeographical principles (Beck 1901, Adamović 1909, Horvat et al. 1974), Illyrian floral province is recognised by considerable number of Balkan and local (narrow) endemics as well as the taxa restricted to the Dinaric Alps only. As pointed out by Šercelj (1996), and based on palinological data, the area served as a forest refugium during the Pleistocene climatic oscillations. Recent evidence in molecules, combined with the results of the analyses of charcoal and pallinological data as well as analysis of floristic composition of stands furtherly support Šercelj's statement and suggest several glacial refugia for European beech (*Fagus sylvatica*) in southern Europe and in the area of NW Dinaric Alps and South-eastern Calcareous Alps in particular (e.g., Taberlet et al. 1998, Brus et al. 2000, Willis & van Andel 2004, Magri et al. 2006, Willner et al. 2009, but for the recent review see Brus 2010).

One of the most prominent characteristics of the area are more or less preserved European beech forests covering huge areas of the Dinaric Alps. They are characterised by number of »Illyrian« forest species or »illyricoid elements« (sensu Trinajstić 1997) thus syntaxonomically belonging to Illyrian alliance *Aremonio-Fagion* (Borhidi 1963, Borhidi 1965, Török et al. 1989, Marinček et al. 1993). In the (alti)montane belt, fir-beech stands (»*Abieti-Fagetum*« s. lat.) generaly prevail (e.g., Horvat 1938, Tregubov 1941, 1957, Vukelić et al. 2008, Dakskobler 2008, Dakskobler & Marinšek 2009) representing the climax vegetation type and due to high level of biodiversity and socio-economic importance (wood production, hunting, turism, etc.) also an important aspect of natural and cultural heritage of the area. Phytosociologically, these forests are one of the most studied in the western Balkans and their ecology, biogeography, syntaxonomy and typology are rather well known (see Markgraf 1927, Horvat 1938, 1957, Fukarek & Stefanović 1958, Blečić 1958, Fukarek 1964, Bertović et al. 1966, Trinajstić 1970, 1972, Puncer et al. 1974, Pelcer 1976, Puncer 1980, Zupančič & Puncer 1995, Vukelić & Baričević 1996, Accetto 1998, Marinček & Košir 1998, Dakskobler et al. 2000, Surina 2001, 2002, Vukelić & Baričević 2002). Depending on general ecological conditions (e.g. geological bedrock, soil type, inclination, exposition, elevation, ...), Dinaric fir-beech forests are on their lower elevational limit in contact with montane beech forests of the associations *Lamio orvalae-Fagetum*, *Arunco-Fagetum*, *Hacquetio-Fagetum*, *Seslerio autumnalis-Fagetum*, *Ostryo-Fagetum, Rhododendro hirsuti-Fagetum* (compare with Dakskobler 2008), pine forests of the associations *Rhododendro hirsuti-Pinetum prostratae* and *Fraxino orni-Pinetum nigrae* or even directly with thermophitic European Hop-hornbeam forests of the associations *Seslerio autumnalis-Ostryetum* and *Amelanchiero ovalis-Ostryetum*. On their upper elevational limit, however, they are in contact with altimontane (*Ranunculo platanifolii-Fagetum*) and subalpine (*Polysticho lonchitis-Fagetum*) beech forests, forming frequently both on the upper and lower limits of their elevational range transitional stands of ambiguous tipology. Latitudinally, on their north-western limits of their distribution range (the Trnovski gozd plateau), they are in contact with pre-alpine fir-beech stands of the association *Homogyno sylvestris-Fagetum*. The southern limit of the distribution range of the association *Omphalodo-Fagetum*, as well as the whole alliance *Aremonio-Fagion*, is not clear yet (for the relevant discussion see Surina 2002) and an extensive analysis in order the define its south-eastern limits awaits.

Dinaric fir-beech stands in the Illyrian floral province, initially described as *Fagetum croaticum australe abietetosum* by Horvat (1938), Tregubov (1957) lately treated on the association rank (*Abieti-Fagetum dinaricum*). Following the rules of a phytosociological code (Barkman et al. 1986, but see also Weber et al. 2000), Marinček et al. (1993) did the nomenclatorial revision of some of the Illyrian forest syntaxa and the name *Abieti-Fagetum dinaricum* was replaced by *Omphalodo-Fagetum*. However, as pointed out subsequently, nomenclatorial and chorological issues were not entierly solved (Surina 2002). Recent treatments and interpretations (Trinajstić 2008, Trinajstić et al. 2009) appeared to be redundand, missing the point, and by proposing a new name, *Fago-Abietetum omphalodetosum*, missinterpreting and violating the phytosociological code (Weber et al. 2000) in several articles.

Floristic differences and phytogeographical peculiarities of stands of *Omphalodo-Fagetum* at the northwestern part of the Dinaric Alps were firstly discussed by Wraber (1953, 1959) and lately by Puncer (1979), who reported on lower proportion of South-east European – Illyrian (illyricoid), and higher proportion of south-eastern Alpine taxa in Dinaric fir-beech stands at the north-westernmost part of its distribution area (*Abieti-Fagetum austroalpinum* nom. nud.) in the Trnovski gozd plateau. Unfortunatelly, Puncer's early death prevented him to continue the research and publish the results supplemented with the table material. Extensive phytogeographical analysis of stands of the association *Omphalodo-Fagetum* through all the distribution range proved floristic distinctions and led to recognition of the two geographical variants (Surina 2002): *Omphalodo-Fagetum* var. geogr. *Saxifraga cuneifolia* (restricted to northwesternmost part of the Dinaric Alps, majority of the Trnovski gozd plateau), and *Omphalodo-Fagetum* var. geogr. *Calamintha grandiflora* (easternmost part of the research area and the rest of the distribution range of the association). In this paper we follow the footsteps of Puncer furtherly trying to elucidate the phytosociological, ecological and phytogeographical characteristics of Dinaric fir-beech stands at the north-western part of the Illyrian floral province.

1.2 Study area

Trnovski gozd is a high karst plateau between 800–1200 m a.s.l. extending on app. 120 km^2 at the north-western most part of the Dinaric Alps (W Slovenia, Figure 1). The highest peaks are found in it's central part (Mali Golak, 1495 m). Except for the eastern (and partly north-western) side, the flanks of the plateau are steep and intersepted by precipited walls. Jurassic limestone prevails in the area. However, Cretaceous platy limestone with addition of chert is present in some dolinas and slopes, e.g. Mala Lazna, Velika Lazna, Avška Lazna and Gospodova senožet, while Triassic dolomites and Dachstein's limestones occur only on the north-eastern part of the plateau (Buser 1965). Among soils, most common types are different forms of rendzinas and mosaics of rendzinas and brown calcareous soils (Vovk et al. 1966). The climate is humid with high amount of precipitations, 2000–3000 mm yearly (Zupančič 1995), and on account of the higher elevation of the plateau, karst relief, windness and abundant rainfall, relatively cold. Mean yearly temperature of the plaeau is estimated to be around 5 °C (Zupančič 1980), but is considerably higher at the western and southern part of the plateau. One of the characteristics of the plateau is a phenomenon of temperature and vegetation inversion frequently occuring in freezing dolines (e.g., Krašan 1880, Beck 1906, Martinčič 1977, Surina & Vreš 2009).

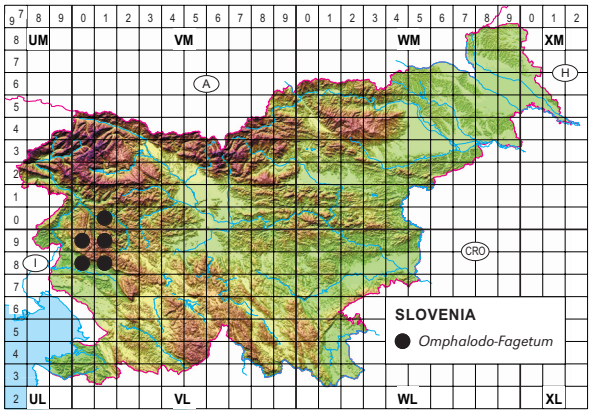

Figure 1: Research area and distribution of Dinaric fir-beech forests (*Omphalodo-Fagetum*) at northwesternmost part of the Dinaric Alps.
Slika 1: Območje raziskav in razširjenost dinarskih jelovo bukovih gozdov (*Omphalodo-Fagetum*) na skrajnem severozahodnem delu Dinaridov.

1.3 Forest vegetation of the Trnovski gozd plateau

Being in close proximity both to the Alps and the Adriatic Sea, the biogeographic aspect of the flora and vegetation of northwesternmost part of the Dinaric Alps attracted botanists from early beggining (for the review see Wraber 2004). However, majority of botanical studies were done on phytosociology of forest vegetation. M. Wraber did the first studies in 1950's and 60's (Wraber 1953, 1959, 1963), followed by Piskernik (1954) and Zupančič (1967, 1969) who studied maple-beech forests (*Stellario glochidispermae-Fagetum = Stellario montanae-Fagetum*). Extensive mapping of forest vegetation (in a scale 1 : 10.000) was performed between 1977–79 (Marinček et al. 1977, Čampa 1978, Urbančič et al. 1979). Spruce (*Lonicero caeruleae-Piceetum, Hacquetio-Piceetum*) and fir-spruce forests (*Ribeso alpini-Piceetum*) were studied in detail by Zupančič (1980, 1999)

and Zupančič and Accetto (1994), respectivelly. Subalpine beech stands (*Polysticho lonchitis-Fagetum* var. geogr. *Allium victorialis*) were studied by Marinček (1996), while Dakskobler (1997, 1998, 2000, 2003) and Dakskobler et al. (2000) have done extensive studies on various types of beech forests: termophilous (*Seslerio autumnalis-Fagetum*), fir-beech (*Omphalodo-Fagetum*), and beech forests with hairy alpenrose (*Rhododendro hirsuti-Fagetum*). Native pine forests (*Fraxino orni-Pinetum nigrae*) are restricted only to precipited walls and terrases of northern slopes of the plateau above the Trebuša valley (Dakskobler 1999, 2004, Urbančič & Dakskobler 2001). In general, beech forests completely prevail in the Trnovski gozd plateau, while fir-beech stands (*Omphalodo-Fagetum* var. geogr. *Saxifraga cuneifolia*) cover app. 70% of the research area (Turk 1994).

2. METHODS

Forest stands were studied applying sigmatistic method (Braun-Blanquet 1964, Westhoff & van der Maarel 1973, Dierschke 1994). Plot size used for sampling was 400 m^2 (a standard plot size for forest stands, but see also Chytry & Otýpková 2003). All in all 208 relevés were entered into the FloVegSi database (Seliškar et al. 2003), 15 of which were already published by Dakskobler et al. (2000) – *Omphalodo-Fagetum rhododendretosum hirsuti*, and 35 of which originated from the unpublished manuscript of Puncer. Relevés were then compared using methods of hierarchical and non-hierarchical classification as well as ordination with help of the computer programme packages PAST (Hammer et al. 2001) and SYNTAX (Podani 2001). Prior to the analyses, the combined cover-abundance values were transformed into the ordinal scale as proposed by van der Maarel (1979).

In the first step we applyed non-hierarchical clustering (global optimisation with k values ranging from 2–10, 5 repeats and 100 searches), suitable for large datasets (Gauch 1999), in order to achieve within-cluster homogeneity. After initial non-hierarchical clustering we used several methods of hierarchical clustering (complete linkage – farthest neighbour, unweighted average linkage method – UPGMA, incremental sum of squares – MISSQ) which all yielded very similar results. The similarity measures were Dice and Jaccard indices (when presence or absence of species was considered), Euclidian distance and Wishart's coefficient – similarity ratio. The arrangements of relevés in phytosociological tables is based on the results of hierarchical clustering. For every taxon in the table we calculated its cover index (I_c) as suggested by Lausi et al. (1982). In order to explain the variation by specific environmental and structural (phytosociological) variables, unconstrained (PCA, DCA) and constrained (RDA, CCA) ordination analyses were performed using CANOCO computer programme (Braak Ter & Šmilauer 2002). In order to determine the lenghts of gradientes, DCA analyses, detrended by segments, were initially performed and the models (linear, unimodal) were used accordingly. Statistical significance of ecological variables ($p<0.05$) was tested using Monte Carlo test with 499 permutations. Only significant variables were then analyzed together in order to produce a general view of environmental impact on floristic composition and structure of forest stands. For the general environmental affinities we used bioindicator values of vascular plants of the Flora of Italy (Pignatti 2005). The environmental value in a relevé (EV_w) was estimated as a weighted average of the indicator values of all the *s* present species, their abundances being used as weights:

$$EV_w = \frac{\sum_{i=1}^{s} IV_i x Abund_i}{\sum Abund_i}$$

where IV_i is the indicator value of *i*th species and $Abund_i$ is the abundance of *i*th species in a relevé (Lepš & Šmilauer 2003). In order to investigate whether a slope exposition of studied stands is randomly distributed within stands grouped to syntaxa recognized based on floristic composition, a directional analysis was performed using Rayleigh's – R (Mardia 1972) and chi-square – H^2 tests (Hammer & Harper 2006) by means of programme package PAST.

Five representative soil profiles were used in order to explain soil conditions in different types of stands. Profiles were described by M.Sc. Tomaž Prus, and the chemical analyses were conducted in the laboratories of the Pedology and Environment Protection Centre of the Biotechnical Faculty, University of Ljubljana.

The association *Omphalodo-Fagetum* was subdivided into lower units according to the principle of multi-dimensional subdivision of vegetation units (Matuszkiewicz & Matuszkiewicz

1981, but see also Surina 2002). According to this principle geographical variants are treated as small independant regional associations and subassociations are discribed within the geographical variants (for example *Omphalodo-Fagetum* var. geogr. *Saxifraga cuneifolia festucetosum altissimae*) and not within the association in broader sense (*Omphalodo-Fagetum festucetosum altisimae*), what is in accordance to the Code (Weber et al. 2000). We find this approach in geographically widespread and climazonal associations to be practical and justified, being aware of the fact that certain newly described subassociations, according to the Code, are typified illegitimately.

The nomenclature and taxonomy of vascular plants is in agreement with the Mala flora Slovenije (Martinčič et al. 2007), while mosses and lichens with Martinčič (2003) and Suppan & al. (2000), respectively. Phytosociological groups were formed on the basis of our own criteria, but in accord with numerous authors (e.g., Mucina et al. 1993, Oberdorfer 1994, Aeschimann et al. 2004). Type relevés for various syntaxa bellow the association rank are marked with an asterix. Taxa occuring only once in phytosociological tables, detailed locality descriptions and all the syntaxonomical units with complete names mentioned in the paper are listed in the Appendix. Since only the most frequent and abundant taxa of mosses and lichens were determined, mosses and lichens were not chosen for the diagnostic group of taxa. Their inventory is listed at the bottom of the analytical tables (Tables 5–14).

3. RESULTS

3.1 Floristic composition

Complete floristic inventory of the Dinaric fir-beech stands in the Trnovski gozd plateau is given in Tables 4–14 and Appendix. In total, 253 taxa of ferns and phanerogams were recorded. Characteristic taxa for the European beech forests (*Fagetalia sylvaticae*) represent the core group (Figure 2, Tables 1 & 2) of species in studied stands, constituting 24.1 (*rhododendretosum hirsuti*) – 46.3% (*asaretosum europaei*) of a total floristic inventory according to various lower ranked syntaxa. Beech forests taxa achieve the highest coverage values (I_c), ranging from 357.2 (*festucetosum altissimae* II) – 1019 (*asaretosum europaei*), as well. Moderatelly acidophilous, subhigrophilous and mesophilous taxa, characteristic of spruce forests (*Vaccinio-Piceetea*), are also frequent, representing 10.9 *(asaretosum europaei*) – 24.4% (*festucetosum altissimae* II) of a total floristic inventory, and achieving rather high coverage values (330.2 – 717.8). They are good diferential species to pure beech stands which represent climax forest vegetation type in lower montane and subalpine belts. Tall herbs (*Mulgedio-Aconitetea*) represent 4.6 (*sambucetosum*) – 12% (*rhododendretosum*), while highly diagnostic illyricoid taxa (*Aremonio-Fagion*) from Illyrian forests 5.3 (*rhododendretosum*) – 9.5% (*asaretosum*) of total species inventory (Table 1). A proportion and coverage of groups of taxa may vary a lot according to different types of Dinaric fir-beech forests recognized in our analyses which is in accordance with general cognition of extreme ecological plasticity of forests of the climazonal association *Omphalodo-Fagetum*.

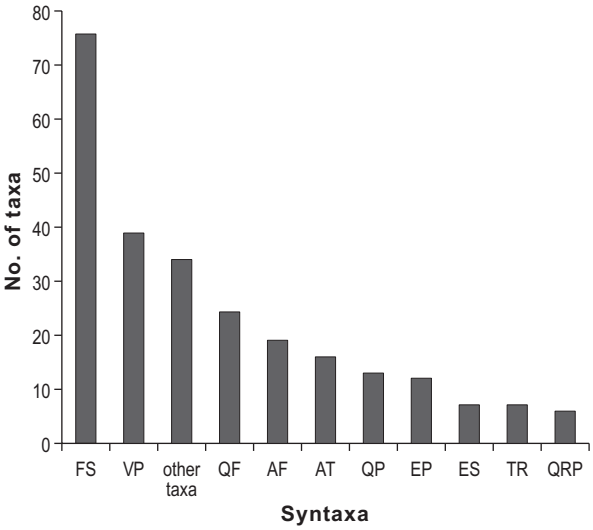

Figure 2: Number of taxa per selected syntaxa in Dinaric fir-beech forests (*Omphalodo-Fagetum*) in the Trnovski gozd plateau (NW Dinaric Alps; FS – *Fagetalia sylvaticae*, VP – *Vaccinio-Piceetea*, QF – *Querco-Fagetea*, AF – *Aremonio-Fagion*, AT – *Asplenietea trichomanis*, QP – *Quercetalia pubescentis*, EP – *Erico-Pinetea*, ES – *Elyno-Seslerietea*, TR – *Thlaspietea rotundifolii*, QRP – *Quercetalia robori-petraeae*).

Slika 2: Število taksonov v dinarskem jelovem bukovju (*Omphalodo-Fagetum*) v Trnovskem gozdu (severozahodni Dinaridi) glede na izbrane sintaksonomske skupine (FS – *Fagetalia sylvaticae*, VP – *Vaccinio-Piceetea*, QF – *Querco-Fagetea*, AF – *Aremonio-Fagion*, AT – *Asplenietea trichomanis*, QP – *Quercetalia pubescentis*, EP – *Erico-Pinetea*, ES – *Elyno-Seslerietea*, TR – *Thlaspietea rotundifolii*, QRP – *Quercetalia robori-petraeae*).

Table 1: Syntaxonomic groups (%^{Ic}) in the subassociations of the Dinaric fir-beech forests (*Omphalodo-Fagetum*) in the Trnovski gozd plateau (NW Dinaric Alps).

Tabela 1: Sintaksonomske skupine (%^{Ic}) v subasociacijah dinarskega jelovega bukovja s klinolistnim kamnokrečem (*Omphalodo-Fagetum*) v Trnovskem gozdu (severozahodni Dinaridi).

Syntaxa	rho	ade	sax	cal aru	fes I	fes II	ste	cal var	ses	sam	asa
Aremonio-Fagion	5.3$^{127.1}$	7.7$^{85.2}$	6.7$^{91.7}$	7.0$^{108.5}$	5.9$^{113.3}$	6.9$^{76.1}$	6.5$^{110.1}$	7.9$^{134.5}$	9.3$^{134.7}$	8.3$^{170.8}$	9.5$^{193.7}$
Fagetalia sylvaticae	24.1$^{439.6}$	36.9$^{593.8}$	30.6$^{433.3}$	35.9$^{561.4}$	38.5$^{645.8}$	34.4$^{357.2}$	41.3$^{862.4}$	33.5$^{630.0}$	37.3$^{489.6}$	43.1$^{550.0}$	46.3$^{1019.0}$
Quercetalia pubescentis	3.0$^{37.5}$	3.1$^{0.0}$	4.5$^{26.1}$	3.5$^{22.9}$	3.7$^{7.6}$	4.6$^{6.2}$	4.5$^{7.4}$	4.9$^{35.7}$	6.8$^{104.2}$	2.8$^{16.7}$	5.4$^{66.7}$
Quercetalia roboris-petraeae						0.8$^{0.8}$			0.8$^{1.4}$		2.7$^{15.9}$
Querco-Fagetea	5.3$^{66.0}$	2.3$^{37.0}$	6.0$^{70.6}$	6.3$^{52.0}$	6.7$^{41.3}$	5.3$^{33.3}$	7.7$^{52.9}$	7.9$^{74.5}$	6.8$^{59.7}$	5.5$^{66.7}$	8.8$^{149.2}$
Erico-Pinetea	6.0$^{109.0}$	3.8$^{16.0}$	3.0$^{17.8}$	2.1$^{2.6}$	2.2$^{0.9}$	1.5$^{0.8}$	1.9$^{1.6}$	4.9$^{91.7}$		2.8$^{11.1}$	1.4$^{12.7}$
Mulgedio-Aconitetea	12.0$^{154.2}$	10.8$^{144.4}$	9.0$^{36.1}$	7.7$^{10.8}$	6.7$^{23.1}$	6.9$^{3.3}$	9.7$^{149.2}$	7.9$^{71.4}$	5.9$^{4.2}$	4.6$^{8.3}$	4.8$^{30.2}$
Vaccinio-Piceetea	23.3$^{653.5}$	20.0$^{224.1}$	23.1$^{717.8}$	20.4$^{466.7}$	20.0$^{316.0}$	24.4$^{357.2}$	12.9$^{170.9}$	14.0$^{207.3}$	20.3$^{286.1}$	18.3$^{306.9}$	10.9$^{330.2}$
Elyno-Seslerietea	2.3$^{34.0}$	2.3$^{13.6}$	0.7$^{1.1}$					3.0$^{20.2}$			0.7$^{3.2}$
Asplenietea trichomanis	9.8$^{131.9}$	6.9$^{43.2}$	7.5$^{122.8}$	6.3$^{84.0}$	6.7$^{49.8}$	5.3$^{38.7}$	4.5$^{39.2}$	6.1$^{67.1}$	5.9$^{63.2}$	4.6$^{47.2}$	2.7$^{31.7}$
Thlaspietea rotundifolii	2.3$^{40.3}$	0.8$^{30.9}$	1.5$^{36.3}$	2.1$^{28.4}$	1.5$^{19.1}$	0.8$^{24.3}$	0.6$^{7.9}$	1.8$^{36.3}$	1.7$^{24.3}$	0.9$^{2.8}$	0.7$^{1.6}$
Other species	6.8$^{70.8}$	5.4$^{60.5}$	7.5$^{77.2}$	8.5$^{93.8}$	8.1$^{82.7}$	9.2$^{64.2}$	10.3$^{75.1}$	7.9$^{40.8}$	5.1$^{50.0}$	9.2$^{172.2}$	6.1$^{63.5}$
No. of ferns and seed plants	133$^{1863.9}$	130$^{1248.8}$	118$^{1630.7}$	132$^{100.0}$	135$^{1299.5}$	131$^{962.1}$	137$^{1476.7}$	164$^{1409.5}$	118$^{1217.4}$	109$^{1352.8}$	147$^{1917.5}$
Mean no. of seed plants/ relevé, CV %	65.3$^{10.0}$	42.1$^{14.8}$	51.5$^{12.4}$	42.9$^{13.7}$	42.8$^{11.5}$	34.3$^{19.3}$	45.4$^{16.1}$	50.6$^{20.0}$	41.9$^{11.6}$	58$^{7.4}$	57.9$^{13.9}$
Nom. od lichens and bryophytes	53$^{475.7}$	31$^{219.1}$	48$^{209.4}$	17$^{131.7}$	16$^{123.1}$	33$^{205.8}$	45$^{189.9}$	17$^{124.5}$	22$^{156.3}$	15$^{122.2}$	21$^{182.5}$

Table 2: Phytosociological parameters (Me-Min-Max) of different types of Dinaric fir-beech stands (*Omphalodo-Fagetum*) in the Trnovski gozd plateau (NW Dinaric Alps).

Tabela 2: Fitocenološki parametri (Me-Min-Max) različnih tipov dinarskega jelovega bukovja (*Omphalodo-Fagetum*) v Trnovskem gozdu (severozahodni Dinaridi).

			coverage (%)				
syntaxa	elevation (m)	incl. (0)	tree layer (A)	shrub layer (B)	herb layer (C)	moss layer (D)	stoniness (S)
rhododendretosum hirsuti	1305$^{1130–1350}$	35$^{25-35}$	70$^{60-80}$	50$^{20-60}$	60$^{40-70}$	20$^{10-30}$	60$^{0-70}$
adenostyletosum glabrae	1270$^{1240–1300}$	25$^{0-40}$	85$^{70-90}$	10$^{1-60}$	60$^{40-70}$	10$^{5-20}$	30$^{10-60}$
saxifragetosum cuneifoliae	1195$^{1035–1340}$	40$^{0-50}$	80$^{50-100}$	20$^{5-60}$	75$^{70-100}$	10$^{1-50}$	30$^{10-70}$
calamagrostietosum arundinaceae	1130$^{945–1245}$	20$^{0-50}$	90$^{70-100}$	20$^{5-70}$	70$^{40-90}$	10$^{5-40}$	30$^{1-70}$
festucetosum altissimae I	1010$^{790–1275}$	15$^{0-40}$	100$^{70-100}$	10$^{1-50}$	70$^{30-100}$	10$^{1-50}$	30$^{1-70}$
festucetosum altissimae II	1040$^{790–1220}$	5$^{0-30}$	80$^{70-90}$	10$^{0-40}$	60$^{30-90}$	10$^{0-60}$	60$^{0-80}$
stellarietosum montanae	970$^{800–1100}$	15$^{0-35}$	80$^{50-100}$	10$^{1-90}$	80$^{50-100}$	10$^{1-50}$	20$^{0-70}$
calamagrostietosum variae	960$^{680–1200}$	35$^{20-40}$	80$^{70-90}$	20$^{10-40}$	50$^{10-70}$	5$^{0-20}$	20$^{10-40}$
seslerietosum autumnalis	970$^{800–1120}$	17.5$^{10–25}$	90$^{80-100}$	10$^{5-40}$	70$^{10-100}$	10$^{1-30}$	30$^{5-60}$
sambucetosum nigrae	850$^{800–1000}$	20$^{15–25}$	85$^{80-100}$	50$^{30-60}$	80$^{70-90}$	10$^{5-10}$	15$^{5-20}$
asaretosum europaei	660$^{640–800}$	32.5$^{30-35}$	90$^{80-90}$	10$^{10-20}$	55$^{40-60}$	5$^{5-20}$	15$^{10-30}$

Table 3: Chemical and physical characteristics of five representative soil profiles in five Dinaric fir-beech stands (*Omphalodo-Fagetum*) in the Trnovski gozd plateau (NW Dinaric Alps).

Tabela 3: Kemične in fizikalne lastnosti tal v petih reprezentativnih profilih v sestojih dinarskega jelovega bukovja (*Omphalodo-Fagetum*) v Trnovskem gozdu (severozahodni Dinaridi).

sample			1			2		3		4		5	
elevation (m)			1130			1160		1000		1210		850	
exposition			E			W		SW		W-NW		E	
inclination (^{0})			25			20		15		25		20	
horizon		Oh	A	AB	Brz	Oh	A	Oh	A	Oh	A	Oh	A
depth (cm)		0-4	4-23	23-49	49-86	0-13	13-38	0-12	12-30	0-13	13-20	0-15	15-30
pH ($CaCl_2$)		4.4	4.2	5	5.2	3.5	6.5	6.2	6.9	3.8	6.4	6.3	7
Al	P_2O_5 mg/100g		1.7	0.9			3.3		0.6		1.3		1.7
	K_2O		5.5	7.1			12.1		8.3		5.4		6.8
org. matter	%	32.6	4	1.8	1.3	39.6	25.1	32.7	15.8	51.8	18.1	27.7	16
C		18.9	2.3	1	0.8	22.9	14.5	18.9	9.1	30	10.5	16	9.3
C : N		16.7	14.4	12.5	13.3	15.3	17.5	13	13.6	18.8	16.7	15.1	14.5
N total		1.13	0.2	0.1	0.1	1.5	0.8	1.5	0.7	1.6	0.6	1.1	0.6
sand			6.7	6.7	6.8		14.3		12.6		10.9		14.4
silt rough	%		18.9	19.1	4		24.9		17.8		16.8		20.2
silt fine			33	31.5	10.5		35		40.5		43.1		43.9
silt total			51.9	50.6	14.5		59.9		58.3		59.9		64.1
clay			41.4	42.7	78.7		25.8		29.1		29.2		21.5
texture class			MG	MG	G		MI		MGI		MGI		MI
Ca			1.6	8.2	10.1		56.4		48		33.8		40.0
Mg			0.2	0.5	0.5		1.6		0.6		10.2		11.4
K			0.1	0.1	0.1		0.3		0.2		0.2		0.1
Na	eq mmol H/100g sample		0.0	0.1	0.1		0.2		0.2		0.1		0.1
H			10.4	13.2	10.4		18.8		10		16.9		8.7
S			2	8.9	10.7		58.5		49		44.2		51.7
T			12.4	22.1	21.1		77.3		59		61.1		60.4
V			16.1	40.3	50.7		75.7		83.1		72.3		85.6
Ca			12.7	37	47.8		72.9		81.4		55.3		66.3
Mg	%		1.9	2.1	2.3		2.1		1.1		16.7		18.8
K			0.8	0.6	0.5		0.3		0.3		0.3		0.2
Na			0.3	0.4	0.2		0.2		0.3		0.2		0.2
H			83.5	59.7	49.3		24.3		16.9		27.6		14.4
color		5y2.5/2	5yr4/4	5yr5/6	2.5y43/6	5yr2.5/1	5yr3/2	5yr2.5/1	5yr3/3	5yr2.5/1	7.5yr3/2	5yr2.5/2	7.5yr3/2
texture			I	GI	GI-I				I		I		MI
structure		mr	or	po	po	mr	gr	mr	gr-or	mr-gr	or	gr-or	or-po
severity		3	3	2	3	3	3	3	4	3	3	3	3
persistence		4	4	4	4	4	4	4	4	4	4	4	4
stoniness (%)						+	25	+	50		60	40	70
diameter (mm)						100	100	100	100		100	300	300
consistence		ra. dr	ra. dr	sgo. tdr. gn	go. zb. tdr	ra. si	ra. dr	ra. dr	ra. dr	ra. dr	sgo. dr	ra. dr	sgo. dr
moisture		5	5	5-6	5	4	4	5	5	6	5	5	5
org. matter		7	2	8	8	7	6	3	3	7	3	5	3
amount of rootedness		6	5	4	3	6	6	6		6	5	6	4

3.2 Floristic structure of stands

In the tree layer, *Fagus sylvatica* and *Abies alba* (the latter specially in the upper tree layer) prevail, covering 70–100% of the relevé area. Although generally dependent on specific site ecology, the abundance and coverage ratio of fir and beech in stands are heavily influenced by management regime, since almost pure even-aged and unistructural beech stands, in otherwise sites of climazonal fir-beech stands, were frequently observed. In some stands, *Acer pseudoplatanus* and *Picea abies* are also frequent and relatively abundant, while *Ulmus glabra* and *Tilia platyphyllos* appear mostly in stands thriving on specific sites and on lower elevation of NE part of the study area. *Sorbus aucuparia*, *S. aria* and *Ostrya carpinifolia* only rarely occur in a tree layer, but rather frequently in a shrub layer. Shrubs in general cover 10–20 (–50)% of the relevé area and the most frequent species are *Fagus sylvatica, Acer psedoplatanus, Abies alba* and *Picea abies*. Other relativelly common taxa are *Lonicera nigra, L. alpigena, Daphne mezereum, Rosa pendulina, Rubus idaeus, Sambucus nigra* and *S. racemosa*. *Rhododendron hirsutum, Sorbus chamaemespilus* and *Salix appendiculata* are otherwise less frequent, but on ecologically extreme sites they significantly shape the structure and physiognomy of stands. Herb layer is rather well developed, covering 70–80% of the relevé area. European beech forest species and spruce forest species prevail. One of the characteristics of studied stands is presence of some SE-Alpine – N-Ilyrian elements, e.g., *Phyteuma scheuchzeri* ssp. *columnae*, *Paederota lutea, Rhodothamnus chamaecistus, Primula carniolica, Laburnum alpinum, Saxifraga cuneifolia*, rendering fir-beech stands in the Trnovski gozd plateau (*Omphalodo-Fagetum* var. geogr. *Saxifraga cuneifolia*) biogeographically transitional to SE-Alpine fir-beech stands (*Homogyno sylvestris-Fagetum*; Dakskobler et al. 2000, Surina 2002). Cryptophytes generally cover round 10% of the relevé area (but up to 60%), depending on stoniness and moisture of sites. They are most abundant in rocky and moist sites (e.g., *rhododendretosum, stellarietosum*, Tables 1 & 2), while in dry sites and those with low stoniness (e.g., *seslerietosum autumnalis, asaretosum, sambucetosum*) they use to cover 15–30% of the relevé area.

3.3 Characteristic species of the association

According to Puncer (1980), *Omphalodes verna, Calamintha grandiflora, Rhamnus fallax, Cardamine trifolia* and *Aremonia agrimonoides* are relativelly good characteristic species of the association *Omphalodo-Fagetum*. However, in the northwesternmost part of the distribution area of the association they appear with lower frequency and coverage in comparisson to Dinaric fir-beech stands from the center of the association's distribution area (*Omphalodo-Fagetum* var. geogr. *Calamintha grandiflora*), a fact pointed out already by earlier phytosociologists studing the forest vegetation of the Trnovski gozd plateau (e.g., Wraber 1953, 1959, Marinček et al. 1977, Čampa 1978, Puncer 1979, Urbančič et al. 1979, Puncer 1980, Dakskobler et al. 2000; Surina 2002). In the central part of the plateau and majority of the research area, *Calamintha grandiflora, Omphalodes verna* and *Rhamnus fallax* occur only sporadically, while they are more frequent only at lower elevation of north-eastern (and partly in north-western part of the plateau, above Čepovanska dolina valley, in the syntaxon *-stellarietosum montanae* var. *Cardamine pentaphyllos*) part of the plateau, particularly in the subassociations *-sambucetosum, -asaretosum* and *-calamagrostietosum variae* (Table 4). On the other hand, *Cardamine trifolia* and *Aremonia agrimonoides* occur frequently and with high constancy in studied stands throughout the research area.

3.4 Numerical analyses

Initially, both non-hierarchical (NHCL) and hierarchical (HCL) analyses identified the same groups of relevés. NHCL gave best results with k=3 (criterion value=0.83358) and k=4 (criterion value=0.81854), while combination of several methods and measures of similarities identified three floristically and ecologically well defined groups of relevés (dendrogram not shown). The first group of relevés represents the most frigoriphilous stands thriving oh highest elevation and slopes exposed to the north. *Rhododendron hirsutum* is prevailing in approxmatelly half of the relevés in the understory. These stands were already described in detail by Dakskobler et al. (2000) and typified as *Omphalodo-Fagetum* var. geogr. *Saxifraga cuneifolia rhododendretosum hir-*

suti. Within the same cluster and beside the stands with predominating *Rhododendron hirsutum* in the understory, there are stands with the highest coverage values of species of the class *Vaccinio-Piceetea* and the highest frequency and coverage value of *Saxifraga cuneifolia*. Most thermophilous stands and those thriving on lowest elevation are grouped within a second cluster; this cluster gathers stands where *Sesleria autumnalis* completely dominates in herb layer, while *Stellaria montana, Impatiens noli-tangere, Lunaria rediviva, Sambucus nigra*, etc. were frequent in most mesophilous stands of the cluster. The third cluster comprises majority of the relevés and is floristically and ecologically positioned inbetween the former two clusters. In the second step, the three clusters were analyzed separately by means of additional cluster analyses and various unconstrained and constrained ordination techniques. Their tipology is furtherly discussed in detail.

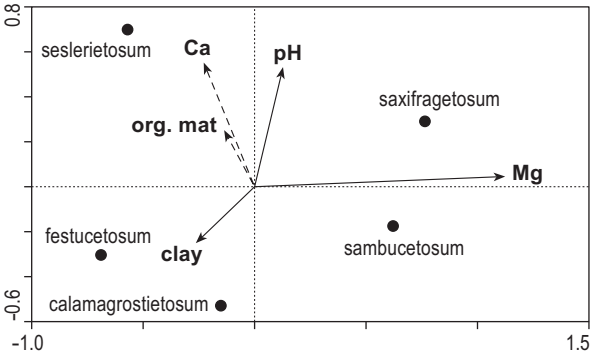

Figure 3: RDA of selective soil parameters in five different types of Dinaric fir-beech stands (*Omphalodo-Fagetum*) in the Trnovski gozd plateau (NW Dinaric Alps). For further detail see Table 1. F-ratio: Mg=1.52 (p=0.056), clay=0.70 (p=0.796), pH=0.69 (p=0.7980); 0.73 variance explained by selected variables; supplementary variables Ca and org. mat.; eigenvalues 0.357, 0.194, 0.180, 0.270. Statisticaly insignificate variables are marked with dashed line.

Slika 3: RDA analiza na temelju izbranih pedoloških parametrov v petih različnih tipih dinarskega jelovega bukovja (*Omphalodo-Fagetum*) v Trnovskem gozdu (severozahodni Dinaridi). Podrobnejše informacije so v tabeli 1. F-razmerje Mg=1.52 (p=0.056), glina=0.70 (p=0.796), pH=0.69 (p=0.7980); izbrane variable pojasnjujejo 0.73 variance; dodatne variable: Ca in org. del.; eigenvalues 0.357, 0.194, 0.180, 0.270. Statistično neznačilne variable so označene s prekinjeno črto.

3.5 Soil profiles

We identified considerable differences in soil depth already in a scale of only a few meters. Averagely, soil depth is very shallow and intersepted with bare rocks, stones and boulders. Homogeneously distributed soil types and depths on relatively larger areas were only rarely recorded in the field, thus rendering different soil types as not as most suitable ecological parameter to characterize and classify forest stands according to their floristic composition and soil properties. Nevertheless, analyses of representative soil profiles show significant differences both in physical and chemical characteristics according to different types of forest stands defined by numerical analyses (Figure 3, Table 3.

The profile No. 1 represents brown soil with pronounced mineral horizon (B), developed on calcareous bedrock intermixed with chert. In comparisson to other analyzed soil profiles (Table 3), the A horizon has the lowest pH valus and contains the lowest amount of calcium, magnesium, potassium, organic matter, nitrogen, sand and silt. On the other hand it contains the biggest amount of clay. By a rule, in Dinaric fir-beech stands, developed on brown soils, *Calamagrostis arundinacea* prevails in the understory (*Omphalodo-Fagetum* var. geogr. *Saxifraga cuneifolia calamagrostietosum arundinaceae*). Other soil profiles represent rendzinas. The soil in profile No. 2 is very shallow and represents the most common soil type in the research area. The A horizon contains the biggest amount of phosphorus and potassium, sand and silt, and the lowest amounts of clay. O_f horizon is well developed and densely crisscrosed with mycelium. The geological bedrock is limestone. This type of soil is most frequently developed on steep and rocky slopes arranged in cascades preferably of northern exposition, on ridges and mountain tops of higher elevation. In stands developed on this type of soils *Festuca altissima* use to dominate in the understory (*Omphalodo-Fagetum* var. geogr. *Saxifraga cuneifolia festucetosum altissimae*). Profile No. 3 is very similar in physical and chemical characteristics to profile No. 2, only that the amounts of magnezium and potassium in the A horizon are a bit lower. However, the amount of calcium is the highest and phosphorus the lowest of all analyzed profiles. This soil type is usualy found on lower elevation and southerly exposed slopes with *Sesleria autumnalis* being the most dominant species in the herb layer (*Omphalodo-Fagetum* var. geogr. *Saxifraga cuneifolia seslerietosum autumnalis*).

Higher amounts of magnesium in the A horizon of a profile No. 4 is a consequence of a bedrock, formed from the dolomitized limestone. Soil is very shallow, sceletous and is aboundantly crisscrossed by roots. Beside the profile No. 1, the horizons O_h and A are the most acidic. The amounts of calcium and potassium in the A horizon are the lowest of all analyzed profiles. This type of soil suits well to blueberry, *Vaccinium myrtillus*, a rather common chamaephyte in frigoriphilous fir-beech stands developed on higher elevation (*Omphalodo-Fagetum* var. geogr. *Saxifraga cuneifolia saxifragetosum cuneifoliae*). In profile No. 5, similarly to profile No. 4, the bedrock consists of dolomite and dolomitized limestone which is evident in higher amounts of magnezium and calcium. However, the O_h horizon is a bit more acidic, has greater amounts of calcium, magnezium, phosphorus and potassium, while the amount of organic matter and carbon are lower. The vegetation type, developed on the sampling site of soil profile No. 5, we classified as *Omphalodo-Fagetum* var. geogr. *Calamintha grandiflora sambucetosum nigrae*.

3.6 Tipology of Dinaric fir-beech stands

Querco-Fagetea
Fagetalia sylvaticae
Aremonio-Fagion
Omphalodo-Fagetum
var. geogr. *Saxifraga cuneifolia*
– *rhododendretosum hirsuti* Dakskobler et al. 2000
– *adenostyletosum glabrae* subass. nov.
– *saxifragetosum cuneifoliae* subass. nov.
– *calamagrostietosum arundinaceae* subass. nov.
– *festucetosum altissimae* subass. nov.
– *stellarietosum montanae* subass. nov.
– *calamagrostietosum variae* subass. nov.
– *seslerietosum autumnalis* subass. nov.
var. geogr. *Calamintha grandiflora*
– *sambucetosum nigrae* subass. nov.
– *asaretosum europei* Puncer 1980 var. *Symphytum tuberosum* var. nov.

Geographical variant *Omphalodo-Fagetum* var. geogr. *Saxifraga cuneifolia*

Subassociation *-rhododendretosum hirsuti* Dakskobler et al. 2000

Ecology and phytosociology of these stands were discussed in detail by Dakskobler et al. (2000). Fir-beech stands with Hairy Alpenrose were recorded on the northern slopes of the Golaki range in northern part of the research area, and prefer thriving on organogenic soil of steep (Me=35°), rocky and shady slopes at elevation between (1130–)1250–1350 m. Both Rayleigh's and chi-square tests show statistical significance for non-randomly distributed directions (Figure 6). General site characteristics and floristic composition of stands suggest the most extreme environmental conditions of all studied fir-beech lower rank syntaxa in the Trnovski gozd plateau (Figures 4–6). Due to extremly diversified relief and stoniness (Me=60%), tree layer use to cover round 70% of the relevé area. Above all studied stands, shrub (Me=50%) and moss layers (Me=20%) achieve the highest coverage (Table 1). Species from the spruce forests (*Vaccinio-Piceetea*) achieve the highest coverage (23.3%$^{653.5}$) and are almost equally frequent as species of the European beech forests (*Fagetalia sylvaticae*: 24.1%$^{439.6}$). These stands host the highest number of species of classes *Mulgedio-Aconitetea* (12%$^{154.2}$), *Asplenietea trichomanis* (9.8%$^{131.9}$) and *Erico-Pinetea* (6%^{109}; Table 1). *Fagus sylvatica* dominates in the tree layer (100%^{84}). With lower coverage there are also *Abies alba* (100%$^{36.8}$), *Acer pseudoplatanus* (63%$^{12.5}$) and *Picea abies* (44%$^{8.3}$). The most frequent taxa (occuring in more than 90% relevés) in the shrub and herb layers are: *Calamagrostis arundinacea* (100%$^{60.4}$), *Vaccinium myrtillus* (100%$^{45.8}$), *Rosa pendulina* (100%$^{34.7}$), *Anemone nemorosa* (100%$^{34.7}$), *Lonicera nigra* (100%$^{31.3}$), *Athyrium filix-femina* (100%$^{30.6}$), *Polygonatum verticillatum* (100%$^{30.6}$), *Clematis alpina* (100%$^{29.9}$), *Rubus saxatilis* (100%$^{28.5}$), *Polystichum lonchitis* (100%$^{27.1}$), *Asplenium viride* (100%$^{26.4}$), *Maianthemum bifolium* (100%$^{26.4}$), *Gentiana asclepiadea* (100%$^{25.7}$), *Aruncus dioicus* (100%$^{25.7}$), *Veratrum album* (100%$^{24.7}$), *Adenostyles glabra* (100%$^{24.3}$), *Salix appendiculata* (100%$^{24.3}$), *Lilium martagon* (100%$^{22.2}$), *Huperzia selago* (100%$^{22.2}$), *Rhododendron hirsutum* (94%$^{58.3}$), *Cardamine enneaphyllos* (94%$^{30.9}$), *Valeriana tripteris* (94%$^{29.9}$), *Veronica urticifolia* (94%$^{29.9}$), *Lonicera alpigena* (94%$^{28.5}$), *Gymnocarpium dryopteris* (94%$^{25.7}$) and *Ranunculus platanifolius* (94%$^{24.3}$).

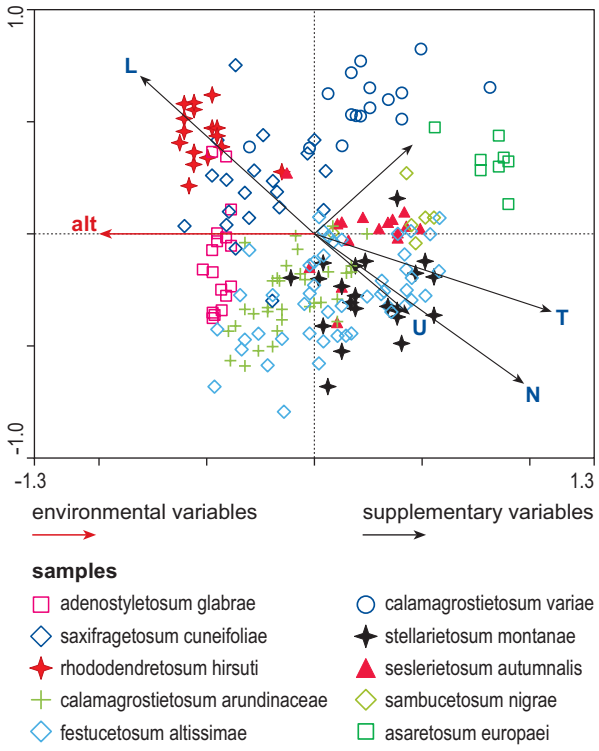

Figure 4: RDA analysis of Dinaric fir-beech stands (*Omphalodo-Fagetum*) in the Trnovski gozd plateau (NW Dinaric Alps), according to elevation (alt) and Pignatti's indicator values: nutrients (N), light conditions (L), moisture (U), temperature (T) and soil reaction (R). Only elevation was used as an explanatory variable (F-ratio= 15.87; p-value 0.002), while other indicator values were used as supplementary variables and are passively projected. Eigenvalues 0.068, 0.123, 0.086, 0.057, cumulative percentage of variance of species data: 6.8, 19.0, 27.6 and 33.3.

Slika 4: RDA analiza dinarskih jelovo bukovih sestojev (*Omphalodo-Fagetum*) v Trnovskem gozdu (severozahodni Dinaridi), glede na nadmorsko višino (alt) in Pignattijeve indikatorske vrednosti: nutrienti (N), svetlobne razmere (L), vlažnost rastišč (U), temperatura (T) in reakcija tal (R). Za pojasnjevalno spremenljivko smo izbrali le nadmorsko višino (F-ratio= 15.87; p-value 0.002), medtem ko smo indikatorske vrednosti obravnavali kot dodatne spremenljivke in so le pasivno preslikane na diagram. Vrednosti eigenvalues: 0.068, 0.123, 0.086, 0.057, kumulativni odstotek variance vrstne sestave: 6.8, 19.0, 27.6 in 33.3.

From the group of character species, *Rhamnus fallax* and *Calamintha grandiflora* are lacking, while differential species for the geographical variant are fully represented (Table 4). The subassociation *-rhododendretosum hirsuti* is floristically and ecologically very well defined. It also hosts the highest number of seed plants per relevé area (mean=65.3, Figure 5), while low coefficient of variation in number of seed plants per relevé (10%) suggests very homogenous species composition (Table 1).

According to numerical analyses, one relevé we made belongs to the subassociation *-rhododendretosum,* although the stand lacks majority of its differential taxa, and most probably represents a transitional stand towards the subassociation *-saxifragetosum cuneifoliae*:

Locality: Predmeja, Mali Golak, Paradana above Ledenica; 45.990° N, 13.848° E; alt. 1130 m, exp. SE, incl. 25°; rocky slope, stoniness 60%; 17. 5. 2000, leg. M. Zupančič, I. Dakskobler, B. Surina.

A (80%): *Fagus sylvatica* 3, *Abies alba* 2, *Picea abies* 1; **B** (30%): *Lonicera alpigena* 2, *Acer pseudoplatanus* 1, *Fagus sylvatica* 1, *Abies alba* +, *Daphne mezereum* +, *Picea abies* +, *Rubus idaeus* +, *Salix appendiculata* + *Sorbus aria* +, *S. aucuparia* +; **C** (60%): *Anemone nemorosa* 2, *Calamagrostis arundinacea* 2, *Adenostyles glabra* 1, *Cardamine enneaphyllos* 1, *Mercurialis perennis* 1, *Polygonatum verticillatum* 1, *Rosa pendulina* 1, *Vaccinium myrtillus* 1, *Oxalis acetosella* +, *Cardamine trifolia* +, *Abies alba* +, *Actaea spicata* +, *Aremonia agrimonoides* +, *Aruncus dioicus* +, *Asplenium ruta-muraria* +, *A. trichomanes* +, *A. viride* +, *Athyrium filix-femina* +, *Carex digitata* +, *Clematis alpina* +, *Cyclamen purpurascens* +, *Dactylorhiza fuchsii* +, *Dryopteris filix-mas* +, *Fagus sylvatica* +, *Galium laevigatum* +, *Gentiana asclepiadea* +, *Hepatica nobilis* +, *Homogyne sylvestris* +, *Huperzia selago* +, *Lilium martagon* +, *Lonicera nigra* +, *L. xylosteum* +, *Maianthemum bifolium* +, *Mycelis muralis* +, *Omphalodes verna* +, *Paris quadrifolia* +, *Phyteuma spicatum* ssp. *coeruleum* +, *Platanthera bifolia* +, *Polystichum aculeatum* +, *P. lonchitis* +, *Prenanthes purpurea* +, *Ranunculus platanifolius* +, *Rubus fruticosus* agg. +, *R. saxatilis* +, *Saxifraga cuneifolia* +, *Solidago virgaurea* +, *Sorbus aria* +, *Valeriana tripteris* +, *Veratrum album*, *Veronica urticifolia* +, *Viola riviniana* +; **D** (10%): *Ctenidium molluscum* 1, *Dicranum scoparium* +, *Isothecium alopecuroides* +, *Neckera crispa* +, *Plagiochila asplenioides* +, *Polytrichum formosum* +, *Tortella tortuosa* +, *Cladonia digitata* +, *Leptogium saturninum* +, *Peltigera leucophlebia* +, *Schistidium apocarpum* +.

Subassociation *-adenostyletosum glabrae* subass. nova (Table 5)

These stands were recorded on the south-eastern part of the Plateau, bellow the Mt. Bukov vrh (1314 m a.s.l.), within the forest reserve Bukov vrh (Kordiš 1985). They are developed on moderatelly inclined to steep rocky slopes (Me=25°) in

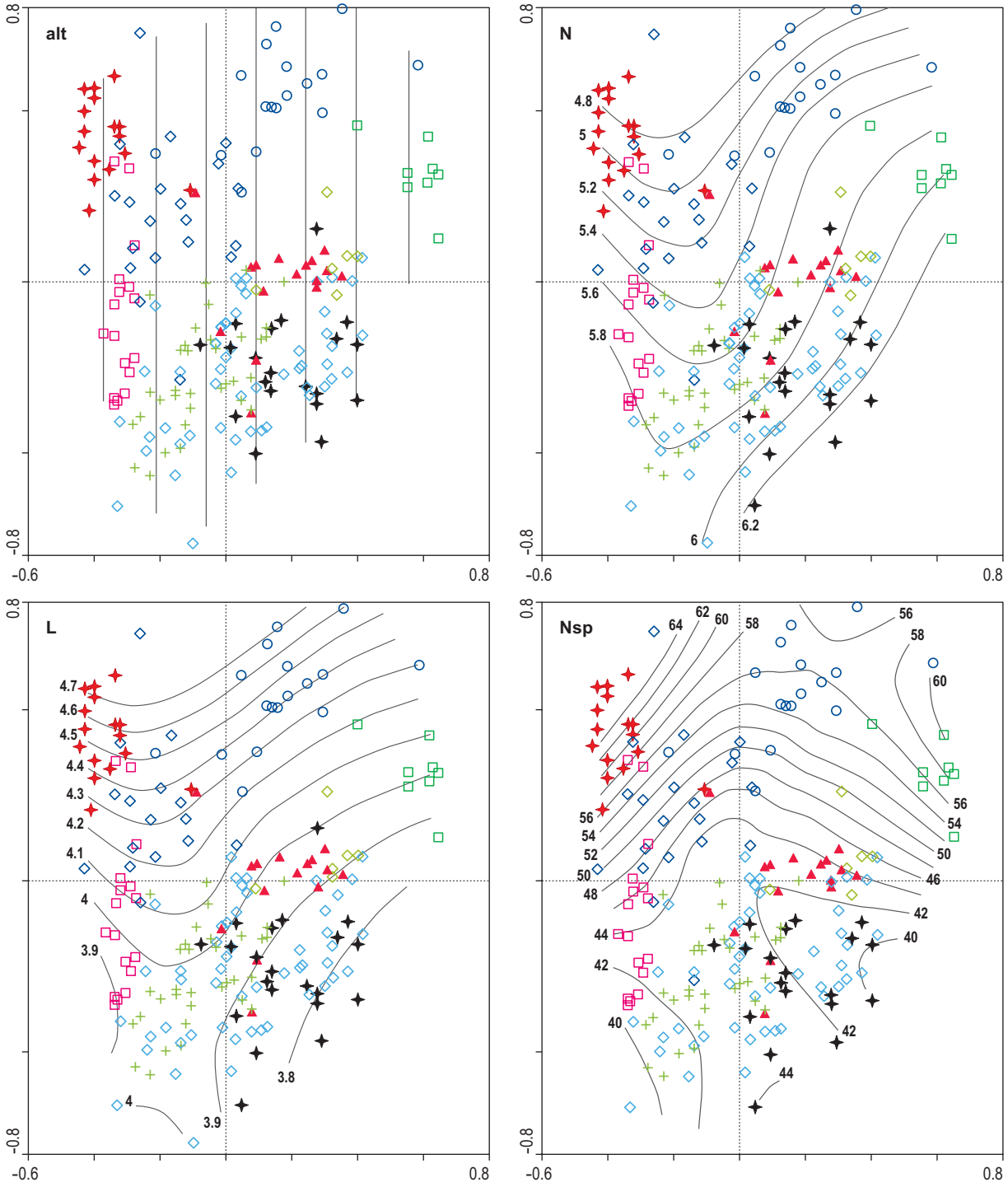

Figure 5: DCA analysis of elevation (alt), nutrients (N), light conditions (L) and number of phanerogams per relevé (Nsp) in Dinaric fir-beech forest stands (*Omphalodo-Fagetum*) in the Trnovski gozd plateau (NW Dinaric Alps), according to selective phytosociological parameters and Pignatti's indicator values. Symbols are congruent with those in Fig. 4.

Slika 5: DCA analiza nadmorske višine (alt), nutrientov (N), svetlobnih razmer (L) ter števila praprotnic in cvetnic na popisni ploskvi (Nsp) glede na izbrane fitocenološke parametre in Pignattijeve indikatorske vrednosti v dinarskih jelovo bukovih sestojoh (*Omphalodo-Fagetum*) v Trnovskem gozdu (severozahodni Dinaridi).

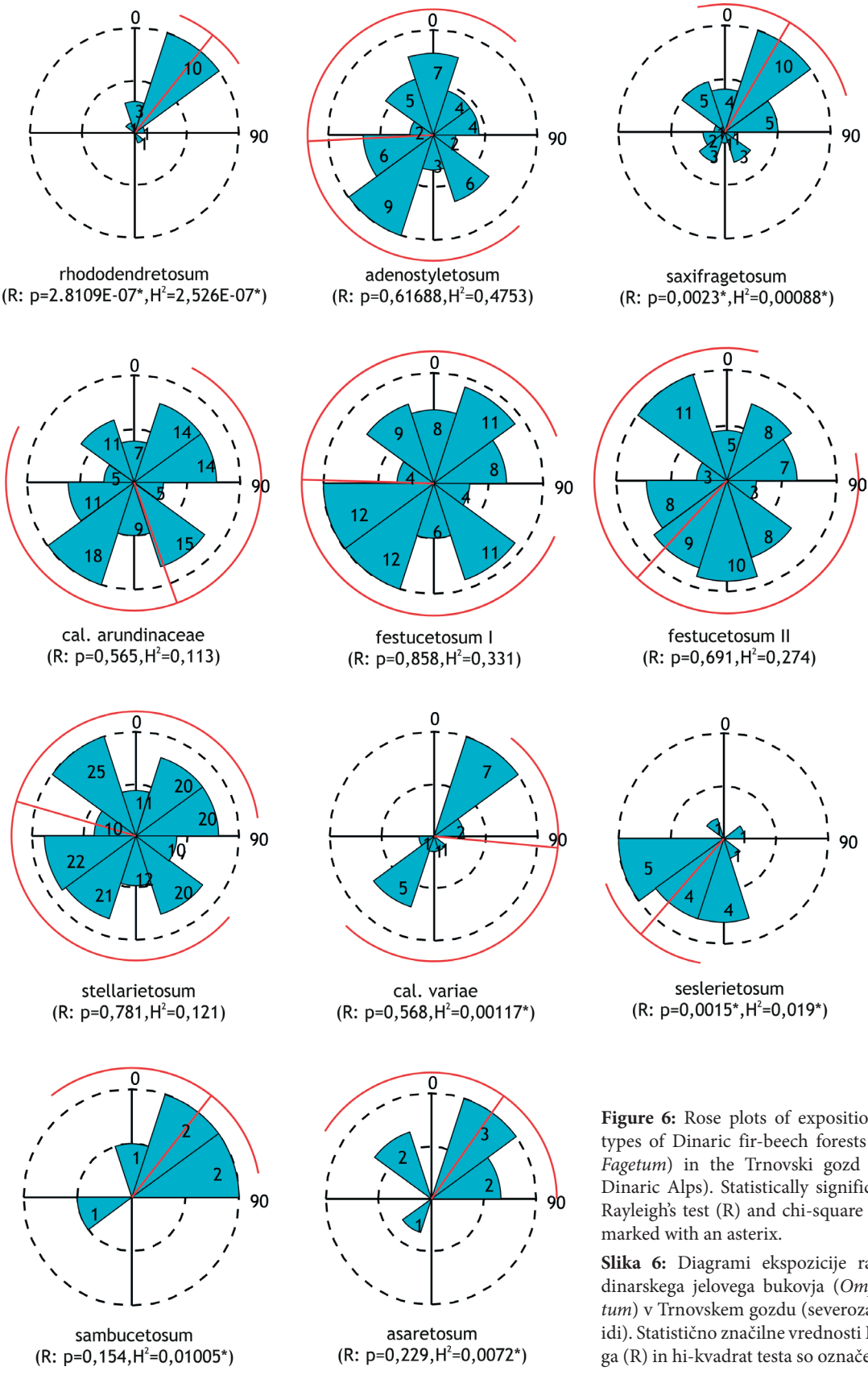

Figure 6: Rose plots of exposition of different types of Dinaric fir-beech forests (*Omphalodo-Fagetum*) in the Trnovski gozd plateau (NW Dinaric Alps). Statistically significant results of Rayleigh's test (R) and chi-square tests (H2) are marked with an asterix.

Slika 6: Diagrami ekspozicije različnih tipov dinarskega jelovega bukovja (*Omphalodo-Fagetum*) v Trnovskem gozdu (severozahodni Dinaridi). Statistično značilne vrednosti Rayleigh-jevega (R) in hi-kvadrat testa so označene z zvezdico.

the altimontane belt (1240–1300 m a.s.l.) on dolomites and dolomitized (rarely pure) limestones regardless of slope exposition (Figure 6, Table 2). The most common soil type is rendzina. In the tree layer, *Fagus sylvatica* usually prevails, while *Abies alba* and *Acer pseudoplatanus* are less frequent. Complete floristic inventory and the differential species of the subassociation (*Adenostyles glabra, Veratrum album* and *Saxifraga rotundifolia*) in particular indicate intermediate position of stands between fir-beech forest stands and the altimontane beech forest stands of the association *Ranunculo platanifolii-Fagetum*, developed on the summit of the Mt. Bukov. Among the character species of the association, only *Cardamine trifolia* occurs with higher constancy (89%); *Aremonia agrimonoides, Omphalodes verna* and *Rhamnus fallax* occur in only 6% of releves (Tables 4 and 5). *Paederota lutea* and *Phyteuma scheuchzeri* ssp. *columnae* were the most frequent geographically differential taxa. In comparison to other studied syntaxa, these stands host the highest proportion of the taxa from the groups of tall herbs (*Mulgedio-Aconitetea*), rock crevices (*Asplenietea trichomanis*) and subalpine and alpine grasslands (*Elyno-Seslerietea*). Ecologically and floristically (biogeographically), these stands, at the upper elevational limit of the Dinaric fir-beech association (Figures 4 and 5), represent transitional forests towards altimontane beech stands at the north-westernmost part of their distribution area. Vikariant form of this subassociation from the Kočevsko region (SE Slovenia) is *Omphalodo-Fagetum* var. geogr. *Calamintha grandiflora adenostyletosum glabrae*, described by Puncer (1980).

Subassociation *-saxifragetosum cuneifoliae* subass. nova (Table 6)

Typical stands of this syntaxon are developed on higher elevation (Me=1200 m) and markedly cooler sites, on rocky, shady and steep slopes (Table 2, Figures 4–6). Slope inclination was the highest of all studies syntaxa (Me=40°, but up to 50°). Slopes are most frequently of northern – north-eastern exposure rendering both Rayleigh's and chi-square tests statistically significant for non-randomly distributed directions (Figure 6). The soil is predominantly composed of moder rendzina on limestone bedrock (Table 3, profile No. 4, Figure 3). Tree layer only rarely covers 100% of the relevé area (Me=80%) due to highly diversified relief and slopes intersepted with boulders and rocks. While shrub layer is only moderately (Me= 20%), herb layer is rather well developed (Me=75%) but due to highly diversified relief only rarely forms a homogenous layer. Moss layer is well developed and usualy covers about 10% of the relevé area. The most numerous taxa belong to the group of European beech forest species (*Fagetalia sylvaticae*, 30.6% of total species inventory, I_c=433.3), while the highest coverage of all studied syntaxa achieve taxa from the group of spruce forest species (*Vaccinio-Piceetea*, 23.1%, I_c=717.8; Table 1). This is explained by severe ecological conditions which suite well the species adopted to moist and shady sites. To this end, these stands also host relatively high proportion of tall herbs (*Mulgedio-Aconitetea*, 9%, I_c=36.1) and species of rock crevices (*Asplenietea trichomanis*; 7.5%, I_c=122.8). In total, 118 taxa of ferns and seed plants were recorded for the subassociation; mean number of taxa per relevé is 51.5 (CV=12.4%; Table 1), and the complete floristic inventory is given in Tables 4 and 6. From the character species of the association, beside *Abies alba* as an edificator, only *Cardamine trifolia* and *Ompalodes verna* were relatively frequent, while *Aremonia agrimonoides* and *Calamintha grandiflora* appear only sporadically and with low coverage values. *Rhamnus fallax* is completely absent in selected stands. Differential species for the geographical variant are all well represented. The most frequent taxa (present in more than 90% of relevés) in the herb layer are *Asplenium viride* (100%^{28}), *Gentiana asclepiadea* (100%$^{27.8}$), *Calamagrostis arundinacea* (95%$^{63.3}$), *Polygonatum verticillatum* (95%$^{30.6}$), *Rosa pendulina* (95%$^{29.4}$), *Clematis alpina* (90%$^{48.9}$), *Anemone nemorosa* (90%$^{30.6}$), *Prenanthes purpuera* (90%$^{29.4}$), *Calamagrostis arundinacea* (94%$^{69.3}$), *Valeriana tripteris* (94%$^{69.3}$), *Solidago virgaurea* (90%$^{27.2}$) and *Daphne mezereum* (90%$^{22.8}$). Floristical composition of stands of the subassociation *-saxifragetosum* on their upper elevational limit show a transition to Dinaric fir-beech stands with Hairy Alpenrose (*Omphalodo-Fagetum* var. geogr. *Saxifraga cuneifolia rhododendretosum*) and subalpine beech stands (*Polysticho lonchitis-Fagetum* var. geogr. *Allium victorialis*) sharing majority of the floristic inventory. This is particularly true for the subassociation *-rhododendretosum* (Figures 4–6), where half of the differential species for the subassociation *-rhododendretosum*, although with much smaller coverage values, appear in stands of the subassociation *-saxifragetosum* (Table 4). Another feature shared by both fir-beech syntaxa is high proportion and coverage values of species of

the classes *Vaccinio-Piceetea* and *Asplenietea trichomanes* (Table 1). Fir-beech stands of the subass. *-saxifragetosum* are on their lower elevational limit in transition to fir-beech stands of the subassociations *-festucetosum altissimae* and *-calamagrostietosum arundinaceae*. As a differential species for the subassociation we selected *Saxifraga cuneifolia*, a typical representative of the class *Vaccinio-Piceetea* which achieve the highest coverage value of all studied syntaxa. Although only a progressive differential species and frequent in stands classified to other fir-beech syntaxa on higher elevation (Table 4), *Saxifraga cuneifolia* achieves the highest coverage and constancy in stands of the subassociation *-saxifragetosum*.

Subassociation *-calamagrostietosum arundinaceae* subass. nova (Table 7)

Calamagrostis arundinacea is, in contrary to the Dinaric fir-beech stands of other regions in Slovenia (*Omphalodo-Fagetum* var. geogr. *Calamintha grandiflora*), the most frequent grass species in studied stands in the research area. Hence, stands where it dominates in the herb layer are one of the most widespread in the Trnovski gozd plateau, particularly in its central and western part of the research area. These stands thrive at lower elevation on plains or moderatelly inclined rocky slopes, while at higher elevation on steeper slopes (Me=20°, 0–50°) and ridges exposed to Bora between 945–1245 m (Me=1130; Figures 4–6). Although warmer slope expositions prevail, Rayleigh's and chi-square tests show no statistical significance for non-randomly distributed directions (Figure 6). RDA analyses furtherly suggest sunny (tree canopy is markedly disclosed), dryer and warmer sites and soils with pronounced lower pH reaction (Figures 4–6). This is congruent with the results of soil analyses (Table 3, Figure 3), where the A horizon has the lowest pH reaction (4.2) and contains the lowest amount of calcium, magnesium, potassium, organic matter, nitrogen, sand and silt, but the highest amount of clay of all analyzed soil profiles. *Fagus sylvatica* and *Abies alba* dominate in tree layer, covering 70–100% of a relevé area (Table 2). Due to disclosed canopy (see light conditions in Figures 4 and 5), *Sorbus aria* use to penetrate frequently out of the shrub layer. Occasionally, and mainly due to consequences of forest management, *Picea abies* occurs abundantly. Shrub layer is poorly developed (Me=20%) and mainly constituted of beech, fir, spruce and maple offsprings. One of the characteristics of these stands is low species diversity per relevé in the herb layer (mean=42.9, 32–58; Figure 5). This is most probably due to dense tussocks formed by *Calamagrostis arundinacea*, disabling successful germination and rejuvenation of other seed plants. However, relativelly low coefficient of variation (13.7%) suggests rather homogenous species composition of stands. Most of the species inventory belongs to European beech forests group of taxa (*Fagetalia sylvaticae*), representing 35.9% (I_c=561) of the total inventory of the subassociation. Acidophilous taxa of the spruce forests (*Vaccinio-Piceetea*) are frequent as well (20.4%$^{466.7}$). Tall herbs (*Mulgedio-Aconitetea*) and illyricoid species (*Aremonio-Fagion*) represent 7.7% (I_c=10.8) and 7% (I_c=108.5), respectivelly. The most frequent and abundant taxa are *Dryopteris filix-mas* (100%$^{27.5}$), *Senecio ovatus* (100%$^{26.5}$), *Mycelis muralis* (100%$^{25.8}$), *Calamagrostis arundinacea* (94%$^{69.3}$), *Oxalis acetosella* (94%$^{50.3}$), *Cardamine trifolia* (94%$^{35.6}$), *Adenostyles glabra* (94%$^{35.6}$), *Prenanthes purpurea* (94%$^{30.1}$), *Adenostyles glabra* (94%$^{28.4}$), *Athyrium filix-femina* (94%$^{28.1}$), *Rubus idaeus* (94%$^{25.2}$) and *Galeobdolon flavidum* (94%$^{24.2}$). Continuous transition to stands of the subassociation *-festucetosum altissimae* (Figures 4 and 5), specially on higher elevation, cooler and moister sites, are frequent and indicated by high coverage of *Festuca altissima* (68%$^{22.9}$), rendering the differentiation between the two syntaxa difficult (Figure 7; see the discussion further below). In moss layer, only 17 taxa were recorded where only *Ctenidium molluscum* (76%^{34}), *Cladonia coniocraea* (56%$^{12.7}$) and *C. pyxidata* (53%$^{11.8}$) occur in more than 50% of the relevés.

From the character species of the association, *Cardamine trifolia* (94%^{35}) and *Aremonia agrimonoides* (71%$^{17.3}$) are frequent, while both *Calamintha grandiflora* and *Omphalodes verna* occur in 6% of the relevés. As a differential species for the subassociation *-calamagrostietosum arundinaceae* we chose *Calamagrostis arundinacea*, a taxon already mentioned as a local differential species for studied stands by Puncer (1979). *Calamagrostis arundinacea* thrives from montane to subalpine belt, frequently on non-calcareous bedrock or sandstone, moderatelly acid to acid humus, on shallow or deep soils (Table 3). In Slovenia it is frequent above all in coniferous, rarely in deciduous forests (Zupančič 1980). Due to ecological preferences and high constancy in spruce and acidophilous fir–, fir-beech– and pine forests across the Europe, phytosociologists consider *Calama-*

grostis arundinacea as characteristic species for the class *Vaccinio-Piceetea* (Zupančič 1980).

Being missleaded by the taxonomic issues regarding the genus *Calamagrostis* in the studied area, M. Wraber (1953) treated stands of the subassociation *-calamagrostietosum arundinaceae* as *Abieti-Fagetum calamagrostidetosum variae* nom. inv., a mistake repeated by later phytosociologists who studied the phytosociology of fir-beech stands in the Trnovski gozd plateau (Marinček et al. 1977, Urbančič et al. 1979), while on the north-eastern part of the plateau, selective stands were not recorded (Čampa 1978). *C. varia* occurs more frequently only at the north-eastern part of the research area, while *C. arundinacea* generally prevails across the whole plateau. Based mainly on physiognomy of stands, Wraber (1953, 1959) differentiated two elevational variants. However, in our analyses and according to floristic inventories, we couldn't confirm his synsystematic treatment. This may well be due to the high impact of forest management on floristic inventory and physiognomy of stands, since after woodcutting, causing the overexposition of undergrowth, *Calamagrostis arundinacea* quickly started to dominate in the herb layer. On lower elevation, dryer and warmer sites, stands of the subassociation *-calamagrostietosum arundinaceae* are in contact with stands of the subassociation *-seslerietosum autumnalis*.

Subassociation *-festucetosum altissimae* subass. nova (Tables 8 & 9)

These stands are the most frequent and along with stands of the subassociation *-calamagrostietosum arundinaceae* represent the central type of fir-beech forests in the study area, occuring between 790 (on northerly exposed slopes) and 1275 m a.s.l. (sunny and warmer sites) in elevationally the widest belt of all studied stands (Table 2) and all expositions (both Rayleigh's and chi-square tests show no statistical significance for non-randomly distributed directions, Figures 4–6). Although the percentage of stoniness per relevé may vary a lot (0–80%), most typical stands are developed on rocky and steep slopes with rocks and boulders arranged in cascades. Stands are scatered through all the research area but never occur on large and homogenous areas. Soils are shallow and organogenic, brown rendzines prevail (Figure 3, Table 3). In the tree layer *Fagus sylvatica* and *Abies alba*, occasionally intermixed with *Picea abies*, dominate. In severely perturbated stands by forest management, fir may be completely replaced by spruce. *Acer pseudoplatanus* and *Sorbus aucuparia* are less frequent. Shrub layer use to cover round 10% of relevé area, and beside the beech the most frequent taxa are *Rubus idaeus, Daphne mezereum, Sambucus nigra, Lonicera nigra* and *Rosa pendulina*. In typical stands, *Festuca altissima* prevails in herb layer. On sunny sites with lower stoniness and slope inclination, more acidic and nutrients impoverished soils, *Calamagrostis arundinacea* may co-dominate, thus rendering typological delimitation of respective sintaxa (namelly, *-festucetosum altissimae* and *-calamagrostietosum arundinaceae*) difficult (Figures 4–6). Other frequent, moderately acidophilic species are *Luzula luzuloides* and *Oxalis acetosella*. In general, species of the class *Vaccinio-Piceetea* are very frequent and abundant, indicating cooler and moister site conditions (Table 1, Figure 4). European beech forests species represent core group of inventory (up to 38% of total species inventory): *Dryopteris filix-mas* (100%$^{23-32}$), *Paris quadrifolia* (92%$^{11.5-22.2}$) and *Galeobdolon flavidum* (80–85%$^{21.4-22.2}$) occur in more then 80% of relevés. Illyricoid taxa (*Aremonio-Fagion*) are less frequent, representing round 6% of a total species inventory. *Cardamine trifolia* and *Aremonia agrimonoides* are, beside the edifier *Abies alba*, the only character species with higher constancy (Tables 1 and 4); *Rhamnus fallax* occurs sporadically and with low coverage, while *Omphalodes verna* and *Calamintha grandiflora* are completely absent. Moss layer may cover high percentage of the relevé area (up to 60%), specially on sites with high stoniness, with *Neckera crispa, Dicarnum scoparium* and *Ctenidium molluscum* being the most frequent moss taxa. All in all, 131 (Table 9 – typical variant, Puncer's relevés) and 135 (Table 8 – variants with *Calamagrostis arundinacea, Lamium orvala* and *Picea abies*) fern and seed plants were recorded, with round 40 species per relevé (24–55).

As a differential species for the subassociation we selected *Festuca altissima*, occuring in tussocks and contributing most to the physiognomy of typical stands. They were typologically segregated already by M. Wraber (1953, 1959), Marinček et al. (1977), Čampa (1978) and Urbančič et al. (1979), but without selection of differential species. Puncer (1979) proposed *Festuca altissima*, *Orthilia secunda* and *Dicranum scoparium* as differential species based on the results of his studies from the Kočevski rog area (Puncer et al. 1974, Puncer 1980). However, *Orthilia secunda* occurs in our stands only moderatelly, while *Dicranum*

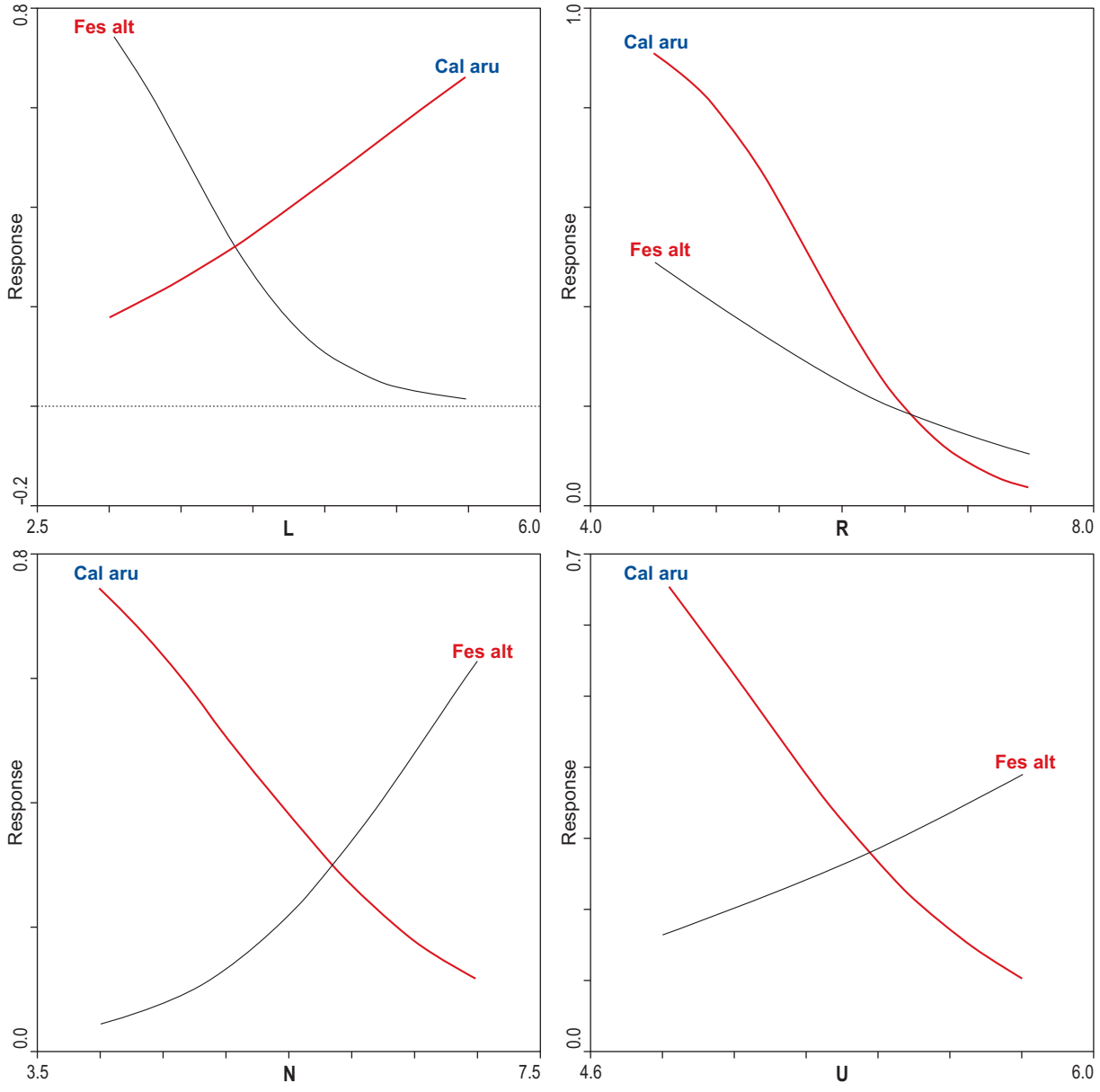

Figure 7: Species response curves for *Calamagrostis arundinacea* and *Festuca altissima* in Dinaric fir-beech stands (*Omphalodo-Fagetum*) in the Trnovski gozd plateau (NW Dinaric Alps), according to selective Pignatti's indicator values; light conditions (L), soil reaction (R), nutrients (N), moisture (U); response model type: generalized linear model; degree: linear; distribution: binomial.

Slika 7: Krivulje odzivnosti vrst *Calamagrostis arundinacea* in *Festuca altissima* glede na Pignattijeve indikatorske vrednosti v sestojih dinarskega jelovega bukovja (*Omphalodo-Fagetum*) v Trnovskem gozdu (severozahodni Dinaridi); svetlobne razmere (L), reakcija tal (R), nutrienti (N), vlaga (U); tip modela odzivnosti: generaliziran linearni model; stopnja: linearna; porazdelitev: binomska.

scoparium occurs in stands of all studied syntaxa with different frequences and coverage values (Table 4). Therefore we did not select them as differential species for the subassociation.

Floristic composition and structure of stands of the subassociation *-festucetosum altissimae* are presented in Tables 8 and 9, based on the results of cluster and ordination analyses. In stands from the Table 8 we recognized three variants furtherly supported by the results of RDA analysis (Figure 8). Stands of the variant *Calamagrostis arundinacea* (differential species for the variant is

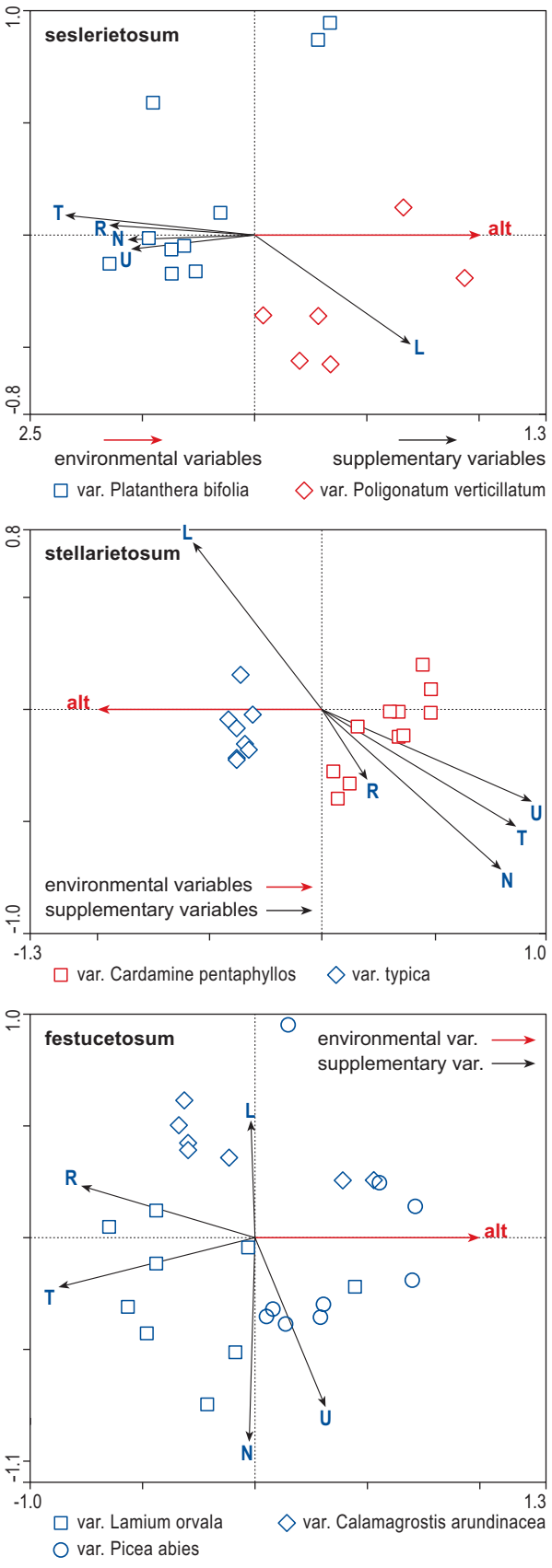

Figure 8: RDA analysis of Dinaric fir-beech stands (*Omphalodo-Fagetum*) in the Trnovski gozd plateau (NW Dinaric Alps), of three subassociations: A – *seslerietosum autumnalis*, B – *stellarietosum montanae*, C – *festucetosum altissimae*, according to elevation (alt) and Pignatti's indicator values: nutrients (N), temperature (T), soil reaction (R), moisture (U), light conditions (L). Only elevation was used as an explanatory variable, while other indicator values were used as supplementary variables and are passively projected (A: alt – F = 2,582, p = 0,004; B: alt – F = 5,568, p = 0,002; C: alt – F = 2,614, p = 0,002).

Slika 8: RDA analiza sestojev treh subasociacij (A – *seslerietosum autumnalis*; B – *stellarietosum montanae* in C – *festucetosum altissimae*) dinarskih jelovo bukovih gozdov (*Omphalodo-Fagetum*) v Trnovskem gozdu (severozahodni Dinaridi), glede na nadmorsko višino (alt) in Pignattijeve indikatorske vrednosti: nutrienti (N), temperatura (T), reakcija tal (R), vlažnost rastišč (U) in svetlobne razmere (L). Za pojasnjevalno variablo smo izbrali le nadmorsko višino (A: alt – F = 2,582, p = 0,004; B: alt – F = 5,568, p = 0,002; C: alt – F = 2,614, p = 0,002), medtem ko smo indikatorske vrednosti obravnavali kot dodatne variable in so le pasivno preslikane na diagram.

Calamagrostis arundinacea) occur on sunny slopes and soils low on nutrients (Figure 7). Stands of the variant *Lamium orvala* (differential species for the variant are *Lamium orvala, Cardamine bulbifera* and *C. impatiens*) represent the most mesophilous type of the subassociation, occuring on shady, moist sites and on deeper soils rich in nutrients. Stands of the variant *Picea abies* (differential species for the variant are *Picea abies, Saxifraga rotundifolia* and *S. cuneifolia*) prefer cooler and shady sites and are usually developed on higher elevation and shallow soils. Table 9 consists almost exclusivelly of the unpublished relevés of Puncer and represents floristically impoverished stands of Dinaric fir-beech forests in the research area. On lower elevation and sunny sites, stands of the subassociation *-festucetosum altissimae* are in contact with stands of the subassociation *-seslerietosum autumnalis*, while on higher elevation and more acidic soils with stands of the subassociation *-calamagrostietosum arundinaceae* (Figures 3–5, 7).

Subassociation *-stellarietosum montanae* subass. nova (Table 10)

Abundance and high coverage of ferns, tall herbs and other plants indicating high soil and air moisture as well as nutrient rich soils, are main characteristics of stands of the subassociation – *stellarietosum* (Figures 4–6), ecologically one of the best circumscribed lower syntaxa of fir-beech for-

ests. These stands usualy thrive at the bottom and on flanks of small dolines, in trenches, on foothills and lower edges of larger dolines, plains and slopes between 800–1100 m (Me=970 m; Table 2). The most important ecological factor to shape such a specific floristic combination seem to be soil properties (Figs. 4 and 5). Median coverage of tree layer is 70%, but may vary a lot (50–100%). *Fagus sylvatica* dominates, while *Abies alba* and *Acer pseudoplatanus* are equally represented. Shrub layer is usualy well developed (Me=30%). The most frequent and abundant taxa are *Fagus sylvatica* and *Acer pseudoplatanus*. One of the most distinct feature of typical stands of the subassociation -*stellarietosum* is abundantly developed herb layer, most frequently completely covering the site. Coverage of moss layer is very much dependent on coverage of stoniness and ranges from 1–50% of a relevé area (Table 2). European beech forests species (*Fagetalia sylvaticae*) completely dominate in the floristic inventory and also achieve very high coverage values in studied stands (41.3%$^{862.4}$). Only 12.9% of taxa with low coverage values belong to the group of spruce forests species (*Vaccinio-Piceetea*), which is the lowest percentage and coverage of all identified syntaxa in our survey. Tall herbs (*Mulgedio-Aconitetea*), while prefering moist and nutrient rich soils, achieve relatively high coverage values and represent 9.7% of species inventory in stands. In total, 137 species of ferns and seed plants were recorded. Mean number of seed plants per relevé is 45.4 and may vary from 35–64 (CV=16.1%). Further details are given in Table 2. All association's character species are represented with decent coverage. On the other hand, only one (*Saxifraga cuneifolia*) out of five differential taxa for the geographical variant is recorded in studied stands. The most frequent (occuring in more than 90% of the relevés) and abundant taxa in the herb layer are *Dryopteris filix-mas* (100%$^{41.3}$), *Athyrium filix-femina* (100%$^{40.7}$), *Paris quadrifolia* (100%$^{24.3}$), *Cardamine bulbifera* (95%$^{28.6}$), *Stellaria montana* (90%$^{39.2}$), *Festuca altissima* (90%$^{39.2}$), *Cardamine enneaphyllos* (90%$^{31.7}$), *Urtica dioica* (90%$^{30.7}$), *Senecio ovatus* (90%$^{28.6}$) and *Calamagrostis arundinacea* (90%$^{27.5}$; Tables 4 and 10). Differential species for the subassociation we selected from the order *Fagetalia sylvaticae*: *Stellaria montana* (90%$^{39.2}$), *Impatiens noli-tangere* (81%$^{32.8}$), *Adoxa moschatellina* (76%$^{20.1}$), *Arum maculatum* (67%$^{15.9}$), *Lunaria rediviva* (57%^{27}) and *Circaea lutetiana* (52%$^{11.6}$). While achieving high coverage and being frequent in stands of the subassociation (Table 4), they are also rather good indicators of fresh and nutrient rich, neutral to basiphilous soils in forests from lowlands to altimontane zone.

Based on numerical analyses of floristic composition of stands and environmental variables, two types of stands within the subassociation were distinguished (Figure 8). The first group of stands (var. *typicum*, rel. 1–13 in Table 10) are developed at the bottom and on flanks of small dolines. A representative soil profile (results not shown and discussed in earlier chapter) was more than 2 m deep and represented biologically very active colluvial soils with plenty of stoniness and organic matter in different stages of decomposition. Rocks and boulders frequently cover the soil surface. Floristic composition of stands suggests neutral to slightly basiphilous and nutrient rich soils, lower light and temperature conditions. Previously performed field measurements of temperature and moisture of the air in similar stands (e.g., *Omphalodo-Fagetum* var. geogr. *Calamintha grandiflora aceretosum pseudoplatani*) during the growing season suggested lower air temperature at the bottom of the dolines in comparisson to the one on the flanks, while air moisture is usualy higher at the bottom of the dolines during the growing season (Puncer 1980). Since such a specific microclimatic conditions occur almost exclusively in small dolines, studied stands are conditioned also by specific soil properties, although frequently occuring, are never developed on a large scale. Sites are usualy plane or only slightly inclined (max. up to 20°). Hence, Rayleigh's and chi-square tests show no statistical significance for non-randomly distributed directions (Figure 9). Differential species of the subassociation are very frequent and achieve high coverage values. Relevés 13–21 in Table 10, in contrast, represent stands developed on rocky slopes (median value of stoniness is round 50%, max. 70%), inclined up to 30° where north-western expositions prevail. In contrast to stands of the var. *typicum*, both Rayleigh's and chi-square tests are statistically significant for non-randomly distributed directions (Figure 9). These stands are developed on slopes and prefer warmer sites, higher soil reactions (Figure 8) and amounts of stoniness. Differential species of the subassociation are still well represented, while their coverage is lower. Therefore, we segregated these stands into a new variant *Cardamine pentaphyllos*, and as differential species for the variant we chose *Cardamine pentaphyllos* and *Mercurialis perennis*. (Figure 9)

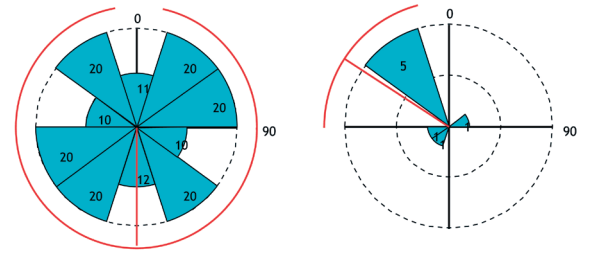

Figure 9: Rose plots of exposition of Dinaric fir-beech forests (*Omphalodo-Fagetum* var. geogr. *Saxifraga cuneifolia stellarietosum montanae* var. *typica* and var. *Cardamine pentaphyllos*) in the Trnovski gozd plateau (NW Dinaric Alps). Statistically significant results of Rayleigh's test (R) and chi-square tests (H2) are marked with an asterix.

Slika 9: Diagrami ekspozicije dinarskega jelovega bukovja s kijevolistnim kamnokrečem (*Omphalodo-Fagetum* var. geogr. *Saxifraga cuneifolia stellarietosum montanae* var. *typica* in var. *Cardamine pentaphyllos*) v Trnovskem gozdu (severozahodni Dinaridi). Statistično značilne vrednosti Rayleigh-jevega (R) in hi-kvadrat testa so označene z zvezdico.

Subassociation -*calamagrostietosum variae* subass. nova (Table 11)

These stands thrive on the Idrian (eastern) part of the Trnovski gozd plateau: at the headwaters of Idrijca river above the Bedrova grapa gorge, above the valley of Belca (Črna draga), under the Zeleni rob ridge above the Ipavšek valley in eastern part of Govci, under the Jelenk and on margines of the Vojsko plateau above the Kanomlja valley. Majority of relevés were made between 800–1000 m a.s.l. (Table 2), on very steep (Me=35°), stony and shady slopes (Figure 6) on dolomites and rendzines. Although this is another type of transitional Dinaric fir-beech forest stands towards pre-alpine fir-beech stands of the association *Homogyno sylvestris-Fagetum*, character species of the association, as well as differential species of the geographical variant, are well represented (Table 4). *Abies alba* occurs in all layers, but is rather rare in a tree layer or even absent. Floristic inventory of stands of this subassociation is characterized by comparatively lower proportion of spruce forests taxa (*Vaccinio-Piceetea*), and relatively high proportion of basiphytic taxa from pine forests (*Erico-Pinetea*), rock crevices (*Asplenietea trichomanis*) and subalpine and alpine grasslands (*Elyno-Seslerietea*), as a consequence of extreme environmental conditions and dolomite bedrock in particular (Table 2). Differential species for the subassociation -*calamagrostietosum variae* are *Calamagrostis varia*, *Carex alba*, *Polygonatum multiflorum*, *Rhamnus fallax*, *Helleborus niger* and *Buphthalmum salicifolium*, rather common taxa from the basiphytic pine forests.

Subassociation -*seslerietosum autumnalis* subass. nova (Table 12)

On lower elevation between 800–1120 m (Figures 4 and 5, Table 2), sunny and rocky slopes (Figure 6; both Rayleigh's and chi-square test show high significance for non-random distribution of slope exposition), *Sesleria autumnalis* (100%$^{77.1}$) completely prevails in the herb layer in fir-beech forests. These stands represent the most thermophilous fir-beech stands and are ecologically and floristically (CV=11.6%) very well circumscribed. They are continuously distributed at the western and southern parts of the plateau where an influence of the submediterranean climate is still present. On lower elevation they are developed on summits or ridges, while on higher elevation use to cover steeper slopes. Shallow and skeletous rendzina is the most frequent soil type in these sites and is developed on limestone or dolomitized limestone (Table 3, Figure 3).

In lower and upper tree layer *Fagus sylvatica* (100%$^{72.9}$) prevails over *Abies alba* (100%$^{65.3}$). *Acer pseudoplatanus* and *Sorbus aria* (both 6%$^{1.4}$) only rarely penetrate into the lower tree layer. Tree canopy use to be almost completely closed (Me=90%). Shrub layer consists of *Fagus sylvatica* (100%$^{37.5}$), *Abies alba* (56%$^{13.2}$), *Acer pseudoplatanus* (38%$^{8.3}$) and *Sorbus aria* (25%$^{5.6}$) is only modestly developed, covering round 10% of the relevé's area and together with the high coverage of *Sesleria autumnalis* in the herb layer make these stands appear picturesque. On lower elevation *Fraxinus ornus, Lonicera xylosteum* (both 25%$^{5.6}$) and *Tilia platyphyllos* (both 19%$^{4.2}$) occur relativelly frequently, while on higher elevation more frigoriphilous and mesophilous shrubs, e.g., *Rosa pendulina* (56%$^{14.6}$), *Sambucus nigra* (44%$^{9.7}$) and *S. racemosa* (both 13%$^{12.5}$) use to prevail in the shrub layer. In typical stands, *Sesleria autumnalis* in dense tussocks completely domintates in herb layer. Other species present in more than 80% of relevés are *Solidago virgaurea* (100%^{25}), *Mycelis muralis* (100$^{22.2}$), *Cardamine trifolia* (94%$^{24.3}$), *Adenostyles glabra* (94%$^{24.3}$), *Senecio ovatus* (95%$^{23.6}$), *Dryopteris filix-mas*, *Galeobdolon flavidum* (both 94%$^{20.8}$), *Mercurialis perennis, Cardamine ennea-*

phyllos (both 88%$^{32.6}$), *Calamagrostis arundinacea* (88%$^{27.8}$), *Maianthemum bifolium* (88%$^{27.7}$), *Veronica urticifolia* (83%$^{15.3}$), *Oxalis acetosella* (81%$^{26.4}$), *Anemone nemorosa* (81%$^{24.3}$), *Galium odoratum* (81%$^{20.8}$), *Lathyrus vernus* ssp. *vernus* (81%$^{20.1}$), *Aremonia agrimonoides* (81%$^{18.1}$), *Lamium orvala* and *Prenanthes purpurea* (both 81%$^{18.1}$). Moss layer use to cover only smaller areas of relevés (Me=10%, 1–30%) and are more frequent and abundant on rocky and stony sites. The most common moss taxa are *Ctenidium molluscum* (88%$^{37.5}$) and *Neckera crispa* (81%$^{27.8}$). *Cardamine trifolia* and *Aremonia agrimonoides* are the only character species of the association with high constancy and coverage value; *Rhamnus fallax* (13%$^{2.8}$), occurs more rarely, while *Omphalodes verna* and *Calamintha grandiflora* are absent. On the other hand, other illyricoid taxa (*Aremonio-Fagion*) represent 9.3% (I_c=134.7) of the total species inventory which is one of the highest proportion of all studied syntaxa. European beech forest species (*Fagetalia sylvaticae*) are the most frequent and occur with highest coverage (33.5%$^{489.6}$), followed by spruce forests species (*Vaccinio-Piceetea*, 20.3%$^{286.1}$). Characteristically for stands of the subassociation *-seslerietosum autumnalis* is that thermophilous species of the order *Quercetalia pubescentis* are most aboundant of all studied syntaxa (6.8%$^{104.2}$). For the differential species of the subassociation *-seslerietosum autumnalis* we chose *Sesleria autumnalis* (100%$^{77.1}$), *Lathyrus vernus* ssp. *vernus* (81%$^{20.1}$) and ssp. *flaccidus* (50%$^{12.5}$). While none of them being completely exclusive, they achieve the highest frequency and coverage in stands of the subassociation *-seslerietosum autumnalis*. In these stands, the physiognomy of the herb layer (and the shrub layer in part) is defined by dense carpets formed by *Sesleria autumnalis*, a particularly thermophylous, submediterranean-illyricoid species distributed on the western part of the Balkan peninsula from Slovenia to Macedonia and Albania with a discjunction on the Apennines. Its synsistematic characteristics and chorology were dealt in detail by Dakskobler (1991). It shows high fidelity to studied stands, occuring in stands of only two other subassociation: *-saxifragetosum cuneifoliae* (10%^{5}) and *-festucetosum altissimae* (4–7%$^{0.9\text{-}2.9}$), but with low frequency and coverage values (Table 4). Of the differential species for the geographical variant only *Paederota lutea* is missing.

Based on the floristic composition (Tables 1, 4 and 12), site ecology, phytosociological parameters (Table 2) and results of the cluster and RDA analyses (Figure 8), two elevational variants were identified: var. *Platanthera bifolia* (differential species for the variant are *Platanthera bifolia, Fraxinus ornus* and *Lonicera xylosteum*) and var. *Polygonatum verticillatum* (differential species for the variant are *Polygonatum verticillatum, Huperzia selago, Rosa pendulina* and *Anthriscus fumarioides*). Stands of the variant *Platanthera bifolia* occur on lower elevation, warmer sites and nutrient rich soils, while stands of the variant *Polygonatum verticillatum* are developed on higher elevation, generally cooler sites with high coverage of stoniness, and on more acidic soils.

Complete floristic inventory of stands of the subassociation *-seslerietosum* represents only 118 taxa of phanerogams and 22 taxa of mosses and lichens. This might be due to high coverage and dense tussocks of *Sesleria autumnalis*, completely dominating in the understory. The median number of phanerogams per relevé is 41.9 (35–51) with low coefficient of variation (CV=11.6%) indicating rather homogenous and floristically well defined stands, typologically recognized already by earlier phytosociologists (e.g., Wraber 1953: *Abieti-Fagetum seslerietosum autumnalis*; Wraber 1959, Urbančič et al. 1979: *Abieti-Fagetum dinaricum seslerietosum autumnalis*; Marinček et al. 1977, Puncer 1979: *Abieti-Fagetum praealpino dinaricum seslerietosum autumnalis*).

On lower elevation, fir-beech stands of the subassociation *-seslerietosum* are in contact with beech stands of the association *Seslerio autumnalis-Fagetum* var. geogr. *Anemone trifolia*, while on its upper elevational limits with fir-beech stands of the subassociations *-calamagrostietosum arundinaceae* (warmer sites, on more acidic soils) and *-festucetosum altissimae* (cooler and moister sites). Floristical and ecological comparissons between the syntaxa *Seslerio autumnalis-Fagetum* and *Omphalodo-Fagetum seslerietosum autumnalis* were already performed by Dakskobler (1997). He found no ubrupt changes in floristic composition between the stands of the two syntaxa, but rather gradual transitions of stands in the contact zones. However, stands of the association *Seslerio-Fagetum* host considerably higher number of thermophilous taxa from the order *Quercetalia pubescentis*, thus thriving on warmer sites and lower elevation in comparisson to stands of the subassociation *Omphalodo-Fagetum seslerietosum autumnalis* (Dakskobler 1997).

Geographical variant *Omphalodo-Fagetum* var. geogr. *Calamintha grandiflora*

Subassociation *-sambucetosum nigrae* subass. nova (Table 13)

One of the most mesophilous and homogenous fir-beech stands are developed on lower elevation (Me=850 m, 800–1000 m, Table 2) of northeastern flanks of the plateau on slopes with low amount of stoniness (Figures 3–5). Stands prefer northerly exposed sites (Figure 6), Chi-square test (but not Rayleigh's) shows statistical significance for non randomly distributed expositions. The bedrock consists of dolomite and dolomitized limestone which is evident in the highest amounts of magnezium and calcium (Figure 3). Shallow, skeletous neutral to slightly basiphilous rendzinas prevail. The O_h horizon has highest amounts of calcium, magnezium, phosphorus and potassium of all studied soil profiles, while the A horizon showed the neutral chemical reaction (pH=7; Table 3). In the tree layer, *Abies alba* (100%^{73}) prevails over *Fagus sylvatica* (100%$^{56.9}$), which is more an acception than a rule for the studied stands in the research area. *Ulmus glabra* and *Sorbus aria* (both 17%$^{2.8}$), usually less frequent in other fir-beech forest types, occur quite regulary, while *Picea abies* (100%$^{20.8}$) occurs in all relevés. Shrub and herb layers are well developed; shrubs cover up to 60% of the relevés (Me=50%), and the most frequent taxa, beside those from the tree layer, being *Daphne mezereum* (100%$^{26.4}$), *Sambucus nigra* (100%$^{20.8}$), *Rubus idaeus* (100%$^{18.1}$), *Lonicera nigra* (83%$^{18.1}$) and *Tilia platyphyllos* (50%$^{8.3}$). Herb layer covers round 80% of the relevés (70–90%); with the highest presence and coverage occur *Omphalodes verna* (100%$^{44.4}$), *Mercurialis perennis* (100%$^{38.9}$), *Maianthemum bifolium* (100%$^{30.6}$), *Oxalis acetosella* (100%$^{26.4}$), *Festuca altissima*, *Cardamine trifolia*, *Prenanthes purpurea*, *Solidago virgaurea* (all 100%^{25}), *Athyrium filix-femina* (100%$^{22.2}$), *Calamintha grandiflora* (100%$^{20.8}$), *Aremonia agrimonoides*, *Polygonatum verticillatum*, *Dryopteris filix-mas*, *Mycelis muralis*, *Gentiana asclepiadea* (all 100%$^{18.1}$), *Asplenium trichomanes, Moehringia muscosa*, *Paris quadrifolia*, *Sorbus aucuparia* (all 100%$^{16.7}$) and *Epipactis helleborine* (100%$^{15.3}$). Due to high coverage of herbs, moss layer is only modestly developed (Me=15%), rarely covering more than 20% of the relevé area. All in all, European beech forests species (*Fagetalia sylvaticae*) completely dominate in stands (43%^{550}), while tall herbs (*Mulgedio-Aconitetea* – 4.6%$^{8.3}$), rock dwellers (*Asplenietea trichomanis* – 4.6%$^{47.2}$) and generally thermophilous taxa (*Quercetalia pubescentis* – 2.8%$^{16.7}$) achieve one of the smallest presence and coverage values above all recognized fir-beech syntaxa in the study area. Diagnostically significant group of illyricoid taxa (*Aremonio-Fagion*) represents 8.3% of the total species inventory and one of the highest coverage values (I_c=170.8). Hence, all associations´species, but *Rhamnus fallax*, and geographical character species, are present in all relevés with high coverage values.

Being one of the most mesophilous syntaxa within the fir-beech stands in the study area, we chose differential species from the group of European beech forests species (*Fagetalia sylvaticae*). *Sambucus nigra* (100%$^{20.8}$) occurs most frequently in a shrub layer in all relevés with the highest coverage value, while *Tilia platyphyllos* (50%$^{8.3}$) in half of the relevés but with significantly higher frequency and coverage with respect to other syntaxa. Although they do not occur in stands of the subassociation *-sambucetosum* exclusivelly, they are good indicators of deeper, humus rich and fresh, skeletous soils, and contribute much to the overall physiognomy of stands, rendering these forest types easy to recognize.

In only 6 relevés we identified 109 taxa of ferns and seed plants, but the highest number of taxa per relevé area averagelly (58; Figure 5). The lowest coefficient of variation of number of taxa per relevé (7.4%) of all circumscribed syntaxa suggests rather homogenous species composition of the subassociation.

Subassociation *-asaretosum europaei* Puncer 1980 var. *Symphytum tuberosum* var. nova (Table 14)

These stands represent forests from the northwesternmost part of the distribution area of the association *Omphalodo-Fagetum* s.l. We found them on northern margin of the Vojsko plateau above the Kanomlja valley (Studenec clough) and at the headwaters of Sevnica stream under the Vojsko plateau between the Kanomljica and Idrijca rivers. They usualy thrive on shady (Figure 6) and steep slopes (Table 2) on mixed bedrock (marl of marl with clay slates, dolomite and black limestone with clay insertions, see Mlakar & Čar 2009), between 640–800 m a.s.l, at the lower elevational limit of the association (Figures 4 & 5, Table 2). Fresh and relatively deep eutric soils (only occasionaly also dystric soils) prevail and are indicated by the occurance of *Lamium or-*

vala, *Scopolia carniolica*, *Senecio ovatus*, *Athyrium filix-femina*, *Doronicum austriacum* and *Blechnum spicant*. These forests are heavily managed and in the tree layer, beside *Fagus sylvatica* and *Abies alba*, *Picea abies*, *Acer pseudoplatanus* and *Ulmus glabra* occur rather frequently, while *Prunus avium*, *Fraxinus excelsior*, *Ostrya carpinifolia*, *Carpinus betulus* and *Juglans regia* occur more sporadically (Table 4). In one relevé we even found *Larix decidua* (subspontaneously). Character species of the association are well represented, while differential species for the geographical variant *Saxifraga cuneifolia* lack; on the other hand, due to the presence of *Calamintha grandiflora* and the number and high coverage of other Illyrian taxa (Table 1), stands of the subassociation: *-asaretosum europaei* were classified into the geographical variant *Calamintha grandiflora* and represent a disjunct forests to the one distributed more towards south-eastern part of the association's distribution area (see also Surina 2002).

Subassociation *Omphalodo-Fagetum* var. geogr. *Calamintha grandiflora asaretosum europaei* was described by Puncer (1980) in the Kočevsko region (southern Slovenia) and is characterized by high proportion of beech (*Fagetalia sylvaticae*) and beech-oak (*Querco-Fagetea*) forests taxa and at the same time by lower proportion of spruce (*Vaccinio-Piceetea*) taxa. These stands host the highest number of illyricoid taxa (*Aremonio-Fagion*) among all studied stands (Tables 1 and 4). *Pulmonaria officinalis, Asarum europaeum* ssp. *caucasicum*, *Ulmus glabra*, *Hedera helix*, *Carex digitata* and *Primula vulgaris* are differential taxa of the subassociation, while the differential species for the new variant are *Petasites albus* and *Symphytum tuberosum*. Differential taxa for the subassociation and the variant, and other species as well (e.g. *Prunus avium*) indicate favorable soil conditions in the lower montane belt in the contact area with submontane beech forests of the association *Hacquetio-Fagetum*. In many aspects (geological bedrock, soil conditions, elevation, distribution area; Figures 4 and 5) they represent marginal types of Dinaric fir-beech forests.

Typification of the syntaxa

Nomenclature types (*holotypus*) for the subassociations and variants:

Omphalodo-Fagetum var. geogr. *Saxifraga cuneifolia adenostyletosum glabrae* subass. nova: Tab. 5, relevé No. 9, *holotypus* hoc loco.

Omphalodo-Fagetum var. geogr. *Saxifraga cuneifolia saxifragetosum cuneifoliae* subass. nova: Tab. 6, relevé No. 2, *holotypus* hoc loco.

Omphalodo-Fagetum var. geogr. *Saxifraga cuneifolia calamagrostietosum arundinaceae* subass. nova: Tab. 7, relevé No. 10, *holotypus* hoc loco.

Omphalodo-Fagetum var. geogr. *Saxifraga cuneifolia festucetosum altissimae* subass. nova: Tab. 8, relevé No. 4, *holotypus* hoc loco.

Omphalodo-Fagetum var. geogr. *Saxifraga cuneifolia festucetosum altissimae* subass. nova var. *Calamagrostis arundinacea* var. nova: Tab. 8, relevé No. 4, *holotypus* hoc loco.

Omphalodo-Fagetum var. geogr. *Saxifraga cuneifolia festucetosum altissimae* subass. nova var. *Lamium orvala* var. nova: Tab. 8, relevé No. 14, *holotypus* hoc loco.

Omphalodo-Fagetum var. geogr. *Saxifraga cuneifolia festucetosum altissimae* subass. nov. var. *Saxifraga rotundifolia* var. nova: Tab. 8, relevé No. 22, *holotypus* hoc loco.

Omphalodo-Fagetum var. geogr. *Saxifraga cuneifolia stellarietosum montanae* subass. nova: Tab. 10, relevé No. 7, *holotypus* hoc loco.

Omphalodo-Fagetum var. geogr. *Saxifraga cuneifolia stellarietosum montanae* subass. nova var. *Cardamine pentaphyllos* var. nova: Tab. 10, relevé No. 16, *holotypus* hoc loco.

Omphalodo-Fagetum var. geogr. *Saxifraga cuneifolia calamagrostietosum variae* subass. nova: Tab. 11, relevé No. 4, *holotypus* hoc loco.

Omphalodo-Fagetum var. geogr. *Saxifraga cuneifolia seslerietosum autumnalis* subass. nova: Tab. 12, relevé No. 4, holotypus hoc loco.

Omphalodo-Fagetum var. geogr. *Saxifraga cuneifolia seslerietosum autumnalis* subass. nova var. *Platanthera bifolia* var. nova: Tab. 12, relevé No. 4, *holotypus* hoc loco.

Omphalodo-Fagetum var. geogr. *Saxifraga cuneifolia seslerietosum autumnalis* subass. nova var. *Polygonatum verticillatum* var. nova: Tab. 12, relevé No. 14, *holotypus* hoc loco.

Omphalodo-Fagetum var. geogr. *Calamintha grandiflora sambucetosum nigrae* subass. nova: Tab. 13, relevé No. 3, *holotypus* hoc loco.

Omphalodo-Fagetum var. geogr. *Calamintha grandiflora asaretosum europaei* Puncer 1980 var. *Symphytum tuberosum* var. nova: Tab. 14, relevé No. 3, *holotypus* hoc loco.

4. DISCUSSION

Fir-beech forests in north-western Dinaric Alps (*Omphalodo-Fagetum* s.l.) represent a climatogenic vegetation type in (upper) montane – (alti)montane belt, where the association's character species, and many other illyricoid taxa, achieve their biological optimum. However, along the distribution range of the association, there is a marked decline in presence of characteristic taxa for the association *Omphalodo-Fagetum* and the alliance *Aremonio-Fagion* towards north-west (Surina 2002). This is not only due to the biogeographical peculiarities of the Trnovski gozd platau (at the north-western most limit of association's distribution range and thus the presence of the de-alpine elements due to the close proximity of the Julian Alps), but also due to the geological bedrock; in the central part of the plateau limestone (and in a lesser extent dolomite) is substituted with chert which siginificantly reduces the number and coverage of generally calcifitic illyricoid taxa. This is well represented in the two most frequent types of the association, *-calamagrostietosum arundinacei* and *-festucetosum altissimae*, being in comparisson to other types of the association floristically impoverished (Tables 1, 2, 4, 7–9). Diversified karstic relief, extensive elevational gradient, considerable differences in geological bedrock and soil depth already in a scale of only a few meters, render Dinaric fir-beech stands in the Trnovski gozd plateau (but in other parts of the Dinaric Alps as well) as one of the most diverse forest stands in terms of biodiversity: the complete floristic inventory based only on our own relevés includes round 400 taxa of ferns and seed plants. Environmental heterogeneity leads to a strong floristical and ecological differentiation of the climatogenic forest types. Within the association *Omphalodo-Fagetum* var. geogr. *Saxifraga cuneifolia*, we identified 10 forest types at the subassociation rank and several types at the rank of variant (Tables 4–14, Figures 3–9) which is in accordance to the high number of recognized fir–beech forest types in other parts of the Dinaric Alps (*Omphalodo-Fagetum* var. geogr. *Calamintha grandiflora*; e.g. Tregubov 1957, Puncer et al. 1974, Puncer 1980, Accetto 1998).

In his original study, Puncer (1979 mscr.) treated fir-beech stands in the Trnovski gozd plateau as a new, »small« association *Abieti-Fagetum praealpino-dinaricum* Puncer 1979 nom. nud., trying to stress its transitional character between the Dinaric and pre-Alpine fir-beech stands. Hence, following the principle of multi-dimensional subdivision of syntaxa (Matuszkiewicz & Matuszkiewicz 1981), we desided to apply the name *Omphalodo-Fagetum* for these stands, and within the newly described geographical variant *-Saxifraga cuneifolia* (Surina 2002) find new vicariant names for the syntaxa of the subassociation rank, e.g.:

var. geogr. *Saxifraga cuneifolia*	**var. geogr. *Calamintha grandiflora***
saxifragetosum cuneifoliae subass. nova hoc loco	*homogynetosum sylvestris* Tregubov 1957
stellarietosum montanae subass. nov. hoc loco	*aceretosum pseudoplatani* Puncer et al. 1974
festucetosum altissimae subass. nov. hoc loco	*festucetosum altissimae* Puncer 1980
adenostyletosum glabrae subass. nov. hoc loco	*adenostyletosum glabrae* Puncer 1980
rhododendretosum hirsuti Dakskobler et al. 2000	
calamagrostietosum arundinaceae subass. nov. hoc loco	
seslerietosum autumnalis subass. nov. hoc loco	
calamagrostietosum variae subass. nov. hoc loco	
	sambucetosum nigrae subass. nov. hoc loco
	asaretosum europaei Puncer 1980

Within the geographical variant *Calamintha grandiflora*, which in the Trnovski gozd plateau represents Dinaric fir-beech stands at its north-eastern margin of the plateau only, we identified stands which resemble much to the stands described by Puncer (1980). He classified them into the subassociation –*asaretosum europaei* and we retained his proposal. Otherwise, while preserving the names already used by the researchers in the tipology of Dinaric fir-beech stands for the geographical variant *Calamintha grandiflora*, we proposed for the respective stands in the Trnovski gozd plateau and within the geographical variant *Saxifraga cuneifolia* new names for the syntaxa: *-festucetosum altissimae* and *-adenostyletosum glabrae*. During our initial research in the field, and co-

firmed with subsequent numerical analyses, we encountered several typological problems both within the forests of the syntaxon *Ompalodo-Fagetum* var. geogr. *Saxifraga cuneifolia* and between the forests of similar – contact syntaxa. This may be a biological reality but in many cases also a consequence of intensive forest management as well. At their upper elevational limit, fir-beech forests of the subassociations *-rhododendretosum hirsuti* and *-adenostyletosum glabrae* frequently form transitional stands with altimontane (*Ranunculo platanifolii-Fagetum*) and subalpine beech forests (*Polysticho lonchitis-Fagetum*) which are difficult to classify. However, these stands show considerable floristic similarities with fir-beech forests of the association *Homogyno sylvestris-Fagetum* from the pre-Alpine area which is in accordance with their biogeographic position. Dinaric fir-beech stands (the subassociation *-asaretosum* in particular) on their lower elevational limit form transitional forests to the stands of the association *Hacquetio-Fagetum*. Within the syntaxon *Omphalodo-Fagetum* var. geogr. *Saxifraga cuneifolia* we observed continuous transition of forests of the subassociation *-festucetosum altissimae* to forests of the subassociation *-calamagrostietosum arundinaceae* (Figures 4 and 5); higher elevation, cooler and moister sites are frequent and indicated by high coverage of *Festuca altissima*, while dryer, sunny slopes and acidic soils low on nutrients prefers *Calamagrostis arundinacea* (Figure 7).

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7 APPENDIX

7.1 Taxa occuring only once in analytical tables.

Table 5. *Omphalodo-Fagetum* var. geogr. *Saxifraga cuneifolia adenostyletosum glabrae*

2 (+) *Corallorhiza trifida*; (r) *Polystichum lonchitis*; **3** (+) *Camptothecium lutescens, Clematis vitalba, Mnium* sp., *Polystichum* x *luerssenii*; **4** (+) *Fissidens taxifolius*; **5** (1) *Hacquetia epipactis*; (+) *Encalypta streptocarpa*; **6** (2) *Calamagrostis villosa*; **7** (+) *Grimia pulvinata, Piptatherum virescens, Plagiochila asplenioides*; **8** (+) *Cladonia pyxidata, Rhododendron hirsutum*; **9** (r) *Carex ornithopoda*; **11** (1) *Homogyne sylvestris*; **12** (+) *Rhizomnium punctatum, Rhytidiadelphus loreus*; **13** (r) *Cystopteris regia, Sambucus racemosa*; **14** (+) *Valeriana montana*; **15** (+) *Homalothecium lutescens, Plagiomnium cuspidatum*; **17** (+) *Eurhynchium striatum*.

Table 6. *Omphalodo-Fagetum* var. geogr. *Saxifraga cuneifolia saxifragetosum cuneifoliae*

1 (+) *Bazzania trilobata, Polystichum* x *illyricum*; **2** (+) *Lonicera xylosteum, Melittis melissophyllum*; **6** (1) *Rhytidiadelphus triquetrus*; (+) *Brachythecium erythrorhizon, Bryum capillare, Bryum* sp., *Calliergon* sp., *Campylium halleri, Cirriphyllum piliferum, Fissidens dubius, Herzogiella seligeri, Hypnum sauteri, Icmadophila ericetorum, Isothecium myurum, Lepidozia reptans, Leptobryum pyriforme, Lescuraea saxicola, Mnium marginatum, Odontoschisma denudaum, Plagiothecium undulatum, Platygyrium repens, Plagiopus oederi, Rhizomnium punctatum, Tetraphis pellucida*; (r) *Dactylorhiza maculata*; **7** (+) *Cardamine pentaphyllos, Mnium ambiguum, Platanthera bifolia*; **8** (+) *Carex brachystachys, C. ferruginea, Oncophorus virens, Plagiomnium undulatum, Polystichum braunii*; **9** (+) *Melampyrum sylvaticum, Ribes alpinum, Viola biflora*; **10** (+) *Thalictrum aquilegiifolium*; **11** (+) *Viola riviniana*; **13** (+) *Peltigera canina*; **14** (1) *Anemone trifolia, Melica nutans*; (+) *Convallaria majalis*; **15** (r) *Neottia nidus-avis*; **16** (1) *Sanicula europaea*; **17** (+) *Cardamine impatiens, Milium effusum*; **18** (+) *Atrichum undulatum*; **19** (+) *Neckera complanata*.

Table 7. *Omphalodo-Fagetum* var. geogr. *Saxifraga cuneifolia calamagrostietosum arundinaceae*

2 (+) *Cirsium erisithales, Hypericum perforatum*; **3** (+) *Carex alba*; **4** (+) *Polystichum braunii, Salvia glutinosa*; **5** (r) *Clematis vitalba*; **8** (+) *Cystopteris montana*; **12** (r) *Cardamine impatiens, Polystichum lonchitis*; **13** (r) *Doronicum austriacum*; **14** (+) *Luzula pilosa, Salix appendiculata*; **15** (1) *Fraxinus excelsior, Orthilia secunda*; **16** (r) *Impatiens nolitangere*; **17** (+) *Petasites albus*; **18** (+) *Arabis alpina, A. hirsuta, Sedum hispanicum*; **19** (+) *Corylus avellana*; **22** (+) *Cruciata glabra, Galium rotundifolium*; **24** (1) *Arabis turrita*; **26** (+) *Collema flaccidum*; **28** (+) *Helleborus odorus, Milium effusum*; **29** (r) *Atropa bella-dona, Eupatorium cannabinum*; **30** (+) *Veronica montana, Viola reichenbachiana*; **31** (+) *Phyteuma ovatum*; **32** (r) *Chrysosplenium alternifolium, Phyllitis scolopendrium*; **34** (+) *Asarum europaeum* ssp. *caucasicum, Cardamine bulbifera, Heracleum sphondylium, Pulmonaria officinalis, Symphytum tuberosum*; (r) *Peucedanum austriacum*.

Table 8. *Omphalodo-Fagetum* var. geogr. *Saxifraga cuneifolia festucetosum altissimae* I

1 (+) *Hypericum perforatum, Moehringia trinervia, Orthilia secunda, Peltigera canina, Tilia platyphyllos*; **2** (+) *Deschampsia cespitosa, Poa nemoralis*; **3** (+) *Anemone* x *pittonii, Cirsium erisithales*; **4** (+) *Monotropa hypopitys*; **11** (+) *Aegopodium podagraria, Arabis turrita*; **13** (+) *Circaea lutetiana, Phyteuma spicatum*; **15** (+) *Tortella tortuosa*; **17** (+) *Atropa bella-dona, Cephalanthera damasonium, Platanthera bifolia,*

Sesleria autumnalis; **18** (+) *Asplenium ruta-muraria*; **19** (1) *Euphorbia amygdaloides*; **20** (+) *Carex sylvatica*; **21** (+) *Hylocomium splendens, Radula complanata*; **22** (1) *Polystichum lonchitis*; (+) *Clematis alpina, Thuidium tamariscinum*; **23** (+) *Huperzia selago*; (r) *Cystopteris montana*; **24** (+) *Collema flaccidum, Ribes alpinum*; **25** (+) *Doronicum austriacum*.

Table 9. *Omphalodo-Fagetum* var. geogr. *Saxifraga cuneifolia festucetosum altissimae* II

1 (1) *Lathyrus vernus* ssp. *vernus*; (+) *Anemone trifolia, Cephalanthera damasonium*; **2** (+) *Cruciata glabra*; **3** (+) *Thamnobryum alopecurum*; **4** (+) *Antitrichia curtipendula, Homalothecium philippeanum*; **5** (1) *Galeopsis speciosa, Corylus avellana*; (+) *Adoxa moschatellina, Circaea alpina, Cladonia digitata, Cystopteris fragilis*; **6** (+) *Cladonia coniocraea, Polystichum* x *luerssenii, Urtica dioica*; **10** (+) *Thuidium tamariscinum, Valeriana tripteris*; **11** (+) *Cymbalaria muralis, Hedera helix, Heracleum sphondylium, Ostrya carpinifolia, Viscum album* ssp. *abietis, Pyrola minor*; **14** (+) *Cyclamen purpurascens*; **17** (+) *Doronicum austriacum*; **19** (+) *Euphorbia amygdaloides, Hieracium murorum, Phyteuma spicatum, Saxifraga rotundifolia*; **20** (+) *Chrysosplenium alternifolium, Dactylorhiza maculata, Piptatherum virescens, Ranunculus lanuginosus*; **21** (+) *Symphytum tuberosum, Veronica montana*; **25** (+) *Ajuga reptans, Blechnum spicant, Galium rotundifolium*; **27** (+) *Carex alba, Clematis alpina, Galium mollugo, Monotropa hypopitys, Platanthera bifolia, Veronica officinalis*.

Table 10. *Omphalodo-Fagetum* var. geogr. *Saxifraga cuneifolia stellarietosum montanae*

2 (+) *Cymbalaria muralis, Fraxinus ornus*; **3** (+) *Cardamine flexuosa, Scrophularia vernalis*; **4** (+) *Asplenium viride, Cladonia digitata*; **7** (+) *Mnium marginatum, M. spinosum, Rhizomnium punctatum*; **8** (+) *Geum urbanum*; **10** (+) *Neottia nidus-avis*; **11** (+) *Deschampsia cespitosa, Mnium orthorrhynchium, Plagiothecium* sp.; **12** (+) *Luzula sylvatica* ssp. *sylvatica, Thudium tamariscinum*; **13** (+) *Plagiothecium sylvaticum*; **14** (+) *Calamagrostis varia, Digitalis grandiflora, Eunoymus latifolia, Fraxinus excelsior, Hypericum maculatum, Polystichum* x *illyricum, Rosa pendulina*; (r) *Cirsium erisithales, Primula vulgaris*; **15** (+) *Aruncus dioicus*; (r) *Ostrya carpinifolia, Sorbus aria*; **18** (+) *Allium ursinum, Anemone ranunculoides, Anthriscus nitida*; **19** (+) *Neckera complanata, Plagiomnium cuspidatum*; **20** (+) *Eupatorium cannabinum, Peltigera canina*; **21** (+) *Aconitum degenii* ssp. *paniculatum, Dactylis polygama, Epipactis helleborine, Galanthus nivalis, Poa nemoralis*.

Table 11. *Omphalodo-Fagetum* var. geogr. *Saxifraga cuneifolia calamagrostietosum variae*

1 (+) *Camptothecium lutescens, Festuca altissima, Pulmonaria officinalis*, *Sorbus aucuparia, Ulmus glabra, Verbascum lanatum*; **2** (+) *Ilex aquifolium;* **3** (1) *Aquilegia nigricans*; (+) *Orthothecium rufescens*; (r) *Digitalis grandiflora*; **4** (+) *Betonica alopecuros*; (r) *Valeriana saxatilis*; **5** (1) *Anemone trifolia*; (+) *Anemone x pittonii, Laserpitium peucedanoides*; (r) *Euonymus latifolia;* **6** (+) *Prunus avium*; **7** (+) *Epilobium montanum, Peltigera canina*; (r) *Ranunculus platanifolius*; **8** (+) *Angelica sylvestris, Galium odoratum, Petasites albus*; (r) *Euonymus verrucosa, Lunaria rediviva*; **9** (+) *Carex humilis*; **14** (+) *Cephalanthera damasonium, Polystichum* x *bicknellii*; **15** (+) *Bartramia halleriana*, *Dryopteris affinis, Taxus baccata*; **16** (+) *Carex brachystachys, Peucedanum austriacum, Potentilla carniolica*; **17** (+) *Cladonia pyxidata, Mnium thomsonii, Phyllitis scolopendrium, Poa nemoralis, Solanum dulcamara*; (r) *Hieracium lachenalii, Sambucus racemosa*.

Table 12. *Omphalodo-Fagetum* var. geogr. *Saxifraga cuneifolia seslerietosum autumnalis*

1 (+) *Clematis vitalba, Hieracium murorum, Orthilia secunda*; **4** (r) *Cardamine impatiens, Thalictrum aquilegiifolium*; **9** (+) *Lilium martagon*, *Melica nutans, Vaccinium myrtillus*; **11** (+) *Arabis turrita, Asarum europaeum* ssp. *caucasicum*, *Ulmus glabra*; **12** (+) *Frangula alnus*; **13** (+) *Aposeris foetida, Helleborus odorus, Luzula pilosa, Mnium spinosum, Plagiomnium affine, Plagiothecium* sp., *Symphytum tuberosum, Thamnobryum alopecurum, Thuidium tamariscinum*; **15** (+) *Atrichum undulatum, Plagiothecium neglectum, Veratrum album*. **16** (+) *Polytrichum formusum, Peltigera aphthosa*.

Table 13. *Omphalodo-Fagetum* var. geogr. *Calamintha grandiflora sambucetosum nigrae*

1 (+) *Cardamine bulbifera, Heracleum sphondylium, Plagiomnium undulatum*; **2** (3) *Vaccinium myrtillus*; (+) *Adenostyles glabra, Dicranum scoparium*; **3** (1) *Ulmus glabra*; (+) *Circaea lutetiana, Galeopsis speciosa, Hylocomium splendens, Lunaria rediviva, Petasites albus, Phyllitis scolopendrium, Polypodium vulgare, Ranunculus lanuginosus, Stellaria montana*; **4** (+) *Carex alba*; **5** (+) *Atropa bella-donna, Blechnum spicant, Cladonia furcata, Hacquetia epipactis, Hypericum hirsutum, Monotropa hypopitys, Scrophularia nodosa, Sorbus aria*; **6** (+) *Calamagrostis arundinacea, Cladonia digitata, Moehringia muscosa, Neckera complanata*.

Table 14. *Omphalodo-Fagetum* var. geogr. *Calamintha grandiflora asaretosum europaei*

1 (+) *Melica nutans*; (r) *Gymnocarpium robertianum*; **2** (+) *Carex alba, Cardamine enneaphyllos, Euonymus latifolia, Helelborus niger, Laburnum alpinum, Lilium martagon, Melittis melissophyllum*; **3** (+) *Brachythecium velutinum, Carex pendula, Conocephalum conicum, Dryopteris dilatata, Euphorbia carniolica, Fissidens taxifolius, Fragaria vesca, Knautia drymeia, Ranunculus lanuginosus, Rosa arvensis, Thelypteris limbosperma*; (r) *Ilex aquifolium*; **4** (+) *Stachys alpina*; (r) *Quercus petraea*; **5** (+) *Bromus benekenii, Dicranum scoparium, Monotropa hypophegea, Neottia nidus-avis, Plagiochila porelloides, Thudium tamariscinum*; (r) *Betula pendula*; **6** (+) *Asplenium viride, Geranium robertianum, Heracleum sphondylium, Homalothecium philippeanum, Hypnum cupressiforme, Mnium thomsonii, Plagiochila asplenioides*; **7** (+) *Aegopodium podagraria, Anomodon attenuatus, Asplenium ruta-muraria, Lathraea squamaria, Moehringia trinervia, Plagiomnium cuspidatum, Polygonatum verticillatum*; **8** (1) *Stellaria montana*; (+) *Atrichum undulatum, Festuca altissima, Gymnocarpium dryopteris*; (r) *Tamus communis*.

7.2 Taxa occuring only once in Table 1

Fagetalia sylvaticae: 8 – *calamagrostietosum variae*: *Cephalanthera longifolia* $12^{3,1}$, *Peucedanum austriacum* $6^{1,2}$, 2 – *adenostyletosum glabrae*: *C. pilosa* $11^{2,5}$, 5 – *festucetosum altissimae* I: *Cerastium sylvaticum* $8^{1,8}$, 7 – *stellarietosum*: *Anemone ranunculoides* $5^{1,1}$, *Cardamine flexuosa* $5^{1,1}$, *Corydalis cava* $19^{6,9}$, *C. solida* $24^{6,3}$, 11 – *asaretosum*: *Carpinus betulus* $25^{4,8}$, *Carex pendula* $13^{3,2}$, *Ilex aquifolium* $13^{1,6}$, *Juglans regia* $25^{4,8}$, *Rosa arvensis* $13^{3,2}$; **Quercetalia pubescentis:** 8 – *calamagrostietosum variae*: *Euonymus verrucosa* $6^{0,6}$, 4 – *calamagrostietosum arundinaceae*: *Arabis hirsuta* $3^{0,7}$, 7 – *stellarietosum montanae*: *Hypericum montanum* $10^{2,1}$; **Querco-Fagetea:** 1 – *rhododendretosum hirsuti*: *Ranunculus auricomus* agg. $6^{1,4}$, 8 – *calamagrostietosum variae*: *Hieracium lachenalii* $6^{0,6}$, 7 – *stellarietosum montanae*: *Vinca minor* $14^{3,2}$, *Gagea lutea* $10^{2,1}$, *Galanthus nivalis* $5^{1,1}$, 11 – *asaretosum*: *Corylus avellana* $13^{3,2}$; **Erico-Pinetea:** – 1 – *rhododendretosum hirsuti*: *Erica carnea* $25^{6,3}$, *Polygala chamaebuxus* $6^{1,4}$, *Rhodothamnus chamaecistus* $6^{1,4}$, 8 – *calamagrostietosum variae*: *Buphthalmum salicifolium* $41^{8,6}$, *Potentilla carniolica* $6^{1,2}$, *Aquilegia nigricans* $6^{1,8}$, 2 – *adenostyletosum glabrae*: *Carex ornithopoda* $6^{0,6}$, 6 – *festucetosum altissimae* II: *Pyrola minor* $4^{0,8}$; **Vaccinio-Piceetea:** 1 – *rhododendretosum hirsuti*: *Lonicera caerulea* $50^{9,7}$, 3 – *saxifragetosum cuneifoliae*: *Melampyrum sylvaticum* $5^{1,1}$, 6 – *festucetosum altissimae* II: *Luzula luzulina* $19^{4,5}$; 11 – *asaretosum*: *Larix decidua* $25^{3,2}$, **Mulgedio-Aconitetea:** 1 – *rhododendretosum hirsuti*: *Salix glabra* $19^{2,1}$, *Sorbus chamaemespilus* $44^{8,3}$, *Pleurospermum austriacum* $25^{5,6}$, *Senecio nemorensis* $6^{0,7}$, 2 – *adenostyletosum glabrae*: *Adenostyles alliariae* $11^{2,5}$, *Senecio cacaliaster* $11^{2,5}$, 7 – *stellarietosum montanae*: *Hypericum maculatum* $5^{1,1}$, *Scrophularia vernalis* $5^{1,1}$, *Anthriscus nitida* $1^{0,5}$; **Elyno-Seslerietea:** 1 – *rhododendretosum hirsuti*: *Pinguicula alpina* $13^{2,1}$, 8 – *calamagrostietosum variae*: *Betonica alopecurus* $6^{1,2}$, *Laserpitium peucedanoides* $6^{1,2}$, 11 – *asaretosum*: *Stachys alpina* $13^{3,2}$; **Asplenietea trichomanis:** 1 – *rhododendretosum hirsuti*: *Primula carniolica* $31^{6,3}$, 2 – *adenostyletosum glabrae*: *Valeriana montana* $6^{1,2}$; **Other species:** 1 – *rhododendretosum hirsuti*: *Dactylorhiza fuchsii* $19^{4,2}$, 8 – *calamagrostietosum variae*: *Carex humilis* $6^{1,2}$, *Clinopodium vulgare* $12^{2,5}$, *Vincetoxicum hirundinaria* $18^{2,5}$, *Verbascum lanatum* $6^{1,3}$, 3 – *saxifragetosum cuneifoliae*: *Spiraea chamaedryfolia* $25^{6,1}$, 6 – *festucetosum altissimae* II: *Galium mollugo* $4^{0,8}$, 7 – *stellarietosum montanae*: *Dactylis polygama* $5^{1,1}$, *Geum urbanum* $5^{1,1}$, *Stachys sylvatica* $5^{1,1}$, 11 – *asaretosum*: *Bromus benekenii* $13^{3,2}$, *Lathrea squamaria* $13^{3,2}$; **Lichens & bryophytes:** 1 – *rhododendretosum hirsuti*: *Entodon schleicheri* $81^{22,9}$, *Cladonia* sp. $69^{15,3}$, *Peltigera leucophlebia* $56^{12,5}$, *Dicranum* sp. $38^{9,7}$, *Metzgeria furcata* $44^{9,7}$, *Ditrichium flexicaule* $38^{8,3}$, *Bryum capillare* agg. $25^{5,6}$, *Plagiothecium cavifolium* $25^{5,6}$, *Hookeria lucens* $19^{4,2}$, *Calypogeia trichomanis* $13^{2,8}$, *Dicranodontum denudatum* $13^{2,8}$, *Plagiothecium nemorale* $13^{2,8}$, *Scapania nemorea* $13^{2,8}$, *Collema* sp. $13^{2,8}$, *Campylium stellatum* $6^{1,4}$, *Cirriphyllum tenuinerve* $6^{1,4}$, *Distichium capillaceaum* $6^{1,4}$, *Leptogium saturninum* $6^{1,4}$, *Parmeliella tryptophylla* $6^{1,4}$, *Peltigera collina* $6^{1,4}$, 3 – *saxifragetosum cuneifoliae*: *Plagiothecium laetum* $10^{2,2}$, *Bazzania trilobata* $5^{1,1}$, *Brachythecium erythrorhizon* $5^{1,1}$, *Bryum* sp. $5^{1,1}$, *Calliergon* sp. $5^{1,1}$, *Campylium halleri* $5^{1,1}$, *Cirriphyllum piliferum* $5^{1,1}$, *Hypnum sauteri* $5^{1,1}$, *Lepidozia reptans* $5^{1,1}$, *Leptobryum pyriforme* $5^{1,1}$, *Lescuraea saxicola* $5^{1,1}$, *Mnium ambiguum* $5^{1,1}$, *Odontoschisma denudatum* $5^{1,1}$, *Oncophorus virens* $5^{1,1}$, *Platygyrium repens* $5^{1,1}$, *Icmadophila ericetorum* $5^{1,1}$, 2 – *adenostyletosum glabrae*: *Homalothecium lutescens* $6^{1,2}$, 9 – *seslerietosum autumnalis*: *Plagiothecium neglectum* $6^{1,4}$, 6 – *festucetosum altissimae II*: *Cladonia rangiferina* $7^{1,6}$, *Antitrichia curtipendula* $4^{0,8}$, 7 – *stellarietosum montanae*: *Plagiomnium affine* $14^{3,2}$, *Porella platyphylla* $10^{2,1}$, *Brachythecium glareosum* $5^{1,1}$, *Brachythecium* sp. $5^{1,1}$, 11 – *asaretosum*: *Anomodon attenuatus* $13^{3,2}$, *Brachythecium velutinum* $13^{3,2}$.

7.3 List of localities: corresponding number in the table, relevé No., coordinates (in Gauss-Krügger projection), coverage: A – tree layer, B – shrub layer, C – herb layer, D – moss layer, S – stoniness

Table 5. ***Omphalodo-Fagetum*** **var. geogr.** ***Saxifraga cuneifolia adenostyletosum glabrae***

Forest reserve Bukov vrh (Trnovo): **1** (131135) 45,992° N 13,890° E; alt. 1270, exp. N, incl. 30°; A 90%, B 10%, C 50%, D 10%, S 60%; 27.5.1999, leg. I. Dakskobler; **2** (131136) 45,993° N 13,890° E; alt. 1250, exp. N, incl. 25°; A 90%, B 10%, C 60%, D 20%, S 50%; 3.7.2000, leg. I. Dakskobler; **3** (131137) 45,990° N 13,888° E; alt. 1260, exp. SW, incl. 25°; A 90%, B 20%, C 50%, D 10%, S 30%; 3.7.2000, leg. I. Dakskobler; **4** (131138) 45,990° N 13,891° E; alt. 1240, exp. SE, incl. 20°; A 80%, B 40%, C 50%, D 10%, S 20%; 3.7.2000, leg. I. Dakskobler; **5** (131139) 45,991° N 13,887° E; alt. 1250, exp. SW, incl. 20°; A 90%, B 15%, C 50%, D 10%, S 30%; 3.7.2000, leg. I. Dakskobler; **6** (131140) 45,990° N 13,890° E; alt. 1270, exp. N, incl. 30°; A 80%, B 1%, C 70%, D 5%, S 40%; 3.7.2000, leg. I. Dakskobler; **7** (202783) 46,989° N 13,886° W; alt. 1280, exp. W, incl. 40°; A 80%, B 10%, C 60%, D 10% S 50%; 5.6.2000, leg. I. Dakskobler; **8** (230619) 45,991° N 13,885° W; alt. 1250, exp. SE, incl. 10°; A 80%, B 5%, C 70%, D 10%, S 20%; 19.6.2002, leg. I. Dakskobler; **9** (230620) 45,992° N 13,888° W; alt. 1280, exp. SW, incl. 35°; A 80%, B 10%, C 50%, D 20%, S 50%; 19.6.2002, leg. I. Dakskobler; **10** (230621); 45,990° N 13,888° W; alt. 1275, exp. W, incl. 25°; A 90%, B 5%, C 60%, D 10%, S 20%; 19.6.2002, leg. I. Dakskobler; **11** (230623) 45,991° N 13,888° W; alt. 1270, exp. SW, incl. 40°; A 80%, B 10%, C 60%, D 20%, S 60%; 19.6.2002, leg. I. Dakskobler; **12** (230624) 45,991° N 13,888° W; alt. 1250, exp. /, incl. /; A 60%, B 60%, C 40%, D 10%, S 20%; 19.6.2002, leg. I. Dakskobler; **13** (230625) 45,990° N 13,887° W; alt. 1240, exp. SW, incl. 25°; A 70%, B 60%, C 50%, D 10%, S 10%; 19.6.2002, leg. I. Dakskobler; **14** (230626) 45,990° N 13,889° W; alt. 1280, exp. /, incl. /; A 90%, B 10%, C 60%, D 5%, S 10%; 19.6.2002, leg. I. Dakskobler; **15** (230627) 45,989° N 13,889° W; alt. 1280, exp. NW, incl. 25°; A 80%, B 30%, C 60%, D 10%, S 20%; 19.6.2002, leg. I. Dakskobler; **16** (230629) 45,989° N 13,888° W; alt. 1260, exp. N, incl. 25°; A 90%, B 5%, C 60%, D 10%, S 30%; 19.6.2002, leg. I. Dakskobler; **17** (230630) 45,989° N 13,887° W; alt. 1280, exp. N, incl. 30°; A 90%, B 5%, C 60%, D 20%, S 40%; 19.6.2002, leg. I. Dakskobler; **18** (230631) 45,991° N 13,889° W; alt. 1300, exp. S, incl. 20°; A 90%, B 5%, C 50%, D 10%, S 30%; 19.6.2002, leg. I. Dakskobler.

Table 6. ***Omphalodo-Fagetum*** **var. geogr.** ***Saxifraga cuneifolia saxifragetosum cuneifoliae***

1 (10111) Predmeja, Cingolca, 45.946° N 13.851° E; alt. 1170 m a.s.l., exp. NE, incl. 50°; A 70%, B 50%, C 70%, D 30%, S 50%; 7.7.2000, leg. B. Surina.; **2** (10112) Predmeja, 45.960° N 13.889° E; alt. 1060 m, exp. NW, incl. 40°; A 60%, B 40%, C 70%, D 40%, S 70%; 7.7.2000, leg. B. Surina. **3** (10113) Predmeja, Ojstrovica, SE from the peak; 45,997° N 13,831° E; alt. 1280, exp. E, incl. 50°; A 70%, B 20%, C 70%, D 20%, S 60%; 8.7.2000, leg. B. Surina; **4** (10114) Predmeja, between Veliki Bukovec peak and Paradana above the road Turški klanec-Paradana (Ledenica); 45,990° N 13,838° E; alt. 1250, exp. SSE, incl. 30°; A 70%, B 30%, C 70%, D 20%, S 60%; 8.7.2000, leg. B. Surina; **5** (10115) Predmeja, Škrbina, by the path Škrbina-Golaki; 45,981° N 13,891° E; alt. 1250, exp. NW, incl. 30°; A 80%, B 20%, C 80%, D 20%, S 30%; 22.6.2000, leg. B. Surina; **6** (10116) Trnovo, Bisaga; 45,983° N 13,818° E; alt. 1190, exp. E, incl. 20°; A 60%, B 50%, C 80%, D 20%, S 20%; 26.7.2000, leg. B. Surina; **7** (10117) Orlevc, Tisovec; 45,961° N 13,932° E; alt. 1040, exp. SW, incl. 20°; A 70%, B 40%, C 80%, D 10%, S 30%; 20.7.2000, leg. B. Surina; **8** (10118) Trnovo, Bisaga; 45,981° N 13,819° E; alt. 1270, exp. N, incl. 45°; A 70%, B 60%, C 70%, D 30%, S 70%; 26.7.2000, leg. B. Surina; **9** (10119) Predmeja, rocky slope above Mala Lazna between Turški klanec and Paradana (Ledenica); 45,988° N 13,836° E; alt. 1230, exp. E, incl. 40°; A 60%, B 40%, C 70%, D 10%, S 70%; 8.7.2000, leg. B. Surina; **10** (10120) Trnovo, Petelinovec; 45,980° N 13,803° E; alt. 1200, exp. NNE, incl. 40°; A 80%, B 20%, C 80%, D 10%, S 20%; 31.5.2000, leg. B. Surina; **11** (10121) Trnovo, Petelinovec; 45,978° N 13,806° E; alt. 1340, exp. N, incl. 40°; A 100%, B 5%, C 80%, D 10%, S 20%; 31.5.2000, leg. B. Surina; **12** (10122) Trnovo, between peaks Kališevi hrib, Petelinovec and Bat; 45,978° N 13,797° E; alt. 1135, exp. NE, incl. 40°; A 80%, B 10%, C 70%, D 10%, S 30%; 31.5.2000, leg. B. Surina; **13** (10123) Trnovo, forest reserve Kališev hrib; 45,982° N 13,790° E; alt. 1035, exp. NNE, incl. 25°; A 80%, B 10%, C 70%, D 10%, S 30%; 30.5.2000, leg. B. Surina; **14** (10124) Trnovo, forest reserve Kališev hrib; 45,980° N 13,790° E; alt. 1075, exp. NE, incl. 25°; A 100%, B 10%, C 80%, D 10%, S 30%; 1.6.2000, leg. B. Surina; **15**

(10150); Predmeja, Škrbina; 45,985° N 13,891° E; alt. 1210, exp. NNW, incl. 25°; A 90%, B 20%, C 90%, D 10%, S 30%; 22.6.2000, leg. B. Surina; **16** (10151) Predmeja, Škrbina; 45,987° N 13,888° E; alt. 1230, exp. /, incl. /; A 100%, B 20%, C 100%, D 1%, S 10%; 22.6.2000, leg. B. Surina; **17** (10153) Lokve, Ilovca; 46,011° N 13,814° E; alt. 1150, exp. NE, incl. 45°; A 100%, B 10%, C 70%, D 10%, S 30%; 20.6.2000, leg. B. Surina; **18** (10154); Predmeja, above Avška Lazna; 45,974° N 13,816° E; alt. 1245, exp. NE, incl. 45°; A 100%, B 10%, C 80%, D 50%, S 20%; 30.5.2000, leg. B. Surina; **19** (22813) Trnovo; alt. 1140, exp. NE, incl. 35°; A 80%, B 20%, C 80%, D 5%, S 30%; June 1979, leg. I. Puncer; **20** (22814) Trnovo; alt. 1150, exp. N, incl. 40°; A 80%, B 20%, C 70%, D 10%, S 30%; June 1979, leg. I. Puncer.

Table 7. ***Omphalodo-Fagetum*** **var. geogr.** ***Saxifraga cuneifolia calamagrostietosum arundinaceae***

1 (10125) Predmeja, Polomov rajda; 45,956° N 13,860° E; alt. 1020, exp. NNE, incl. 25°; A 100%, B 30%, C 40%, D 10% S 30%; 26.6.2000, leg. B. Surina; **2** (10136) Predmeja, Pri studencu, near Golobova jama; 45,949° N 13,812° E; alt. 1210, exp. SSW, incl. 25°; A 70%, B 20%, C 70%, D 10% S 50%; 30.6.2000, leg. B. Surina; **3** (10137) Predmeja, Strgarija, Prevalski vrh; 45,961° N 13,796° E; alt. 1120, exp. SW, incl. 50°; A 70%, B 20%, C 70%, D 10%, S 30%; 4.7.2000, leg. B. Surina; **4** (10139) Lokvem Škol, NW from the peak; 46,025° N 13,800° E; alt. 945, exp. E, incl. 20°; A 100%, B 10%, C 70%, D 10%, S 30%; 9.6.2000, leg. B. Surina; **5** (10140) Lokve, Robotna, between peaks Mali Češevik and Jančerijski vrh; 46,025° N 13,800° E; alt. 1045, exp. /, incl. /; A 100%, B 10%, C 80%, D 10%, S 20%; 9.6.2000, leg. B. Surina; **6** (10141) Predmeja, Vrh dolin; 45,970° N 13,820° E; alt. 1130, exp. SSE, incl. 15°; A 90%, B 20%, C 90%, D 10%, S 20%; 4.7.2000, leg. B. Surina; **7** (10142) Predmeja, Vrh dolin; 45,969° N 13,800° E; alt. 1210, exp. S, incl. 15°; A 90%, B 30%, C 90%, D 10%, S 30%; 4.7.2000, leg. B. Surina; **8** (10143) Predmeja, Polomova rajda towards Mala Lazna; 45,958° N 13,859° E; alt. 980, exp. NNE, incl. 20°; A 90%, B 30%, C 70%, D 20%, S 20%; 26.6.2000, leg. B. Surina; **9** (10144) Predmeja, Petrov hrib, plateau; 45,966° N 13,858° E; alt. 1070, exp. E, incl. 5°; A 90%, B 20%, C 80%, D 10%, S 30%; 27.6.2000, leg. B. Surina; **10** (10145) Predmeja, Nemški hrib; 45,971° N 13,853° E; alt. 1130, exp. E, incl. 25°; A 90%, B 20%, C 80%, D 10%, S 30%; 28.6.2000, leg. B. Surina; **11** (10146) Predmeja, Petrov hrib; 45,962° N 13,855° E; alt. 1060, exp. SE, incl. 15°; A 80%, B 20%, C 40%, D 20%, S 70%; 28.6.2000, leg. B. Surina; **12** (10147) Predmeja, Bevške jame; 45,963° N 13,840° E; alt. 1010, exp. SW, incl. 15°; A 80%, B 30%, C 70%, D 20%, S 30%; 29.6.2000, leg. B. Surina; **13** (10148) Predmeja, Rusa pot, plateau; 45,964° N 13,864° E; alt. 1030, exp. /, incl. /; A 80%, B 30%, C 80%, D 10%, S 20%; 27.6.2000, leg. B. Surina; **14** (10149) Predmeja, Pri jelcah towards Kozarnice; 45,963° N 13,860° E; alt. 1130, exp. /, incl. /; A 90%, B 70%, C 70%, D 40%, S 60%; 27.6.2000, leg. B. Surina; **15** (10152) Predmeja, beneath Ruske barake; 45,953° N 13,865° E; alt. 980, exp. SE, incl. 20°; A 100%, B 20%, C 50%, D 10%, S 1%; 26.6.2000, leg. B. Surina; **16** (10155) Predmeja, Strgarija, S from Prevalski vrh, between Smrečje and Črni vrh; 45,965° N 13,809° E; alt. 1190, exp. NE, incl. 15°; A 80%, B 30%, C 70%, D 10%, S 20%; 4.7.2000, leg. B. Surina; **17** (10156) Lokve, between Ojstrovica and Snežna jama; 45,999° N 13,816° E; alt. 1180, exp. S, incl. 20°; A 80%, B 10%, C 70%, D 30%, S 50%; 20.6.2000, leg. B. Surina; **18** (10157) Predmeja, Mali Golak, SW from the peak; 45,975° N 13,865° E; alt. 1245, exp. SW, incl. 30°; A 100%, B 20%, C 70%, D 20%, S 50%; 22.6.2000, leg. B. Surina; **19** (10158) Predmeja, Mali Golak, Paradana; 45,983° N 13,848° E; alt. 1135, exp. NNW, incl. 5°; A 100%, B 10%, C 80%, D 20%, S 40%; 23.6.2000, leg. B. Surina; **20** (10159) Predmeja, Kozarnice; 45,971° N 13,863° E; alt. 1080, exp. S, incl. 10°; A 80%, B 30%, C 80%, D 20%, S 40%; 27.6.2000, leg. B. Surina; **21** (10160) Lokve, between Snežna jama and Ojstrovica; 45,005° N 13,816° E; alt. 1160, exp. SW, incl. 45°; A 70%, B 20%, C 40%, D 10%, S 60%; 20.6.2000, leg. B. Surina; **22** (10173) Predmeja, Smrečje, Mali Črmenjak; 45,955° N 13,828° E; alt. 1240, exp. S, incl. 20°; A 90%, B 10%, C 70%, D 10%, S 30%; 6.7.2000, leg. B. Surina; **23** (10175) Predmeja, plateau between Bevške jame and Bevški vrh; 45,958° N 13,846° E; alt. 1210, exp. /, incl. /; A 90%, B 30%, C 70%, D 20%, S 30%; 29.6.2000, leg. B. Surina; **24** (10176) Predmeja, Pri studencu; 45,948° N 13,817° E; alt. 1090, exp. SW, incl. 40°; A 90%, B 10%, C 70%, D 10%, S 30%; 30.6.2000, leg. B. Surina; **25** (10177) Predmeja, Selovec, Gojaške jame; 45,941° N 13,809° E; alt. 1150, exp. NE, incl. 20°; A 70%, B 30%, C 70%, D 20%, S 40%; 5.7.2000, leg. B. Surina; **26** (10178) Predmeja, Čaven, Za Gracem; 45,938° N 13,800° E; alt. 1100, exp. N, incl. 30°; A 70%, B 20%, C 80%, D 20%, S 40%; 5.7.2000, leg. B. Suri-

na; **27** (10179) Predmeja, Njivica, Kucelj; 45,942° N 13,796° E; alt. 1160, exp. /, incl. /; A 80%, B 10%, C 90%, D 5%, S 5%; 5.7.2000, leg. B. Surina; **28** (10180) Predmeja, Njivice, Krnica; 45,946° N 13,794° E; alt. 1030, exp. W, incl. 20°; A 90%, B 20%, C 90%, D 5%, S 5%; 5.7.2000, leg. B. Surina; **29** (10182) Predmeja, Rusa pot; 45,959° N 13,863° E; alt. 990, exp. SE, incl. 15°; A 80%, B 30%, C 80%, D 10%, S 30%; 27.6.2000, leg. B. Surina; **30** (10183) Predmeja, Petrov hrib; 46,008° N 13,849° E; alt. 1095, exp. SE, incl. 50°; A 70%, B 40%, C 40%, D 40%, S 80%; 29.6.2000, leg. B. Surina; **31** (10185) Predmeja, Njivice, between peaks Javorščak and Jelov hrib; 45,951° N 13,809° E; alt. 1150, exp. N, incl. 5°; A 80%, B 5%, C 80%, D 20%, S 30%; 30.6.2000, leg. B. Surina; **32** (10186) Predmeja, Smrečjem Mali Črmenjak, Pod vratci; 45,955° N 13,822° E; alt. 1140, exp. E, incl. 20°; A 80%, B 10%, C 60%, D 10%, S 30%; 6.7.2000, leg. B. Surina; **33** (10187) Predmeja, between Cingolca, Veliki Črmenjak and Požgane jame; 45,947° N 13,847° E; alt. 1230, exp. SW, incl. 20°; A 90%, B 20%, C 60%, D 20%, S 60%; 7.7.2000, leg. B. Surina; **34** (10194) Predmeja; 45,962° N 13,887° E; alt. 1140, exp. SW, incl. 15°; A 90%, B 40%, C 40%, D 10%, S 30%; 7.7.2000, leg. B. Surina.

Table 8. ***Omphalodo-Fagetum*** **var. geogr.** ***Saxifraga cuneifolia festucetosum altissimae*** **I**

1 (10126) Trnovo, Nemci; 46,005° N 13,775° SE; alt. 910, exp. SE, incl. 15°; A 80%, B 20%, C 80%, D 40%, S 30%; 24.5.2000, leg. B. Surina; **2** (10161) Trnovo, Lokve, Poncala, Na Bajti; 45,999° N 13,805° E; alt. 980, exp. NE, incl. 25°; A 100%, B 10%, C 80%, D 20%, S 20%; 21.6.2000, leg. B. Surina; **3** (10172) Trnovo, Lokve, Ojstrovica, NW flank; 45,994° N 13,819° E; alt. 1160, exp. W, incl. 20°; A 100%, B 5%, C 80%, D 1%, S 5%; 20.6.2000, leg. B. Surina; **4** (10174) Trnovo, Smrečje, rocky slope above Gospodova senožet; 45,959° N 13,828° E; alt. 1210, exp. N, incl. 30°; A 80%, B 50%, C 70%, D 5%, S 20%; 6.7.2000, leg. B. Surina; **5** (10201) Trnovo, Nemci, Brezov hrib, slope; 46,002° N 13,788° E; alt. 915, exp. NNE, incl. 20°; A 100%, B 5%, C 70%, D 5%, S 10%; 8.6.2000, leg. B. Surina; **6** (10202) Trnovo, Nemci, Brezov hrib, plateau; 46,002° N 13,786° E; alt. 900, exp. /, incl. /; A 100%, B 20%, C 70%, D 20%, S 30%; 8.6.2000, leg. B. Surina; **7** (10203) Trnovo, Nemci, Šibrove doline; 46,005° N 13,785° E; alt. 915, exp. N, incl. 5°; A 80%, B 20%, C 100%, D 1%, S 1%; 8.6.2000, leg. B. Surina; **8** (10124) Trnovo, Kališev hrib, Forest reserve Kališev hrib; 45,980° N 13,790° E; alt. 1075, exp. NE, incl. 25°; A 100%, B 10%, C 80%, D 10%, S 30%; 1.6.2000, leg. B. Surina; **9** (10169) Trnovo, Lokve, Poncala, Na Bajti; 45,995° N 13,805° E; alt. 1010, exp. SW, incl. 5°; A 100%, C 90%, D 1%, S 1%; 21.6.2000, leg. B. Surina; **10** (10170) Trnovo, Lokve, Poncala, Na Bajti; 45,996° N 13,808° E; alt. 990, exp. SW, incl. 30°; A 100%, B 1%, C 60%, D 10%, S 20%; 21.6.2000, leg. B. Surina; **11** (10198) Trnovo, Jelov hrib; 45,980° N 13,774° E; alt. 865, exp. W, incl. 25°; A 100%, C 30%, D 10%, S 30%; 1.6.2000, leg. B. Surina; **12** (10205) Trnovo, Mrzovec; 45,984° N 13,806° E; alt. 1180, exp. W, incl. 40°; A 100%, B 10%, C 50%, D 30%, S 50%; 31.5.2000, leg. B. Surina; **13** (10206) Trnovo, Kolovrat, doline; 45,958° N 13,778° E; alt. 945, exp. /, incl. /; A 70%, B 10%, C 50%, D 40%, S 50%; 2.6.2000, leg. B. Surina; **14** (10195) Trnovo, Nemci, Na Dolinah; 46,005° N 13,761° E; alt. 850, exp. SW, incl. 15°; A 100%, C 70%, D 10%, S 30%; 25.5.2000, leg. B. Surina; **15** (10196) Trnovo, Nemci, between Nemci and Dolina; 46,001° N 13,726° E; alt. 820, exp. SW, incl. 20°; A 80%, B 5%, C 50%, D 30%, S 50%; 7.6.2000, leg. B. Surina; **16** (10199) Trnovo, Vratarski hrib, S from the summit; 45,995° N 13,764° E; alt. 790, exp. S, incl. 5°; A 80%, B 10%, C 40%, D 30%, S 30%; 7.6.2000, leg. B. Surina; **17** (10200) Trnovo, Nemci; 45,989° N 13,779° E; alt. 865, exp. S, incl. 5°; A 80%, B 30%, C 100%, D 1%, S 5%; 8.6.2000, leg. B. Surina; **18** (10162) Predmeja, Mali Golak, Strgarija, below the Preval; 45,974° N 13,857° E; alt. 1275, exp. SE, incl. 15°; A 100%, B 30%, C 100%, D 1%, S 1%; 23.6.2000, leg. B. Surina; **19** (10163) Predmeja, between Kališe and Rusa pot; 45,961° N 13,867° E; alt. 1050, exp. W, incl. 15°; A 90%, B 1%, C 80%, D 1%, S 1%; 28.6.2000, leg. B. Surina; **20** (10164) Trnovo, Lokve, Mojski vrh, small doline between Mojski vrh and Velika Ilovca; 46,004° N 13,818° E; alt. 1125, exp. /, incl. /; A 90%, B 10%, C 70%, D 10%, S 30%; 20.6.2000, leg. B. Surina; **21** (10165) Predmeja, Mali Golak, Strgarijski vrh, preval Strgarija; 45,976° N 13,854° E; alt. 1217, exp. N, incl. 25°; A 100%, B 20%, C 80%, D 1%, S 5%; 22.6.2000, leg. B. Surina; **22** (10166) Trnovo, Petelinovec; 45,983° N 13,804° E; alt. 1130, exp. /, incl. /; A 80%, B 10%, C 40%, D 30%, S 60%; 31.5.2000, leg. B. Surina; **23** (10167) Predmeja, Mali Golak, Paradana; 45,980° N 13,851° E; alt. 1270, exp. NW, incl. 30°; A 90%, B 10%, C 40%, D 30%, S 60%; 23.6.2000, leg. B. Surina; **24** (10168) Trnovo, Smrečje, Prevalski hrib; 45,957° N 13,810° E; alt. 1070, exp. N, incl. 15°; A 100%, B 20%, C 70%, D 20%, S 50%; 6.7.2000, leg. B.

Surina; **25** (10171) Predmeja, Nagnovec; 45,968° N 13,838° E; alt. 1040, exp. SE, incl. 20°; A 80%, B 10%, C 30%, D 50%, S 70%; 29.6.2000, leg. B. Surina.

Table 9. ***Omphalodo-Fagetum*** **var. geogr.** ***Saxifraga cuneifolia festucetosum altissimae 2***

1 (10127) Trnovo, Vratarski hrib; 45,992° N 13,760° E; alt. 810, exp. /, incl. /; A 70%, B 20%, C 40%, D 40%, S 70%; 7.6.2000, leg. B. Surina; **2** (22794) Trnovo, Nemci; alt. 860, exp. NW, incl. 10°; A 70%, B 10%, C 90%, D 40%, S 70%; August 1979; leg. I. Puncer; **3** (22795) Trnovo, Nemci; alt. 850, exp. NW, incl. 10°; A 80%, B 20%, C 60%, D 40%, S 50%; August 1979; leg. I. Puncer; **4** (22798) Trnovo, Nemci; alt. 880, exp. NW, incl. 30°; A 90%, B 20%, C 30%, D 60%, S 80%; August 1979; leg. I. Puncer; **5** (10181) Predmeja, Rusa pot; 45,959° N 13,863° E; alt. 990, exp. SE, incl. 15°; A 80%, B 30%, C 80%, D 10%, S 60%; 27.6.2000, leg. B. Surina; **6** (10184) Predmeja, Bevške jame; 45,963° N 13,845° E; alt. 1150, exp. SSW, incl. 30°; A 90%, B 40%, C 50%, D 20%, S 70%; 29.6.2000, leg. B. Surina; **7** (22785) Trnovo, Nemci; alt. 850, exp. N, incl. 5°; A 90%, C 40%, D 5%, S 5%; August 1979; leg. I. Puncer; **8** (22809) Predmeja; alt. 1050, exp. E, incl. 5°; A 90%, B 5%, C 40%, D 5%, S 10%; August 1979; leg. I. Puncer; **9** (22796) Trnovo, Lokve; alt. 1150, exp. W, incl. 30°; A 90%, B 5%, C 60%, D 10%, S 50%; July 1979; leg. I. Puncer; **10** (22797) Trnovo, Lokve; alt. 1030, exp. N, incl. 20°; A 80%, B 10%, C 50%, D 20%, S 60%; July 1979; leg. I. Puncer; **11** (224115) Predmeja, Voglarji, Zavrh; 46,006° N 13,748° E; alt. 790, exp. W, incl. 20°; A 80%, B 5%, C 60%, D 30%, S 30%; 15.6.2010; leg. I. Dakskobler; **12** (22800) Predmeja; alt. 1080, exp. SW, incl. 10°; A 80%, B 5%, C 60%, D 30%, S 60%; August 1979; leg. I. Puncer; **13** (22803) Predmeja; alt. 1020, exp. SE, incl. 10°; A 90%, B 5%, C 50%, D 20%, S 50%; August 1979; leg. I. Puncer; **14** (22805) Predmeja; alt. 1040, exp. S, incl. 10°; A 90%, B 5%, C 60%, D 20%, S 60%; August 1979; leg. I. Puncer; **15** (22806) Predmeja; alt. 1070, exp. S, incl. 5°; A 80%, C 50%, D 30%, S 70%; August 1979; leg. I. Puncer; **16** (22801) Predmeja; alt. 1070, exp. S, incl. 10°; A 70%, B 10%, C 50%, D 40%, S 70%; August 1979; leg. I. Puncer; **17** (22802) Predmeja; alt. 1050, exp. S, incl. 5°; A 80%, B 10%, C 60%, D 40%, S 60%; August 1979; leg. I. Puncer; **18** (22786) Trnovo, Nemci; alt. 860, exp. S, incl. 5°; A 90%, B 10%, C 50%, D 5%, S 10%; August 1979; leg. I. Puncer; **19** (22787) Predmeja; alt. 1080, exp. NW, incl. 5°; A 70%, B 10%, C 50%, S 5%; June 1979; leg. I. Puncer; **20** (22791) Trnovo; alt. 1000, exp. NW, incl. 5°; A 90%, B 5%, C 90%, D 5%; July 1979; leg. I. Puncer; **21** (22792) Trnovo; alt. 1030, exp. SW, incl. 5°; A 80%, B 10%, C 90%, D 10%, S 5%; July 1979; leg. I. Puncer; **22** (22793) Predmeja; alt. 1220, exp. NE, incl. 10°; A 80%, B 10%, C 90%, S 10%; June 1979; leg. I. Puncer; **23** (22808) Predmeja; alt. 1200, exp. NE, incl. 5°; A 80%, C 70%, D 5%, S 10%; June 1979; leg. I. Puncer; **24** (22799) Predmeja; alt. 1060, exp. S, incl. 5°; A 80%, B 10%, C 80%, D 10%, S 10%; August 1979; leg. I. Puncer; **25** (22810) Predmeja; alt. 1060, exp. S, incl. 5°; A 90%, B 10%, C 50%, D 10%, S 10%; August 1979; leg. I. Puncer; **26** (22811) Predmeja; alt. 1040, exp. /, incl. /; A 90%, C 80%, D 5%; August 1979; leg. I. Puncer; **27** (22812) Predmeja; alt. 1020, exp. /, incl. /; A 80%, B 10%, C 50%, D 10%, S 5%; August 1979; leg. I. Puncer.

Table 10. ***Omphalodo-Fagetum*** **var. geogr.** ***Saxifraga cuneifolia stellarietosum montanae***

1 (10207) Trnovo, Nemci, Na dolinah; 46,007° N 13,769° E; alt. 880, exp. S, incl. 20°; A 90%, B 20%, C 50%, D 10%, S 20%; 24.5.2000, leg. B. Surina; **2** (10208) Trnovo, Nemci, doline between peaks Bezgov & Markov hrib; 46,011° N 13,758° E; alt. 800, exp. /, incl. /; A 80%, B 80%, C 60%, D 40%, S 40%; 25.5.2000, leg. B. Surina; **3** (10209) Trnovo, Nemci, Na dolinah; 46,007° N 13,769° E; alt. 870, exp. S, incl. 15°; A 70%, B 90%, C 90%, D 1%, S 1%; 24.5.2000, leg. B. Surina; **4** (10210) Trnovo, Nemci, NW from Strgarija; 45,996° N 13,787° E; alt. 900, exp. /, incl. /; A 70%, B 30%, C 100%, D 50%, S 50%; 7.6.2000, leg. B. Surina; **5** (10211) Trnovo, Nemci, Šibrove doline; 46,005° N 13,779° E; alt. 880, exp. /, incl. /; A 60%, B 30%, C 100%, D 10%; 8.6.2000, leg. B. Surina; **6** (10212) Trnovo, Strgarija; 45,988° N 13,794° E; alt. 1030, exp. /, incl. /; A 60%, B 50%, C 90%, D 10%, S 20%; 21.6.2000, leg. B. Surina; **7** (10213) Lokve, Mali Češevik; 46,019° N 13,808° E; alt. 1040, exp. /, incl. /; A 100%, B 5%, C 100%, D 1%, S 5%; 9.6.2000, leg. B. Surina; **8** (10214) Predmeja, Pri jelcah; 45,965° N 13,860° E; alt. 1000, exp. /, incl. /; A 50%, B 30%, C 100%, D 10%, S 10%; 27.6.2000, leg. B. Surina; **9** (10215) Trnovo, Nemci, Na dolinah; 46,007° N 13,760° E; alt. 820, exp. /, incl. /; A 100%, B 1%, C 80%, D 5%, S 10%; 25.5.2000, leg. B. Surina; **10** (10216) Trnovo, Nemci between Kamni breg & Medvedji vrh; 45,986° N 13,761° E; alt. 800, exp. /, incl. /; A 90%, B 10%, C 100%, D 10%; 7.6.2000, leg. B. Surina; **11** (22788) Trnovo,

Nemci; alt. 840, exp. /, incl. /; A 50%, B 30%, C 100%, D 40%, S 10%; August 1979, leg. I. Puncer; **12** (22789) Trnovo, Lokve, Turški klanec; 45,994° N 13,812° E; alt. 970, exp. /, incl. /; A 60%, B 10%, C 100%, D 20%, S 10%; July 1979, leg. I. Puncer; **13** (22790) Trnovo, Lokve, Turški klanec; 45,995° N 13,816° E; alt. 980, exp. N, incl. 15°; A 60%, B 10%, C 100%, D 10%, S 10%; July 1979, leg. I. Puncer; **14** (131123) Trnovo, Čepovan, Čepovanska reber; 46,037° N 13,799° E; alt. 880, exp. W, incl. 35°; A 90%, B 10%, C 70%, D 10%, S 50%; 4.5.2000, leg. I. Dakskobler; **15** (131124) Trnovo, Čepovan, Čepovanska reber; 46,035° N 13,798° E; alt. 950, exp. NW, incl. 30°; A 80%, B 10%, C 70%, D 10%, S 40%; 4.5.2000, leg. I. Dakskobler; **16** (131125) Trnovo, Čepovan, Čepovanska reber; 46,037° N 13,801° E; alt. 970, exp. W, incl. 35°; A 80%, B 20%, C 70%, D 20%, S 50%; 4.5.2000, leg. I. Dakskobler; **17** (131126) Trnovo, Čepovan, Čepovanska reber; 46,030° N 13,798° E; alt. 1050, exp. NW, incl. 30°; A 80%, B 10%, C 70%, D 10%, S 40%; 4.5.2000, leg. I. Dakskobler; **18** (131127) Trnovo, Čepovan, Čepovanska reber; 46,039° N 13,803° E; alt. 970, exp. NW, incl. 30°; A 80%, B 10%, C 70%, D 10%, S 40%; 4.5.2000, leg. I. Dakskobler; **19** (131129) Trnovo, Čepovan, Čepovanska reber; 46,043° N 13,808° E; alt. 1000, exp. NW, incl. 30°; A 90%, B 20%, C 70%, D 20%, S 70%; 4.5.2000, leg. I. Dakskobler; **20** (131130) Trnovo, Čepovan, Čepovanska reber; 46,037° N 13,803° E; alt. 1040, exp. NW, incl. 30°; A 80%, B 10%, C 80%, D 20%, S 70%; 4.5.2000, leg. I. Dakskobler; **21** (131131) Trnovo, Čepovan, Čepovanska reber; 46,025° N 13,795° E; alt. 1100, exp. SW, incl. 30°; A 90%, B 5%, C 70%, D 10%, S 40%; 6.6.2000, leg. I. Dakskobler.

Table 11. ***Omphalodo-Fagetum*** **var. geogr.** ***Saxifraga cuneifolia calamagrostietosum variae***

1 (131132) Idrija, Kendov vrh; alt. 1030, exp. E, incl. 35°; A 90%, B 10%, C 50%, D 10%, S 30%; 27.5.1999, leg. I. Dakskobler; **2** (131133) Idrija, Zgornja Idrijca, Bedrova grapa; alt. 970, exp. NE, incl. 35°; A 80%, B 10%, C 50%, D 10%, S 20%; 29.6.1999, leg. I. Dakskobler; **3** (131134) Idrija, Zgornja Idrijca, Bedrova grapa; alt. 1030, exp. NE, incl. 35°; A 80%, B 20%, C 60%, D 10%, S 20%; 29.6.1999, leg. I. Dakskobler; **4** (217948) Idrija, Govci, Ipavšek, under the Zeleni rob; 45,997° N 13,876° E; alt. 960, exp. NE, incl. 40°; A 80%, B 5%, C 50%, D 10%, S 20%; 9.7.2007, leg. I. Dakskobler; **5** (217955) Idrija, Govci, Ipavšek, under the Zeleni rob; 45,997° N 13,876° E; alt. 940, exp. NE, incl. 35°; A 80%, B 40%, C 10%, S 20%; 9.7.2007, leg. I. Dakskobler; **6** (217956) Idrija, Govci, Ipavšek, under the Zeleni rob; 45,996° N 13,877° E; alt. 1000, exp. NE, incl. 30°; A 90%, B 40%, C 10%, S 20%; 9.7.2007, leg. I. Dakskobler; **7** (217957) Idrija, Govci, Ipavšek, under the Zeleni rob; 45,994° N 13,874° E; alt. 1200, exp. E, incl. 45°; A 90%, B 10%, C 50%, D 20%, S 30%; 9.7.2007, leg. I. Dakskobler; **8** (217992) Idrija, Črna draga, above Belca; 45,981° N 13,918° E; alt. 870, exp. SW, incl. 30°; A 70%, B 20%, C 50%, D 5%, S 20%; 8.5.2007, leg. I. Dakskobler; **9** (217993) Idrija, Črna draga, above Belca; 45,982° N 13,918° E; alt. 900, exp. SW, incl. 35°; A 80%, B 30%, C 60%, D 5%, S 30%; 8.5.2007, leg. I. Dakskobler; **10** (217994) Idrija, Črna draga, above Belca; 45,983° N 13,917° E; alt. 940, exp. SW, incl. 40°; A 80%, B 30%, C 60%, D 5%, S 40%; 8.5.2007, leg. I. Dakskobler; **11** (217995); Idrija, Črna draga, above Belca; 45,983° N 13,917° E; alt. 960, exp. SW, incl. 35°; A 90%, B 20%, C 60%, D 5%, S 20%; 8.5.2007, leg. I. Dakskobler; **12** (217996) Idrija, Črna draga, under Gnelice; 45,983° N 13,917° E; alt. 980, exp. SW, incl. 40°; A 80%, B 20%, C 60%, D 5%, S 20%; 8.5.2007, leg. I. Dakskobler; **13** (217997) Idrija, Črna draga, under Gnelice; 45,983° N 13,917° E; alt. 980, exp. SE, incl. 35°; A 90%, B 10%, C 70%, D 5%, S 30%; 8.5.2007, leg. I. Dakskobler; **14** (218003) Idrija, Črna draga, Belca, above Putrihove klavže; 45,976° N 13,927° E; alt. 680, exp. S, incl. 35°; A 80%, B 10%, C 50%, D 5%, S 10%; 8.5.2007, leg. I. Dakskobler; **15** (230609) Idrija, Gorenja Kanomlja, V Studencu; 46,039° N 13,912° E; alt. 830, exp. NE, incl. 35°; A 80%, B 30%, C 50%, D 10%, S 25%; 13.5.2005, leg. I. Dakskobler; **16** (230612) Idrija, Gorenja Kanomlja, V Studencu; 46,040° N 13,908° E; alt. 870, exp. NE, incl. 35°; A 70%, B 10%, C 50%, D 10%, S 20%; 14.7.2004, leg. I. Dakskobler; **17** (230613) Idrija, Vojsko, near Log; 46,037° N 13,907° E; alt. 1070, exp. W, incl. 20°; A 90%, B 10%, C 30%, D 10%, S 30%; 14.7.2004, leg. I. Dakskobler;

Table 12. ***Omphalodo-Fagetum*** **var. geogr.** ***Saxifraga cuneifolia seslerietosum autumnalis***

1 (10128) Trnovo, Kamni breg; 45,987° N 13,771° E; alt. 865, exp. E, incl. 15°; A 80%, B 10%, C 80%, D 5%, S 10%; 1.6.2000, leg. B. Surina; **2** (10129) Trnovo, Kopica; 45,976° N 13,784° E; alt. 1010, exp. W, incl. 20°; A 100%, B 30%, C 10%, D 5%, S 5%; 1.6.2000, leg. B. Surina; **3** (10130) Trnovo, Kopica; 45,971° N 13,783° E; alt. 1000, exp. SSW, incl. 15°; A 90%, B 40%, C 100%, D 5%,

S 5%; 1.6.2000, leg. B. Surina; **4** (10197) Trnovo, Nemci, between peaks Bezgov & Markov hrib; 46,011° N 13,758° E; alt. 830, exp. S, incl. 25°; A 90%, B 10%, C 50%, D 30%, S 60%; 25.5.2000, leg. B. Surina; **5** (22780) Trnovo; alt. 890, exp. W, incl. 10°; A 100%, B 5%, C 60%, D 20%, S 40%; June 1979, leg. I. Puncer; **6** (22778) Trnovo, Nemci; alt. 900, exp. S, incl. 20°; A 90%, B 10%, C 70%, D 10%, S 30%; June 1979, leg. I. Puncer; **7** (22779) Trnovo; alt. 880, exp. SW, incl. 10°; A 90%, B 5%, C 40%, D 30%, S 50%; June 1979, leg. I. Puncer; **8** (22777) Trnovo, Nemci; alt. 880, exp. SW, incl. 10°; A 90%, B 10%, C 70%, D 10%, S 30%; June 1979, leg. I. Puncer; **9** (22781) Trnovo; alt. 860, exp. S, incl. 20°; A 80%, B 10%, C 90%, D 10%, S 30%; June 1979, leg. I. Puncer; **10** (22782) Trnovo; alt. 920, exp. W, incl. 15°; A 90%, B 20%, C 90%, D 5%, S 20%; June 1979, leg. I. Puncer; **11** (10131) Predmeja, Krnica, Kucelj; 45,944° N 13,800° E; alt. 1070, exp. SE, incl. 20°; A 100%, B 20%, C 90%, D 10%, S 20%; 5.7.2000, leg. B. Surina; **12** (10132) Trnovo, Jančerijski vrh; 45,956° N 13,779° E; alt. 1000, exp. WSW, incl. 10°; A 100%, B 10%, C 70%, D 20%, S 30%; 2.6.2000, leg. B. Surina; **13** (10133) Trnovo, Korenina; 45,952° N 13,778° E; alt. 985, exp. NW, incl. 25°; A 100%, B 20%, C 60%, D 30%, S 40%; 2.6.2000, leg. B. Surina; **14** (10134) Trnovo, Kolovrat; 45,959° N 13,776° E; alt. 1010, exp. W, incl. 20°; A 80%, B 10%, C 70%, D 20%, S 40%; 2.6.2000, leg. B. Surina; **15** (10135) Trnovo, Kolovrat; 45,962° N 13,786° E; alt. 955, exp. S, incl. 15°; A 100%, B 10%, C 70%, D 20%, S 40%; 5.7.2000, leg. B. Surina; **16** (10138) Trnovo, Njivica, Krnica; 45,946° N 13,799° E; alt. 1120, exp. SW, incl. 25°; A 90%, B 5%, C 100%, D 1%, S 10%; 5.7.2000, leg. B. Surina.

Table 13. ***Omphalodo-Fagetum*** **var. geogr.** ***Calamintha grandiflora sambucetosum nigrae***

1 (10188) Idrija, Tisovec, below Nemškarica; 45,954° N 13,946° E; alt. 850, exp. E, incl. 20°; A 90%, B 30%, C 80%, D 10%, S 20%; 18.7.2000, leg. B. Surina; **2** (10192) Idrija, Orlevc; 45,958° N 13,936° E; alt. 1000, exp. NE, incl. 20°; A 90%, B 60%, C 90%, D 10%, S 20%; 20.7.2000, leg. B. Surina; **3** (10193) Idrija, Tisovec, above Belca, NW from Borfove doline; 45,948° N 13,963° E; alt. 800, exp. E, incl. 15°; A 80%, B 50%, C 70%, D 10%, S 20%; 18.7.2000, leg. B. Surina; **4** (10189) Idrija, Tisovec, Pri Magazinu, towards Borfova dolina; 45,942° N 13,966° E; alt. 860, exp. W, incl. 25°; A 80%, B 50%, C 70%, D 5%, S 10%; 18.7.2000, leg. B. Surina; **5** (10190) Idrija, Tisovec; 45,947° N 13,958° E; alt. 840, exp. NNE, incl. 20°; A 80%, B 60%, C 80%, D 10%, S 10%; 19.7.2000, leg. B. Surina; **6** (10191) Idrija, Tisovec; 45,951° N 13,957° E; alt. 850, exp. N, incl. 20°; A 100%, B 40%, C 90%, D 5%, S 5%; 19.7.2000, leg. B. Surina.

Table 14. ***Omphalodo-Fagetum*** **var. geogr.** ***Calamintha grandiflora asaretosum europaei***

1 (230602) Idrija, Šebreljski vrh, above Sjavnica and Močnik; 46,067° N 13,939° E; alt. 640, exp. NE, incl. 30°; A 90%, B 10%, C 40%, D 5%, S 10%; 2.8.2002, leg. I. Dakskobler; **2** (230603) Idrija, Šebreljski vrh, above Sjavnica and Močnik; 46,061° N 13,939° E; alt. 800, exp. E, incl. 35°; A 80%, B 20%, C 40%, D 10%, S 20%; 2.8.2002, leg. I. Dakskobler; **3** (230604) Idrija, Šebreljski vrh, above Sjavnica and Močnik; 46,062° N 13,942° E; alt. 660, exp. E, incl. 35°; A 90%, B 10%, C 60%, D 5%, S 10%; 2.8.2002, leg. I. Dakskobler; **4** (230605) Idrija, Šebreljski vrh, above Sjavnica and Močnik; 46,064° N 13,941° E; alt. 650, exp. NE, incl. 30°; A 90%, B 10%, C 50%, D 5%, S 10%; 2.8.2002, leg. I. Dakskobler; **5** (230606) Idrija, Šebreljski vrh, above Sjavnica and Močnik; 46,065° N 13,940° E; alt. 660, exp. NE, incl. 35°; A 90%, B 10%, C 40%, D 10%, S 30%; 2.8.2002, leg. I. Dakskobler; **6** (230607) Idrija, Gorenja Kanomlja, V Studencu, under Hum; 46,044° N 13,915° E; alt. 700, exp. NW, incl. 35°; A 90%, B 10%, C 60%, D 20%, S 30%; 13.5.2005, leg. I. Dakskobler; **7** (230608) Idrija, Gorenja Kanomlja, V Studencu, under Hum; 46,043° N 13,914° E; alt. 700, exp. SW, incl. 30°; A 90%, B 10%, C 60%, D 5%, S 30%; 13.5.2005, leg. I. Dakskobler; **8** (230611) Idrija, Gorenja Kanomlja, V Studencu, under Hum; 46,047° N 13,918° E; alt. 640, exp. NW, incl. 30°; A 80%, B 10%, C 60%, D 5%, S 10%; 14.7.2004, leg. I. Dakskobler.

7.4 Syntaxonomic units (and synonyms) with complete names mentioned in the article:

Amelanchiero ovalis-Ostryetum Poldini 1982, *Aremonio-Fagion* (Horvat 1938) Borhidi in Török, Podani et Borhidi 1989, *Arunco-Fagetum* Ž. Košir 1962, *Asplenietea trichomanis* Br.-Bl. in Meier & Br.-Bl. 1934, *Elyno-Seslerietea* Br.-Bl. 1948, *Erico-Pinetea* Horvat 1959, *Fagetalia sylvaticae* Pawl. 1928, *Fraxino orni-Pinetum nigrae* Martin-Bosse 1967, *Hacquetio-Fagetum* Ž. Košir (1962) 1979, *Hacquetio-Piceetum* (Zupančič 1980) 1999, *Homogyno sylvestris-Fagetum* Marinček & al. 1993,

Lamio orvalae-Fagetum (Horvat 1938) Borhidi 1963, *Lonicero caeruleae-Piceetum* (Zupančič 1980) 1999, *Mulgedio-Aconitetea* Hadač & Klika in Klika & Hadač 1944, *Omphalodo-Fagetum* (Tregubov 1957 corr. Puncer 1980) Marinček & al. 1993 var. geogr. *Calamintha grandiflora* Surina 2002 (=*Fagetum croaticum australe abietetosum* Horvat 1938; *Abieti-Fagetum dinaricum* Tregubov 1957; *Fago-Abietetum omphalodetosum* Trinajstić 2007 nom. ileg.) *aceretosum pseudoplatani* Puncer 1980, *Omphalodo-Fagetum* (Tregubov 1957 corr. Puncer 1980) Marinček & al. 1993 var. geogr. *Saxifraga cuneifolia* Surina 2002 (=*Abieti-Fagetum austroalpinum* Puncer 1979 nom. prov.) *rhododendretosum hirsuti* Dakskobler & al. 2000, *Ostryo-Fagetum* M. Wraber ex Trinajstić 1972, *Polysticho lonchitis-Fagetum* (Horvat 1938) Marinček in Poldini & Nardini 1993 var. geogr. *Allium victorialis* Marinček 1996, *Quercetalia pubescentis* Klika 1933, *Quercо-Fagetea* Br.-Bl. & Vlieg. 1933, *Ranunculo plataniifolii-Fagetum* Marinček et al. 1993, *Rhododendro hirsuti-Fagetum* Accetto ex Dakskobler 1998, *Rhododendro hirsuti-Pinetum prostratae* Zöttl 1951, *Ribeso alpini-Piceetum* Zupančič & Accetto 1994, *Seslerio autumnalis-Fagetum* (Horvat 1938) M. Wraber ex Borhidi 1963, *Seslerio autumnalis-Ostryetum* Horvat & Horvatić 1950 corr. Zupančič 1999, *Stellario montanae-Fagetum* (Zupančič 1969) Marinček & al. 1993, *Thlaspietea rotundifolii* Br.-Bl. 1948, *Vaccinio-Piceetea* Br.-Bl. 1939 em. Zupančič 2000.

Table 4: Synoptic table of the lower syntaxa of the association *Omphalodo-Fagetum* in the Trnovski gozd plateau (NW Dinaric Alps).

Tabela 4: Sintezna tabela sintaksonov nižjega ranga asociacije *Omphalodo-Fagetum* v Trnovskem gozdu (severozahodni Dinaridi).

	No. of relevés		1	2	3	4	5	6	7	8	9	10	11
	Lower level syntaxa		rho	ade	sax	cal aru	fes I	fes II	ste	cal var	ses	sam	asa
	Characteristic species of the association *Omphalodo-Fagetum*												
AF	*Cardamine trifolia*	C	$100^{30.6}$	$89^{27.8}$	$80^{25.0}$	$94^{35.6}$	$88^{32.9}$	$96^{31.7}$	$57^{14.8}$	$35^{7.4}$	$94^{24.3}$	$100^{25.0}$	$75^{19.0}$
AF	*Aremonia agrimonoides*	C	$6^{1.4}$	$6^{1.2}$	$20^{4.4}$	$71^{17.3}$	$60^{15.6}$	$81^{18.9}$	$48^{10.6}$	.	$81^{18.1}$	$100^{18.1}$	$25^{6.3}$
AF	*Omphalodes verna*	C	$88^{26.4}$	$6^{0.6}$	$40^{18.3}$	$6^{2.3}$	.	.	$14^{4.8}$	$59^{13.6}$	.	$100^{44.4}$	$88^{23.8}$
AF	*Calamintha grandiflora*	C	.	.	$5^{1.1}$	$6^{1.3}$	.	.	$5^{1.1}$	$6^{1.3}$	.	$100^{20.8}$	$63^{19.0}$
AF	*Rhamnus fallax*	B	.	$6^{0.6}$	.	.	$8^{2.2}$	$7^{2.1}$	$10^{2.1}$	$59^{12.3}$	$13^{2.8}$	.	.
	Diff. sp. for the geographical variant *Saxifraga cuneifolia*												
VP	*Saxifraga cuneifolia*	C	$50^{11.1}$	$6^{1.2}$	$85^{30.0}$	$56^{17.0}$	$32^{9.8}$	$33^{8.2}$	$14^{2.6}$	.	$13^{2.8}$	.	.
AT	*Paederota lutea*	C	$94^{22.9}$	$33^{7.4}$	$40^{18.3}$	.	$4^{0.9}$	.	.	$94^{19.7}$	.	.	.
AT	*Phyteuma scheuchzeri/columnae*	C	$50^{11.8}$	$22^{4.3}$	$20^{5.6}$	$3^{0.7}$	.	.	.	$41^{9.8}$	$19^{4.9}$	.	.
		A	$6^{0.7}$	.	.	.	.	.	.	$35^{6.7}$	.	.	$13^{3.2}$
FS	*Laburnum alpinum*	B	$6^{0.7}$	$28^{6.2}$	$5^{1.1}$	.	.	.	.	$59^{12.4}$	.	.	$13^{3.2}$
		C	.	$11^{3.1}$	$10^{2.2}$	.	.	.	.	$94^{21.6}$	$6^{1.4}$	$17^{2.8}$	$13^{3.2}$
	Diff. sp. for the geographical variant *Calamintha grandiflora*												
AF	*Omphalodes verna*	C	$88^{26.4}$	$6^{0.6}$	$40^{18.3}$	$6^{2.3}$	.	.	$14^{4.8}$	$59^{13.6}$	.	$100^{44.4}$	$88^{23.8}$
AF	*Calamintha grandiflora*	C	.	.	$5^{1.1}$	$6^{1.3}$	.	.	$5^{1.1}$	$6^{1.3}$	.	$100^{20.8}$	$63^{19.0}$
	Differential species for the subassociations												
EP	*Rubus saxatilis*	C	$100^{28.5}$	.	$10^{3.9}$	$6^{1.3}$	$12^{2.7}$	.	$5^{1.6}$	$12^{2.5}$	.	$67^{12.5}$	.
FS	*Aruncus dioicus*	C	$100^{25.7}$	.	$20^{3.9}$	.	.	.	$5^{1.1}$	$29^{6.1}$	.	.	$38^{9.5}$
MA	*Salix appendiculata*	B	$100^{24.3}$	$6^{0.6}$	$35^{7.8}$	$3^{0.7}$	.	.	.	$12^{1.8}$	.	$33^{5.6}$	.
EP	*Rhododendron hirsutum*	B	$94^{58.3}$	$6^{1.2}$	$10^{6.7}$	.	.	.	.	$24^{3.1}$	.	.	.
ES	*Aster bellidiastrum*	C	$88^{22.2}$	$33^{7.4}$	.	.	.	.	.	$12^{1.8}$	.	.	.
ES	*Carex ferruginea*	C	$50^{9.7}$	$22^{4.3}$	$5^{1.1}$	.	.	.	.	$59^{13.5}$	.	.	.
AT	*Valeriana saxatilis*	C	$31^{6.3}$	.	.	.	.	.	.	$6^{0.6}$	.	.	.
AT	*Primula carniolica*	C	$31^{6.3}$	.	.	.	.	.	.	.	.	.	.
TR	*Adenostyles glabra*	C	$100^{24.3}$	$100^{30.9}$	$75^{18.9}$	$94^{28.4}$	$80^{19.1}$	$81^{24.3}$	$33^{7.9}$	$88^{27.1}$	$94^{24.3}$	$17^{2.8}$	.
MA	*Veratrum album*	C	$100^{27.1}$	$100^{24.7}$	$70^{17.8}$	$15^{3.3}$	$32^{8.4}$	$19^{4.5}$	$24^{5.3}$	$24^{6.2}$	$6^{1.4}$	.	.
MA	*Saxifraga rotundifolia*	C	$6^{1.4}$	$44^{10.5}$	.	.	$36^{9.3}$	$4^{0.8}$	$10^{2.6}$	.	.	.	.
VP	*Saxifraga cuneifolia*	C	$50^{11.1}$	$6^{1.2}$	$85^{30.0}$	$56^{17.0}$	$32^{9.8}$	$33^{8.2}$	$14^{2.6}$	.	$13^{2.8}$	.	.

	No. of relevés		1	2	3	4	5	6	7	8	9	10	11
VP	*Calamagrostis arundinacea*	C	$100^{60.4}$	$89^{23.5}$	$95^{63.3}$	$94^{69.3}$	$40^{19.1}$	$67^{29.6}$	$14^{3.2}$	$12^{2.5}$	$88^{27.8}$	$17^{2.8}$	$63^{17.5}$
FS	*Festuca altissima*	C	.	$56^{12.3}$	$35^{12.8}$	$68^{22.9}$	$100^{61.8}$	$100^{35.0}$	$90^{27.5}$	$6^{1.3}$	$63^{18.1}$	$100^{25.0}$	$13^{3.2}$
FS	*Stellaria montana*	C	.	$22^{4.3}$	.	$12^{2.3}$	$68^{21.8}$	$19^{4.1}$	$90^{39.2}$	.	.	$17^{2.8}$	$13^{4.8}$
FS	*Impatiens noli-tangere*	C	.	.	.	$3^{0.3}$	$8^{1.8}$	.	$81^{32.8}$	.	.	.	.
FS	*Adoxa moschatellina*	C	$13^{2.8}$	$22^{5.6}$	$10^{2.2}$	$29^{6.5}$	$36^{7.6}$	$4^{0.8}$	$76^{20.1}$	.	.	.	.
FS	*Arum maculatum*	C	.	.	.	.	$8^{1.8}$	.	$67^{15.9}$	.	.	.	$38^{11.1}$
FS	*Lunaria rediviva*	C	.	.	.	.	.	.	$57^{27.0}$	$6^{0.6}$	.	$17^{2.8}$	.
FS	*Circaea lutetiana*	C	.	$6^{1.9}$	.	.	$4^{0.9}$	.	$52^{11.6}$	.	.	$17^{2.8}$	.
EP	*Calamagrostis varia*	C	$6^{1.4}$	$44^{9.9}$	.	.	.	.	$5^{1.1}$	$100^{28.9}$	.	$50^{8.3}$	.
EP	*Carex alba*	C	.	$17^{3.1}$	.	$3^{0.7}$	.	$4^{0.8}$	.	$71^{20.9}$	.	$17^{2.8}$	$13^{3.2}$
FS	*Polygonatum multiflorum*	C	.	.	.	$6^{1.3}$	$32^{7.6}$	$7^{1.6}$	$38^{8.5}$	$65^{14.2}$	$25^{5.6}$	.	$25^{6.3}$
AF	*Rhamnus fallax*	B	.	$6^{0.6}$	.	.	$8^{2.2}$	$7^{2.1}$	$10^{2.1}$	$59^{12.3}$	$13^{2.8}$	.	.
AF	*Helleborus niger*	C	$50^{13.9}$	$22^{5.6}$	.	.	.	.	.	$53^{15.3}$	.	.	$13^{3.2}$
EP	*Buphthalmum salicifolium*	C	.	.	.	.	.	.	.	$41^{8.6}$	.	.	.
QP	*Sesleria autumnalis*	C	.	.	$10^{5.0}$	.	$4^{0.9}$	$7^{2.9}$	.	.	$100^{77.1}$	.	.
FS	*Lathyrus vernus/vernus*	C	.	.	$15^{3.9}$	$26^{7.2}$	$36^{11.1}$	$4^{1.2}$	$38^{8.5}$	$24^{6.9}$	$81^{20.1}$	.	$38^{9.5}$
FS	*Lathyrus vernus/flaccidus*	C	.	.	$15^{3.3}$	$24^{6.2}$	$8^{1.8}$	.	.	.	$50^{12.5}$	.	.
FS	*Sambucus nigra*	B	.	.	$25^{5.6}$	$59^{13.4}$	$52^{12.0}$	$22^{5.3}$	$81^{23.8}$	$12^{2.5}$	$44^{9.7}$	$100^{20.8}$	$50^{14.3}$
		A	.	.	.	.	.	.	$5^{1.1}$	.	$6^{1.4}$	.	.
FS	*Tilia platyphyllos*	B	.	.	.	.	$4^{0.9}$	.	$14^{3.2}$	.	$19^{4.2}$	$50^{8.3}$	.
		C	.	.	.	.	.	.	$5^{1.1}$	.	.	$17^{2.8}$	.
FS	*Asarum europaeum/caucasicum*	C	.	.	.	$3^{0.7}$	.	.	.	$12^{2.5}$	$6^{1.4}$	.	$100^{36.5}$
FS	*Pulmonaria officinalis*	C	.	.	.	$3^{0.7}$	.	.	.	$6^{1.3}$	.	.	$100^{31.7}$
		A	.	.	.	.	.	.	$10^{1.1}$	$6^{1.3}$	.	$17^{2.8}$	$88^{34.9}$
FS	*Ulmus glabra*	B	.	.	.	.	.	.	.	$6^{1.3}$	$6^{1.4}$	$17^{4.2}$	$50^{14.3}$
		C	.	.	.	.	.	.	.	$12^{2.5}$	.	$17^{4.2}$	$88^{23.8}$
FS	*Symphytum tuberosum*	C	$13^{2.8}$	$28^{6.8}$	.	$3^{0.7}$	.	$4^{0.8}$	$33^{8.5}$	$18^{3.8}$	$6^{1.4}$	.	$88^{28.6}$
FS	*Petasites albus*	C	.	.	.	.	.	.	.	$6^{1.2}$	.	$17^{2.8}$	$75^{30.2}$
QF	*Hedera helix*	C	.	.	.	.	.	$4^{0.8}$	.	.	.	.	$75^{20.6}$
		A	.	.	.	.	.	.	.	.	.	.	$38^{6.3}$
QP	*Fraxinus ornus*	B	.	.	.	.	$8^{1.3}$	.	$5^{1.1}$	.	$25^{5.6}$	.	$25^{6.3}$
		C	.	.	.	.	.	.	.	$41^{8.0}$	.	.	$63^{17.5}$
FS	*Prunus avium*	A	.	.	.	.	.	.	.	.	.	.	$63^{14.3}$
		C	.	.	.	.	.	.	.	$6^{1.2}$	.	.	$38^{9.5}$
AF	***Aremonio-Fagion***		7	10	9	10	8	9	10	13	11	9	14
	Cardamine trifolia	C	$100^{30.6}$	$89^{27.8}$	$80^{25.0}$	$94^{35.6}$	$88^{32.9}$	$96^{31.7}$	$57^{14.8}$	$35^{7.4}$	$94^{24.3}$	$100^{25.0}$	$75^{19.0}$
	Aremonia agrimonoides	C	$6^{1.4}$	$6^{1.2}$	$20^{4.4}$	$71^{17.3}$	$60^{15.6}$	$81^{18.9}$	$48^{10.6}$	.	$81^{18.1}$	$100^{18.1}$	$25^{6.3}$
	Cardamine enneaphyllos	C	$100^{31.3}$	$94^{30.9}$	$80^{23.3}$	$85^{30.1}$	$88^{40.4}$	$59^{15.6}$	$90^{31.7}$	$88^{29.0}$	$88^{32.6}$	$83^{15.3}$	$13^{3.2}$
	Cyclamen purpurascens	C	$25^{4.9}$	$56^{13.0}$	$50^{12.2}$	$50^{15.4}$	.	$4^{0.8}$	.	$88^{23.4}$	$69^{18.1}$	$83^{19.4}$	$63^{17.5}$
	Euphorbia carniolica	C	$81^{18.8}$	$17^{3.7}$	$15^{3.3}$	.	$8^{1.8}$	.	.	$41^{8.7}$	.	$83^{15.3}$	$13^{3.2}$
	Lamium orvala	C	.	.	$10^{2.2}$	$12^{4.6}$	$48^{16.9}$	$15^{3.7}$	$81^{28.0}$	$24^{6.3}$	$81^{18.1}$	$50^{9.7}$	$100^{42.9}$
	Omphalodes verna	C	$88^{26.4}$	$6^{0.6}$	$40^{18.3}$	$6^{2.3}$	.	.	$14^{4.8}$	$59^{13.6}$	.	$100^{44.4}$	$88^{23.8}$
	Anemone trifolia	C	.	.	$5^{1.7}$	$6^{1.3}$	$12^{3.6}$	$4^{0.8}$	$33^{8.5}$	$6^{1.8}$	$56^{16.7}$	.	.
	Calamintha grandiflora	C	.	.	$5^{1.1}$	$6^{1.3}$	.	.	$5^{1.1}$	$6^{1.3}$	.	$100^{20.8}$	$63^{19.0}$
	Rhamnus fallax	B	.	$6^{0.6}$	.	.	$8^{2.2}$	$7^{2.1}$	$10^{2.1}$	$59^{12.3}$	$13^{2.8}$	.	.
	Helleborus niger	C	$50^{13.9}$	$22^{5.6}$	.	.	.	.	.	$53^{15.3}$	.	.	$13^{3.2}$
	Hacquetia epipactis	C	.	$6^{1.9}$	.	.	.	.	.	$12^{3.7}$	.	$17^{2.8}$	$25^{6.3}$
	Knautia drymeia	C	.	.	.	.	.	.	.	$18^{3.7}$	.	.	$13^{3.2}$
	Scopolia carniolica	C	.	.	.	.	.	.	$10^{3.7}$	$29^{8.1}$	.	.	$38^{11.1}$
	Helleborus odorus	C	.	.	.	$3^{0.7}$	.	.	.	.	$6^{1.4}$	.	.
	Polystichum setiferum	C	.	.	.	.	.	.	$24^{4.8}$	.	.	.	$25^{6.3}$
	Vicia oroboides	C	.	.	.	.	.	$11^{2.5}$	.	.	$13^{2.8}$	.	.

	No. of relevés		1	2	3	4	5	6	7	8	9	10	11
	Daphne laureola	B	.	.	.	.	.	.	.	.	.	.	$100^{28.6}$
	Geranium nodosum	C	.	.	.	.	.	.	$5^{2.6}$	.	.	.	.
FS	***Fagetalia sylvaticae***		32	48 594	41 433	51 561	52 646	45 357	64 862	55 630	44 490	47 550	68 1019
		A	$100^{84.0}$	$100^{95.7}$	$100^{67.8}$	$100^{69.6}$	$100^{78.2}$	$100^{60.5}$	$100^{77.8}$	$100^{87.5}$	$100^{72.9}$	$100^{56.9}$	$100^{79.4}$
	Fagus sylvatica	B	$100^{31.9}$	$100^{34.6}$	$70^{30.6}$	$100^{47.1}$	$72^{28.0}$	$93^{25.1}$	$95^{30.7}$	$100^{37.5}$	$81^{29.2}$	$100^{50.0}$	$88^{31.7}$
		C	$69^{15.3}$	$89^{27.2}$	$95^{27.2}$	$100^{36.9}$	$100^{32.9}$	$37^{8.6}$	$76^{21.7}$	$94^{25.8}$	$88^{22.9}$	$100^{19.4}$	$75^{25.4}$
		A	$63^{12.5}$	$94^{24.7}$	$20^{5.0}$	$29^{7.5}$	$36^{11.6}$	$15^{3.3}$	$52^{19.6}$	$100^{24.6}$	$6^{1.4}$	$33^{6.9}$	$88^{31.7}$
	Acer pseudoplatanus	B	$100^{23.6}$	$89^{25.3}$	$35^{8.9}$	$79^{23.5}$	$80^{24.0}$	$63^{14.4}$	$86^{36.5}$	$24^{5.0}$	$38^{8.3}$	$83^{26.4}$	$25^{6.3}$
		C	$44^{9.7}$	$83^{28.4}$	$70^{17.2}$	$91^{38.6}$	$96^{35.6}$	$30^{7.0}$	$76^{29.6}$	$94^{23.4}$	$56^{12.5}$	$100^{38.9}$	$88^{31.7}$
	Actaea spicata	C	$88^{19.4}$	$28^{5.6}$	$40^{8.9}$	$62^{14.1}$	$60^{14.2}$	$44^{10.3}$	$81^{18.5}$	$47^{11.2}$	$31^{6.9}$	$100^{16.7}$	$100^{30.2}$
	Daphne mezereum	B	$81^{18.8}$	$44^{9.9}$	$90^{22.8}$	$79^{20.3}$	$60^{15.1}$	$56^{12.8}$	$62^{13.8}$	$88^{22.8}$	$94^{22.9}$	$100^{26.4}$	$50^{12.7}$
	Dryopteris filix-mas	C	$81^{17.4}$	$83^{22.8}$	$85^{21.1}$	$100^{27.5}$	$100^{32.0}$	$100^{23.0}$	$100^{41.3}$	$82^{17.3}$	$94^{20.8}$	$100^{18.1}$	$100^{30.2}$
	Epipactis helleborine	C	.	$6^{1.2}$	.	$15^{2.9}$	$20^{4.0}$	$22^{4.9}$	$5^{1.1}$	$76^{16.0}$	$31^{6.9}$	$100^{15.3}$	$25^{6.3}$
	Galeobdolon flavidum	C	$6^{1.4}$	$89^{26.5}$	$45^{10.6}$	$94^{24.2}$	$80^{22.2}$	$85^{21.4}$	$67^{19.0}$	$71^{18.5}$	$94^{20.8}$	$83^{20.8}$	$75^{19.0}$
	Galium laevigatum	C	$13^{2.8}$	$39^{9.3}$	$40^{13.3}$	$18^{5.6}$	$20^{5.3}$	$11^{3.7}$	$19^{4.8}$	$88^{26.4}$	$63^{16.7}$	$50^{8.3}$	$50^{12.7}$
	Mercurialis perennis	C	$63^{17.4}$	$33^{12.3}$	$30^{10.6}$	$26^{14.4}$	$24^{6.7}$	$11^{2.5}$	$52^{15.9}$	$94^{29.6}$	$88^{32.6}$	$100^{38.9}$	$50^{19.0}$
	Mycelis muralis	C	$19^{4.2}$	$78^{18.5}$	$70^{17.8}$	$100^{25.8}$	$84^{20.4}$	$74^{17.3}$	$86^{19.0}$	$65^{14.8}$	$100^{22.2}$	$100^{18.1}$	$50^{12.7}$
	Paris quadrifolia	C	$69^{15.3}$	$72^{16.7}$	$70^{15.6}$	$76^{16.3}$	$92^{22.2}$	$52^{11.5}$	$100^{24.3}$	$24^{5.0}$	$75^{16.7}$	$100^{16.7}$	$100^{25.4}$
	Polystichum aculeatum	C	$81^{18.8}$	$56^{12.3}$	$50^{12.2}$	$38^{8.5}$	$28^{6.7}$	$26^{5.8}$	$52^{12.7}$	$53^{11.7}$	$19^{4.2}$	$83^{15.3}$	$88^{30.2}$
	Prenanthes purpurea	C	$100^{28.5}$	$94^{26.5}$	$95^{29.4}$	$94^{30.1}$	$72^{21.8}$	$74^{17.3}$	$38^{10.1}$	$100^{28.3}$	$81^{18.1}$	$100^{25.0}$	$75^{20.6}$
	Epilobium montanum	C	$31^{6.9}$	$56^{13.0}$	$55^{12.8}$	$74^{18.6}$	$44^{12.0}$	$37^{8.2}$	$57^{13.2}$	$6^{1.2}$	$25^{5.6}$	$50^{9.7}$	.
	Lonicera alpigena	B	$94^{28.5}$	$17^{3.7}$	$60^{19.4}$	$32^{9.2}$	$32^{11.1}$	$33^{7.8}$	$38^{7.9}$	$65^{16.0}$	$38^{9.0}$	$50^{9.7}$	.
	Neottia nidus-avis	C	.	$78^{16.7}$	$5^{0.6}$	$47^{9.8}$	$48^{9.8}$	$11^{2.5}$	$5^{1.1}$	$59^{12.3}$	$25^{5.6}$	$83^{12.5}$	$13^{3.2}$
	Symphytum tuberosum	C	$13^{2.8}$	$28^{6.8}$	.	$3^{0.7}$	.	$4^{0.8}$	$33^{8.5}$	$18^{3.8}$	$6^{1.4}$	.	$88^{28.6}$
	Festuca altissima	C	.	$56^{12.3}$	$35^{12.8}$	$68^{22.9}$	$100^{61.8}$	$100^{35.0}$	$90^{27.5}$	$6^{1.3}$	$63^{18.1}$	$100^{25.0}$	$13^{3.2}$
	Galium odoratum	C	.	$61^{17.3}$	$25^{6.7}$	$38^{12.4}$	$88^{33.3}$	$37^{11.1}$	$76^{24.3}$	$6^{1.2}$	$81^{20.8}$	$67^{15.3}$	$50^{15.9}$
	Lilium martagon	C	$100^{22.2}$	$44^{9.9}$	$40^{8.9}$	$18^{3.9}$	$8^{2.7}$	$7^{1.6}$	.	$41^{9.3}$	$6^{1.4}$	.	$13^{3.2}$
	Salvia glutinosa	C	.	$6^{1.2}$	.	$3^{0.7}$	$36^{8.4}$	$15^{3.3}$	$76^{17.5}$	$76^{19.1}$	$19^{4.2}$	$67^{12.5}$	$100^{33.3}$
	Sambucus nigra	C	.	.	$25^{5.6}$	$59^{13.4}$	$52^{12.0}$	$22^{5.3}$	$81^{23.8}$	$12^{2.5}$	$44^{9.7}$	$100^{20.8}$	$50^{14.3}$
	Sanicula europaea	C	.	$44^{9.9}$	$5^{1.7}$	$26^{6.5}$	$40^{9.3}$	$26^{5.8}$	$33^{7.9}$	$6^{1.2}$	$13^{2.8}$	$83^{15.3}$	$88^{23.8}$
	Viola reichenbachiana	C	$19^{2.8}$	.	$15^{3.3}$	$3^{0.7}$	$36^{7.1}$	$22^{4.9}$	$19^{4.2}$	.	$31^{6.9}$	$50^{8.3}$	$75^{19.0}$
	Cardamine bulbifera	C	.	$56^{13.6}$	.	$3^{0.7}$	$36^{8.9}$	$7^{1.6}$	$95^{28.6}$	$12^{2.5}$	$13^{2.8}$	$17^{2.8}$	$38^{12.7}$
	Scrophularia nodosa	C	.	$28^{6.2}$	.	$26^{5.6}$	$24^{5.3}$	$11^{2.5}$	$43^{10.6}$	$12^{2.5}$	$31^{6.9}$	$17^{2.8}$	$50^{12.7}$
	Adoxa moschatellina	C	$13^{2.8}$	$22^{5.6}$	$10^{2.2}$	$29^{6.5}$	$36^{7.6}$	$4^{0.8}$	$76^{20.1}$	.	.	.	.
	Carex sylvatica	C	.	$67^{15.4}$	.	$12^{2.9}$	$4^{0.9}$	$41^{9.1}$	$24^{5.8}$	.	$13^{2.8}$	$83^{13.9}$	$75^{20.6}$
	Lathyrus vernus/vernus	C	.	.	$15^{3.9}$	$26^{7.2}$	$36^{11.1}$	$4^{1.2}$	$38^{8.5}$	$24^{6.9}$	$81^{20.1}$	.	$38^{9.5}$
	Phyllitis scolopendrium	C	.	$6^{0.6}$	.	$3^{0.3}$	$8^{1.8}$	$7^{2.1}$	$57^{13.2}$	$6^{1.2}$	.	$17^{2.8}$	$50^{11.1}$
	Melica nutans	C	$6^{1.4}$	$6^{1.2}$	$5^{1.7}$	.	.	.	.	$29^{6.1}$	$6^{1.4}$	.	$13^{3.2}$
	Phyteuma spicatum/coeruleum	C	$63^{13.9}$	$67^{15.4}$	$15^{6.7}$	$9^{2.0}$	.	.	.	$76^{18.4}$	.	.	$38^{9.5}$
	Polygonatum multiflorum	C	.	.	.	$6^{1.3}$	$32^{7.6}$	$7^{1.6}$	$38^{8.5}$	$65^{14.2}$	$25^{5.6}$	.	$25^{6.3}$
	Stellaria montana	C	.	$22^{4.3}$	.	$12^{2.3}$	$68^{21.8}$	$19^{4.1}$	$90^{39.2}$	.	.	$17^{2.8}$	$13^{4.8}$
	Euphorbia amygdaloides	C	.	.	.	$6^{1.3}$	$4^{1.3}$	$4^{0.0}$	.	$29^{7.4}$	.	$67^{12.5}$	$38^{9.5}$
		A	$6^{0.7}$	.	.	.	.	.	.	$35^{6.7}$	.	.	$13^{3.2}$
	Laburnum alpinum	B	$6^{0.7}$	$28^{6.2}$	$5^{1.1}$	.	.	.	.	$59^{12.4}$	.	.	$13^{3.2}$
		C	.	$11^{3.1}$	$10^{2.2}$	.	.	.	.	$94^{21.6}$	$6^{1.4}$	$17^{2.8}$	$13^{3.2}$
	Milium effusum	C	.	$6^{1.2}$	$5^{1.1}$	$3^{0.7}$	$48^{12.0}$	$15^{3.3}$	$43^{12.2}$	.	.	.	.
	Poa nemoralis	C	$6^{1.4}$	$17^{3.7}$	.	.	$4^{0.9}$	.	$5^{1.1}$	$6^{1.2}$	.	.	.
	Ranunculus lanuginosus	C	.	.	.	$9^{1.6}$	.	$4^{0.8}$	$19^{3.2}$	.	$19^{4.2}$	$17^{2.8}$	$13^{3.2}$
	Euphorbia amygdaloides	C	.	.	.	$6^{1.3}$	$4^{1.3}$	$4^{0.0}$	.	$29^{7.4}$	.	$67^{12.5}$	$38^{9.5}$
	Aruncus dioicus	C	$100^{25.7}$	.	$20^{3.9}$	.	.	.	$5^{1.1}$	$29^{6.1}$	.	.	$38^{9.5}$
	Cardamine impatiens	C	.	.	$5^{1.1}$	$3^{0.3}$	$16^{3.6}$	.	$48^{11.1}$	.	$6^{0.7}$	.	.

	No. of relevés		1	2	3	4	5	6	7	8	9	10	11
	Chrysosplenium alternifolium	C	.	$6^{1.2}$	.	$3^{0.3}$	$32^{7.6}$	$4^{0.8}$	$57^{15.9}$	.	.	.	.
		A	.	$6^{0.6}$	.	.	.	.	$5^{1.1}$	$41^{7.4}$	.	.	$13^{3.2}$
	Fraxinus excelsior	B	.	$11^{2.5}$	.	.	.	.	$10^{2.1}$	$35^{8.0}$	.	$50^{8.3}$	$38^{9.5}$
		C	.	$11^{1.9}$	.	$3^{1.0}$	.	.	.	$53^{15.3}$	.	$50^{8.3}$	$75^{25.4}$
	Cephalanthera damasonium	C	.	.	.	.	$4^{0.9}$	$4^{0.8}$	.	$6^{1.2}$	$13^{2.8}$	.	.
	Circaea lutetiana	C	.	$6^{1.9}$	.	.	$4^{0.9}$	.	$52^{11.6}$	.	.	$17^{2.8}$	.
	Lathyrus vernus/flaccidus	C	.	.	$15^{3.3}$	$24^{6.2}$	$8^{1.8}$	.	.	.	$50^{12.5}$	.	.
	Myosotis sylvatica	C	.	$6^{1.9}$	.	$6^{1.0}$	$8^{1.8}$	.	$62^{14.8}$	.	.	.	.
	Phyteuma spicatum	C	$6^{1.4}$	.	$20^{4.4}$	.	$4^{0.9}$	$4^{0.8}$	.	.	.	.	.
	Polystichum braunii	C	$6^{1.4}$	.	$5^{1.1}$	$3^{0.7}$	.	.	$19^{5.3}$	.	.	.	.
		A	.	.	.	.	.	.	$5^{1.1}$	.	$6^{1.4}$	.	.
	Tilia platyphyllos	B	.	.	.	.	$4^{0.9}$	.	$14^{3.2}$	.	$19^{4.2}$	$50^{8.3}$	.
		C	.	.	.	.	.	.	$5^{1.1}$	.	.	$17^{2.8}$	.
		A	.	.	.	.	.	.	$10^{1.1}$	$6^{1.3}$	.	$17^{2.8}$	$88^{34.9}$
	Ulmus glabra	B	.	.	.	.	.	.	.	$6^{1.3}$	$6^{1.4}$	$17^{4.2}$	$50^{14.3}$
		C	.	.	.	.	.	.	.	$12^{2.5}$	.	$17^{4.2}$	$88^{23.8}$
	Arum maculatum	C	.	.	.	.	$8^{1.8}$	.	$67^{15.9}$	.	.	.	$38^{11.1}$
	Campanula trachelium	C	.	$6^{1.2}$	.	.	.	.	$14^{3.2}$	.	.	.	$63^{15.9}$
	Cardamine pentaphyllos	C	.	.	$5^{1.1}$	.	.	.	$38^{19.6}$	.	.	$50^{13.9}$	.
	Impatiens noli-tangere	C	.	.	.	$3^{0.3}$	$8^{1.8}$	.	$81^{32.8}$	.	.	.	.
	Lunaria rediviva	C	.	.	.	.	.	.	$57^{27.0}$	$6^{0.6}$	.	$17^{2.8}$	.
	Veronica montana	C	.	.	.	$3^{0.7}$	$8^{2.2}$	$4^{0.8}$	.	.	.	.	.
		A	.	.	.	.	.	.	$5^{1.1}$	.	.	.	.
	Acer platanoides	B	.	.	.	.	.	.	$14^{3.2}$	.	.	.	$13^{3.2}$
		C	.	.	.	.	.	.	$5^{1.1}$	.	.	.	$25^{7.9}$
	Allium ursinum	C	.	.	.	.	.	.	$5^{1.1}$	.	.	.	$25^{6.3}$
	Circaea alpina	C	.	$22^{4.9}$	.	.	.	$4^{0.8}$	.	.	.	.	.
	Dryopteris affinis	C	.	.	.	.	.	.	.	$6^{1.2}$	.	.	$25^{6.3}$
		A	.	.	.	.	.	.	.	.	.	.	$38^{9.5}$
	Acer campestre	B	.	.	.	.	.	.	.	.	.	.	$13^{3.2}$
		C	.	.	.	.	.	.	.	.	.	.	$13^{3.2}$
QP	***Quercetalia pubescentis***		4 38	4 0	6 26	5 23	5 8	6 6	7 7	8 36	8 104	3 17	8 67
		A	$31^{6.3}$	$6^{0.6}$	$20^{5.0}$	$9^{2.0}$	.	.	$5^{0.5}$	$29^{5.5}$	$6^{1.4}$	$17^{2.8}$	$25^{6.3}$
	Sorbus aria	B	$88^{19.4}$	$39^{8.6}$	$55^{12.8}$	$50^{11.8}$	$8^{1.8}$	$30^{6.6}$	.	$24^{6.8}$	$25^{5.6}$	$50^{8.3}$	$13^{3.2}$
		C	$13^{2.8}$	$11^{2.5}$	$60^{13.9}$	$32^{7.5}$	$12^{2.7}$	$4^{0.8}$	.	$47^{9.8}$	$25^{5.6}$	$33^{5.6}$	.
	Arabis turrita	C	.	.	.	$3^{1.0}$	$4^{0.9}$	$4^{0.8}$	$10^{2.1}$	.	$6^{1.4}$	.	.
	Convallaria majalis	C	$44^{9.0}$	.	$5^{1.1}$	.	.	.	.	.	$25^{6.3}$	.	.
		A	.	.	.	.	.	.	.	.	.	.	$38^{6.3}$
	Fraxinus ornus	B	.	.	.	.	$8^{1.3}$	.	$5^{1.1}$	.	$25^{5.6}$	.	$25^{6.3}$
		C	.	.	.	.	.	.	.	$41^{8.0}$	.	.	$63^{17.5}$
	Ostrya carpinifolia	A	.	.	.	.	.	$4^{0.8}$	$5^{0.5}$	.	.	.	$75^{22.2}$
		B	.	.	.	.	.	.	.	$24^{3.8}$	.	.	.
	Sesleria autumnalis	C	.	.	$10^{5.0}$	.	$4^{0.9}$	$7^{2.9}$	.	.	$100^{77.1}$	.	.
	Melittis melissophyllum	C	.	.	$5^{1.1}$	.	.	.	.	$35^{7.4}$	.	.	$13^{3.2}$
	Piptatherum virescens	C	.	$6^{1.2}$	.	.	.	$4^{0.8}$	$10^{2.1}$	.	.	.	.
	Digitalis grandiflora	C	.	.	.	.	.	.	$5^{1.1}$	$6^{0.6}$	.	.	.
	Tamus communis	C	.	.	.	.	.	.	.	.	$6^{1.4}$	.	$13^{1.6}$
QR	***Quercetalia roboris-petraeae***		.	.	.	.	.	1 1	.	.	1 1	.	4 16
	Betula pendula	A	.	.	.	.	.	.	.	.	.	.	$13^{1.6}$
	Frangula alnus	B	.	.	.	.	.	.	.	.	$6^{1.4}$	.	.

	No. of relevés		1	2	3	4	5	6	7	8	9	10	11
	Monotropa hypophegea	C	.	.	.	.	.	.	.	.	.	.	$13^{3.2}$
	Pteridium aquilinum	C	.	.	.	.	.	.	.	.	.	.	$38^{9.5}$
	Quercus petraea	C	.	.	.	.	.	.	.	.	.	.	$13^{1.6}$
	Veronica officinalis	C	.	.	.	.	.	$4^{0.8}$	.	.	.	.	.
QF	***Querco-Fagetea***		7 66	3 37	8 71	9 52	9 41	7 33	12 53	13 75	8 60	6 67	13 149
	Anemone nemorosa	C	$100^{34.7}$	$100^{30.9}$	$95^{36.1}$	$85^{31.0}$	$80^{23.1}$	$59^{13.6}$	$86^{26.5}$	$71^{17.9}$	$81^{24.3}$	$83^{18.1}$	$63^{15.9}$
	Carex digitata	C	$25^{4.9}$	$22^{4.9}$	$60^{13.9}$	$53^{11.8}$	$24^{5.3}$	$52^{11.9}$	$10^{2.1}$	$53^{11.0}$	$31^{6.9}$	$50^{6.9}$	$75^{19.0}$
	Lonicera xylosteum	B	$6^{1.4}$	.	$5^{1.1}$	$12^{2.6}$	$20^{4.9}$	$19^{4.1}$	$29^{6.3}$	$18^{3.1}$	$25^{5.6}$	.	$38^{9.5}$
	Platanthera bifolia	C	$13^{2.8}$	.	$5^{1.1}$	$6^{1.0}$	$4^{0.9}$	$4^{0.8}$	$14^{2.6}$	$24^{4.3}$	$44^{9.7}$	$83^{15.3}$	.
	Anemone x pittonii	C	.	.	$15^{3.9}$	$12^{2.6}$	$4^{0.9}$	.	$10^{2.1}$	$6^{1.2}$	$13^{2.8}$	.	.
	Corylus avellana	B	.	.	.	$3^{0.7}$	$8^{2.2}$	.	$10^{2.1}$	$18^{3.1}$	$13^{2.8}$	$33^{5.6}$	$75^{20.6}$
	Clematis vitalba	B	.	$6^{1.2}$	.	$3^{0.3}$	.	.	.	$24^{4.9}$	$6^{1.4}$	$67^{11.1}$	$88^{22.2}$
	Hepatica nobilis	C	$75^{19.4}$	.	$35^{11.1}$	$6^{1.3}$	.	.	.	$47^{11.7}$	$25^{6.3}$	.	.
	Corylus avellana	C	.	.	.	.	$12^{2.2}$	$4^{1.2}$	.	.	.	$50^{9.7}$	.
	Cruciata glabra	C	.	.	$10^{2.2}$	$3^{0.7}$	.	$4^{0.8}$	.	.	.	.	.
	Euonymus latifolia	B	.	.	.	.	.	.	$5^{1.1}$	$6^{0.6}$	.	.	$13^{3.2}$
	Moehringia trinervia	C	.	.	.	.	$4^{0.9}$	.	$14^{3.2}$	.	.	.	$13^{3.2}$
	Primula vulgaris	C	.	.	.	.	.	.	$5^{0.5}$	$47^{12.4}$	.	.	$75^{19.0}$
	Aegopodium podagraria	C	.	.	.	.	$4^{0.9}$	.	.	.	.	.	$13^{3.2}$
	Hedera helix	C	.	.	.	.	.	$4^{0.8}$	.	.	.	.	$75^{20.6}$
	Viola riviniana	C	$6^{1.4}$	.	$5^{1.1}$	.	.	.	.	.	.	.	.
		A	.	.	.	.	.	.	.	$18^{2.5}$	.	.	$25^{6.3}$
	Taxus baccata	B	.	.	.	.	.	.	.	.	.	.	$13^{3.2}$
		C	.	.	.	.	.	.	.	$6^{1.2}$	.	.	.
EP	***Erico-Pinetea***		8 109	5 16	4 18	3 3	3 1	2 1	3 2	8 92	.	3 11	2 13
	Cirsium erisithales	C	$50^{11.1}$	$11^{1.2}$	$25^{6.1}$	$3^{0.7}$	$4^{0.9}$	.	$5^{0.5}$	$94^{24.6}$	.	.	$38^{9.5}$
	Rubus saxatilis	C	$100^{28.5}$	.	$10^{3.9}$	$6^{1.3}$	$12^{2.7}$	.	$5^{1.6}$	$12^{2.5}$	.	$67^{12.5}$	.
	Rhododendron hirsutum	B	$94^{58.3}$	$6^{1.2}$	$10^{6.7}$	.	.	.	.	$24^{3.1}$	.	.	.
	Ribes alpinum	B	$6^{0.7}$	.	$5^{1.1}$	.	$4^{0.9}$	.	.	.	.	.	.
VP	***Vaccinio-Piceetea***		31 653	26 224	31 718	29 467	27 316	32 357	20 171	23 207	24 286	20 307	16 330
		A	$100^{36.8}$	$89^{21.6}$	$100^{46.1}$	$100^{68.6}$	$100^{65.3}$	$100^{73.3}$	$100^{43.4}$	$82^{20.4}$	$100^{65.3}$	$100^{54.2}$	$100^{73.0}$
	Abies alba	B	$100^{31.3}$	$33^{6.2}$	$75^{31.1}$	$50^{14.1}$	$16^{3.6}$	$56^{13.2}$	$43^{8.5}$	$35^{9.3}$	$56^{13.2}$	$17^{2.8}$	$88^{30.2}$
		C	$81^{18.1}$	$94^{23.5}$	$90^{33.9}$	$100^{38.6}$	$100^{31.6}$	$74^{18.1}$	$71^{16.4}$	$41^{9.9}$	$94^{22.2}$	$83^{25.0}$	$88^{27.0}$
	Calamagrostis arundinacea	C	$100^{60.4}$	$89^{23.5}$	$95^{63.3}$	$94^{69.3}$	$40^{19.1}$	$67^{29.6}$	$14^{3.2}$	$12^{2.5}$	$88^{27.8}$	$17^{2.8}$	$63^{17.5}$
	Gentiana asclepiadea	C	$100^{25.7}$	$56^{12.3}$	$100^{27.8}$	$56^{12.7}$	$48^{11.6}$	$78^{17.3}$	$14^{3.2}$	$65^{14.2}$	$38^{8.3}$	$100^{18.1}$	$88^{22.2}$
	Oxalis acetosella	C	$81^{20.8}$	$83^{25.3}$	$85^{31.7}$	$94^{50.3}$	$100^{51.1}$	$100^{43.2}$	$86^{37.6}$	$18^{3.8}$	$81^{26.4}$	$100^{26.4}$	$88^{31.7}$
		A	$44^{8.3}$	$6^{0.6}$	$90^{41.1}$	$44^{13.4}$	$24^{7.1}$	$52^{18.1}$	$10^{2.1}$	$35^{4.3}$	$25^{6.3}$	$100^{20.8}$	$88^{36.5}$
	Picea abies	B	$94^{19.4}$	$28^{5.6}$	$65^{22.8}$	$24^{6.5}$	$12^{2.7}$	$37^{8.6}$	.	$41^{8.1}$	$6^{1.4}$	$33^{5.6}$	$50^{12.7}$
		C	$19^{4.2}$	$22^{4.3}$	$80^{27.2}$	$71^{17.0}$	$44^{9.8}$	$15^{3.3}$	$10^{2.1}$	$24^{4.9}$	$44^{9.0}$	$83^{19.4}$	$38^{7.9}$
	Maianthemum bifolium	C	$100^{26.4}$	$50^{11.1}$	$85^{29.4}$	$76^{23.9}$	$80^{31.6}$	$59^{16.0}$	$43^{9.0}$	$24^{4.9}$	$88^{27.1}$	$100^{30.6}$	.
	Rosa pendulina	C	$100^{34.7}$	$22^{4.9}$	$95^{29.4}$	$85^{23.5}$	$40^{9.8}$	$63^{14.8}$	$5^{1.1}$	$53^{12.4}$	$56^{14.6}$	$50^{11.1}$	.
	Solidago virgaurea	C	$50^{10.4}$	$22^{4.9}$	$90^{27.2}$	$56^{15.4}$	$16^{3.6}$	$63^{14.4}$	.	$59^{12.4}$	$56^{12.5}$	$100^{25.0}$	$88^{25.4}$
	Valeriana tripteris	C	$94^{29.9}$	$17^{3.7}$	$90^{30.6}$	$24^{6.5}$	.	$4^{0.8}$	$5^{1.1}$	$71^{16.0}$	$25^{5.6}$	$33^{4.2}$	.
	Veronica urticifolia	C	$94^{29.9}$	$72^{17.9}$	$80^{25.6}$	$21^{4.6}$	$12^{2.7}$	$7^{1.6}$	$14^{3.2}$	$82^{21.6}$	.	$83^{15.3}$	$38^{9.5}$
	Huperzia selago	C	$100^{22.2}$	$17^{3.7}$	$80^{20.6}$	$26^{6.2}$	$4^{0.9}$	$15^{3.3}$	.	$12^{2.5}$	$19^{4.2}$	$33^{5.6}$	.
	Lonicera nigra	B	$100^{31.3}$	.	$60^{16.1}$	$50^{16.3}$	$52^{12.9}$	$74^{17.7}$	$33^{7.4}$	$18^{3.1}$	$19^{4.2}$	$83^{18.1}$	.
	Vaccinium myrtillus	C	$100^{45.8}$	$44^{13.0}$	$65^{37.8}$	$44^{12.7}$	$8^{1.8}$	$33^{10.3}$	.	$24^{5.6}$	$6^{1.4}$	$17^{9.7}$	.
	Dryopteris dilatata	C	$38^{6.3}$	$50^{10.5}$	$35^{8.9}$	$53^{13.4}$	$16^{4.0}$	$67^{14.8}$	$48^{9.5}$	.	.	$83^{13.9}$	$13^{3.2}$
	Gymnocarpium dryopteris	C	$94^{25.7}$	$22^{4.9}$	$25^{6.1}$	$15^{3.6}$	$28^{9.8}$	$7^{1.6}$	$14^{4.2}$	.	.	.	$13^{3.2}$

No. of relevés		1	2	3	4	5	6	7	8	9	10	11
Hieracium murorum	C	$31^{6.9}$	$11^{2.5}$	$35^{8.9}$	$9^{2.3}$	$16^{3.6}$	$4^{0.8}$	.	$53^{11.0}$	$6^{1.4}$	.	.
Homogyne sylvestris	C	$94^{25.7}$	$6^{1.9}$	$75^{26.7}$	$21^{5.9}$	$8^{1.8}$	$15^{3.3}$	.	$53^{14.7}$	.	$33^{6.9}$	.
Saxifraga cuneifolia	C	$50^{11.1}$	$6^{1.2}$	$85^{30.0}$	$56^{17.0}$	$32^{9.8}$	$33^{8.2}$	$14^{2.6}$	.	$13^{2.8}$	.	.
Clematis alpina	C	$100^{29.9}$	.	$90^{48.9}$	$12^{4.9}$	$4^{0.9}$	$4^{0.8}$	.	$47^{11.7}$	$19^{4.9}$	.	.
Dryopteris expansa	C	$63^{13.9}$	$22^{5.6}$	$10^{2.2}$	$15^{3.6}$	$16^{3.6}$	.	$38^{9.0}$	.	$13^{2.8}$	.	.
Luzula luzuloides	C	$6^{1.4}$	.	$55^{18.3}$	$74^{24.5}$	$68^{18.7}$	$63^{15.6}$	$38^{7.9}$	.	$88^{20.8}$	.	.
Phegopteris connectilis	C	$88^{24.3}$	.	$35^{8.9}$	$9^{2.3}$	.	$11^{2.5}$	$24^{5.8}$	.	.	.	.
Polystichum lonchitis	C	$100^{27.1}$	$6^{0.6}$	$30^{7.2}$	$3^{0.7}$	$4^{1.3}$	.	$10^{2.1}$	.	.	.	.
Luzula sylvatica/sylvatica	C	$13^{2.8}$	$39^{9.3}$	$30^{8.3}$	.	.	$7^{1.6}$	$5^{1.1}$	.	.	.	.
Aposeris foetida	C	.	$50^{11.7}$	$10^{2.2}$	.	.	.	.	$41^{11.7}$	$6^{1.4}$	.	.
Orthilia secunda	C	.	.	.	$3^{1.0}$	$4^{0.9}$	$26^{6.2}$	.	.	$6^{1.4}$	.	.
Blechnum spicant	C	.	.	.	.	.	$4^{0.8}$	.	.	.	$17^{2.8}$	$25^{6.3}$
Lycopodium annotinum	C	$63^{12.5}$	.	$10^{2.8}$	.	.	.	.	.	.	.	.
Monotropa hypopitys	C	.	.	.	.	$4^{0.9}$	$4^{0.8}$	.	.	.	$17^{2.8}$	.
Rubus hirtus	B	.	.	.	.	.	$19^{4.1}$	.	$12^{2.5}$	.	.	$75^{20.6}$
Vaccinium vitis-idaea	C	$31^{6.3}$	.	$15^{4.4}$	.	.	.	.	.	.	.	.
Calamagrostis villosa	C	.	$6^{3.1}$	.	.	.	.	.	.	.	.	.
Corallorhiza trifida	C	$6^{0.7}$	$6^{1.2}$	.	.	.	.	.	.	.	.	.
Galium rotundifolium	C	.	.	.	$3^{0.7}$	.	$4^{0.8}$	.	.	.	.	.
Luzula pilosa	C	.	.	.	$3^{0.7}$	.	.	.	.	$6^{1.4}$	.	.
Thelypteris limbosperma	C	.	.	.	.	.	$7^{1.6}$	.	.	.	.	$13^{3.2}$
MA ***Mulgedio-Aconitetea***		16 154	14 144	12 36	11 11	9 23	9 3	15 149	13 71	7 4	5 8	7 30
Athyrium filix-femina	C	$100^{30.6}$	$94^{29.0}$	$60^{15.6}$	$94^{28.1}$	$84^{24.9}$	$81^{19.3}$	$100^{40.7}$	$29^{6.2}$	$38^{8.3}$	$100^{22.2}$	$88^{38.1}$
Polygonatum verticillatum	C	$100^{30.6}$	$100^{25.3}$	$95^{30.6}$	$85^{21.9}$	$40^{9.3}$	$48^{10.7}$	$57^{12.7}$	$65^{16.0}$	$50^{13.2}$	$100^{18.1}$	$13^{3.2}$
Senecio ovatus	C	$6^{0.7}$	$83^{21.0}$	$60^{13.9}$	$100^{26.5}$	$96^{26.7}$	$63^{16.0}$	$90^{28.6}$	$82^{21.6}$	$94^{23.6}$	$83^{29.2}$	$100^{33.3}$
Geranium robertianum	C	.	$11^{1.9}$	$15^{3.3}$	$79^{19.3}$	$72^{19.1}$	$52^{13.2}$	$62^{16.4}$	$12^{2.5}$	$69^{15.3}$	.	$13^{3.2}$
Heracleum sphondylium	C	.	$44^{9.3}$	.	$3^{0.7}$	.	$4^{0.8}$	$19^{4.2}$	$24^{4.9}$	.	$17^{2.8}$	$13^{3.2}$
Urtica dioica	C	.	$11^{1.9}$	$10^{2.2}$	$26^{5.9}$	$44^{10.7}$	$4^{0.8}$	$90^{30.7}$	.	$13^{2.8}$	.	.
Ranunculus platanifolius	C	$94^{24.3}$	$72^{13.6}$	$70^{18.3}$	$12^{2.6}$	$8^{2.2}$	.	.	$6^{0.6}$	.	.	.
Salix appendiculata	B	$100^{24.3}$	$6^{0.6}$	$35^{7.8}$	$3^{0.7}$	.	.	.	$12^{1.8}$	.	$33^{5.6}$	.
Doronicum austriacum	C	$13^{1.4}$	.	$15^{3.3}$	$3^{0.3}$	$4^{0.9}$	$4^{0.8}$	.	.	.	.	$38^{11.1}$
Thalictrum aquilegiifolium	C	$50^{11.1}$	.	$5^{1.1}$	.	.	.	$5^{1.1}$	$6^{1.2}$	$6^{1.4}$	.	.
Saxifraga rotundifolia	C	$6^{1.4}$	$44^{10.5}$	.	.	$36^{9.3}$	$4^{0.8}$	$10^{2.6}$	.	.	.	.
Aconitum degenii/paniculatum	C	.	$6^{0.6}$	.	.	.	.	$5^{1.1}$	$18^{3.7}$	.	.	.
Aconitum lycoctonum	C	.	$6^{1.2}$	.	.	.	.	$14^{3.2}$	$24^{6.7}$	.	.	.
Angelica sylvestris	C	$19^{2.1}$	.	.	.	.	.	.	$6^{1.2}$	.	.	$50^{12.7}$
Centaurea montana	C	$19^{4.2}$	.	.	.	.	.	.	$24^{4.9}$	.	.	.
Phyteuma ovatum	C	.	.	$10^{2.2}$	$3^{0.7}$	.	.	.	.	.	.	.
Viola biflora	C	$50^{10.4}$	.	$5^{1.1}$	.	.	.	.	.	.	.	.
ES ***Elyno-Seslerietea***		3 34	3 14	1 1	.	.	.	.	5 20	.	.	1 3
Carex ferruginea	C	$50^{9.7}$	$22^{4.3}$	$5^{1.1}$	.	.	.	.	$59^{13.5}$	.	.	.
Aster bellidiastrum	C	$88^{22.2}$	$33^{7.4}$	.	.	.	.	.	$12^{1.8}$	.	.	.
Sesleria caerulea/calcaria	C	.	$11^{1.9}$	.	.	.	.	.	$12^{2.5}$	.	.	.
AT ***Asplenietea trichomanis***		13	9 43	10 123	9 84	9 50	7 39	7 39	10 67	7 63	5 47	4 32
Asplenium trichomanes	C	$63^{12.5}$	$33^{7.4}$	$70^{16.7}$	$91^{21.9}$	$64^{14.2}$	$59^{15.2}$	$62^{13.8}$	$29^{6.1}$	$63^{13.9}$	$100^{16.7}$	$75^{19.0}$
Asplenium viride	C	$100^{26.4}$	$28^{6.2}$	$100^{28.3}$	$62^{16.0}$	$24^{6.7}$	$33^{7.8}$	$5^{1.1}$	$59^{12.3}$	$44^{9.7}$	$100^{16.7}$	$13^{3.2}$
Moehringia muscosa	C	$25^{4.9}$	$11^{2.5}$	$55^{12.2}$	$53^{13.4}$	$24^{4.9}$	$30^{7.0}$	$10^{2.1}$	$18^{3.8}$	$44^{9.7}$	$17^{2.8}$	.
Polypodium vulgare	C	$6^{0.7}$	.	$35^{7.8}$	$41^{9.5}$	$56^{12.9}$	$22^{5.3}$	$33^{7.4}$	$12^{2.5}$	$44^{9.7}$	$17^{2.8}$	$25^{6.3}$
Cystopteris fragilis	C	$75^{17.4}$	$50^{10.5}$	$55^{14.4}$	$50^{11.1}$	$32^{7.1}$	$4^{0.8}$	$52^{11.6}$	$18^{3.7}$	.	$50^{8.3}$	.

No. of relevés		1	2	3	4	5	6	7	8	9	10	11
Asplenium ruta-muraria	C	$75^{16.0}$	.	$50^{15.0}$	$41^{10.1}$	$4^{0.9}$	$7^{1.6}$	.	$35^{7.4}$	$50^{11.8}$	.	$13^{3.2}$
Phyteuma scheuchzeri/columnae	C	$50^{11.8}$	$22^{4.3}$	$20^{5.6}$	$3^{0.7}$	.	.	.	$41^{9.8}$	$19^{4.9}$	.	.
Paederota lutea	C	$94^{22.9}$	$33^{7.4}$	$40^{18.3}$	.	$4^{0.9}$	.	.	$94^{19.7}$	.	.	.
Cystopteris montana	C	$6^{1.4}$	.	$15^{3.3}$	$3^{0.7}$	$4^{0.4}$	.	.	.	.	.	.
Carex brachystachys	C	$19^{3.5}$	$11^{1.9}$	$5^{1.1}$	.	.	.	.	$6^{1.2}$	.	.	.
Cymbalaria muralis	C	.	.	.	.	$8^{1.8}$	$4^{0.8}$	$5^{1.1}$	.	$13^{3.5}$	.	.
Cystopteris regia	C	$13^{2.1}$	$6^{0.6}$	.	.	.	.	.	.	.	.	.
Sedum hispanicum	C	.	$11^{2.5}$	.	$3^{0.7}$	.	.	$14^{2.1}$	.	.	.	.
Valeriana saxatilis	C	$31^{6.3}$	.	.	.	.	.	.	$6^{0.6}$	.	.	.
		3	1	2	3	2	1	1	3	2	1	1
TR ***Thlaspietea rotundifolii***		40	31	36	28	19	24	8	36	24	3	2
Adenostyles glabra	C	$100^{24.3}$	$100^{30.9}$	$75^{18.9}$	$94^{28.4}$	$80^{19.1}$	$81^{24.3}$	$33^{7.9}$	$88^{27.1}$	$94^{24.3}$	$17^{2.8}$	.
Gymnocarpium robertianum	C	$75^{14.6}$	.	$30^{7.2}$	.	.	.	.	$35^{7.4}$	.	.	$13^{1.6}$
Astrantia carniolica	C	.	.	.	.	.	.	.	$6^{1.8}$	.	.	.
Hypericum perforatum	C	.	.	.	$3^{0.7}$	$4^{0.9}$	.	.	.	.	.	.
Anthriscus fumarioides	C	.	.	.	.	.	.	.	.	$25^{6.9}$	.	.
Arabis alpina	C	.	.	.	$3^{0.7}$	.	.	.	.	.	.	.
Dryopteris villarii	C	$6^{1.4}$	.	.	.	.	.	.	.	.	.	.
		9	7	10	12	11	12	16	13	6	10	9
Other species		71	60	77	94	83	64	75	41	50	172	63
Rubus idaeus	B	$81^{21.5}$	$89^{24.7}$	$80^{20.0}$	$94^{25.2}$	$96^{28.0}$	$74^{17.3}$	$67^{21.2}$	$35^{7.4}$	$69^{18.1}$	$100^{18.1}$	$25^{6.3}$
	A	$44^{9.0}$	.	$20^{5.6}$	$6^{1.3}$	.	$11^{2.9}$	$5^{1.1}$	$6^{1.3}$	.	.	.
Sorbus aucuparia	B	$88^{21.5}$	$61^{13.6}$	$40^{10.6}$	$62^{15.4}$	$48^{12.4}$	$74^{17.7}$	$48^{10.6}$	$6^{1.3}$	$25^{5.6}$	$33^{6.9}$	.
	C	$31^{6.9}$	$61^{14.8}$	$85^{20.0}$	$82^{20.6}$	$68^{18.7}$	$19^{4.1}$	$38^{7.9}$	$35^{7.4}$	$31^{6.9}$	$100^{16.7}$	.
Fragaria vesca	C	.	$11^{2.5}$	$30^{6.7}$	$32^{7.2}$	$16^{3.6}$	$26^{5.8}$	$29^{6.3}$	.	$25^{5.6}$	$33^{5.6}$	$13^{3.2}$
Sambucus racemosa	B	$13^{1.4}$	$6^{0.6}$	$10^{2.2}$	$9^{2.3}$	$16^{4.0}$	.	$10^{2.1}$	$6^{0.6}$	$13^{2.8}$	.	.
Solanum dulcamara	C	.	.	$20^{4.4}$	$47^{10.8}$	$16^{3.6}$	$41^{11.1}$	$48^{10.6}$	$6^{1.2}$	$44^{11.1}$	$83^{13.9}$	.
Polystichum x luerssenii	C	$19^{3.5}$	$6^{1.2}$	.	$6^{1.3}$	$8^{1.8}$	$4^{0.8}$	$24^{5.3}$	.	.	.	$38^{9.5}$
Galeopsis speciosa	C	.	$17^{3.1}$	.	$9^{2.0}$	$24^{5.3}$	$4^{1.2}$	$10^{2.1}$	.	.	$17^{2.8}$	.
Atropa bella-donna	C	.	.	.	$3^{0.3}$	$4^{0.9}$	.	$10^{1.6}$	$12^{1.8}$	.	$17^{2.8}$	.
Dactylorhiza maculata	C	$6^{1.4}$	.	$5^{0.6}$	$32^{7.2}$	$20^{3.6}$	$4^{0.8}$	.	.	.	.	.
Eupatorium cannabinum	C	.	.	.	$3^{0.3}$	.	.	$5^{1.1}$	$47^{11.0}$	.	$67^{11.1}$	.
Rubus fruticosus agg.	C	$6^{1.4}$	.	.	.	.	.	.	.	.	$33^{6.9}$	.
Ajuga reptans	C	.	.	.	.	.	$4^{0.8}$	.	.	.	.	$38^{9.5}$
Hypericum hirsutum	C	.	.	.	.	.	.	.	.	.	$17^{2.8}$	$38^{9.5}$
Polystichum x bicknellii	C	.	.	.	.	.	.	.	$6^{1.2}$	.	.	$25^{12.7}$
Deschampsia cespitosa	C	.	.	.	.	$4^{0.9}$	.	$5^{1.1}$	.	.	.	.
Polystichum x illyricum	C	.	.	$5^{1.1}$	.	.	.	$5^{1.1}$	.	.	.	.
Viscum album/abietis	A	.	.	.	.	.	$4^{0.8}$	.	.	.	.	$25^{6.3}$
		53	31	48	17	16	33	45	17	22	15	21
Lichens and mosses		476	219	209	132	123	206	190	124	156	122	183
Ctenidium molluscum	D	$100^{45.8}$	$100^{38.3}$	$75^{34.4}$	$76^{34.0}$	$80^{34.7}$	$96^{39.9}$	$62^{19.6}$	$82^{24.7}$	$88^{37.5}$	$83^{26.4}$	$100^{31.7}$
Neckera crispa	D	$63^{15.3}$	$17^{3.7}$	$50^{18.9}$	$47^{21.2}$	$72^{28.4}$	$70^{22.2}$	$57^{20.1}$	$65^{16.1}$	$81^{27.8}$	$50^{9.7}$	$63^{20.6}$
Polytrichum formosum	D	$88^{20.8}$	$44^{9.9}$	$30^{10.0}$	$9^{3.3}$	.	$70^{16.0}$	$10^{2.1}$	$47^{10.5}$	$6^{1.4}$	$33^{6.9}$	$75^{19.0}$
Tortella tortuosa	D	$94^{34.7}$	$67^{16.0}$	$20^{5.0}$	$18^{5.2}$	$4^{0.9}$	$19^{4.1}$	$10^{2.1}$	$65^{14.8}$	$50^{11.1}$	$50^{8.3}$	.
Fissidens dubius	D	$81^{26.4}$	$50^{11.7}$	$5^{1.1}$	.	.	$41^{9.1}$	$5^{1.1}$	$82^{18.4}$	.	.	$75^{22.2}$
Dicranum scoparium	D	$75^{16.7}$	$28^{6.2}$	$70^{26.7}$	$44^{13.4}$	$20^{4.9}$	$52^{11.9}$	$5^{1.1}$	$18^{3.7}$	$13^{3.5}$	$17^{2.8}$	$13^{3.2}$
Isothecium alopecuroides	D	$44^{11.1}$	$89^{29.0}$	$10^{2.2}$	.	.	$63^{18.1}$	$52^{16.9}$	$12^{2.5}$	$38^{8.3}$	.	$63^{22.2}$
Plagiochila asplenioides	D	$6^{1.4}$	$6^{1.2}$	$55^{15.6}$	$12^{3.6}$	$16^{4.4}$	$52^{11.9}$	$19^{4.2}$	.	$31^{7.6}$	$100^{16.7}$	$13^{3.2}$
Schistidium apocarpum	D	$50^{11.8}$	$89^{26.5}$	$30^{8.3}$	$26^{6.9}$	$52^{12.0}$	$15^{3.3}$	$33^{7.9}$	$53^{12.3}$	$63^{13.9}$	$50^{8.3}$	$38^{9.5}$
Cladonia pyxidata	D	.	$6^{1.2}$	$70^{15.6}$	$56^{12.7}$	$36^{8.0}$	$33^{7.4}$	.	$6^{1.2}$	$50^{11.1}$	.	.
Plagiochila porelloides	D	$88^{24.3}$	$28^{6.8}$	.	.	.	.	$33^{7.4}$	$29^{6.7}$	.	.	$13^{3.2}$

No. of relevés		1	2	3	4	5	6	7	8	9	10	11
Cladonia coniocraea	D	.	.	$35^{7.8}$	$53^{11.8}$	$48^{10.7}$	$4^{0.8}$	$19^{4.2}$	.	$19^{4.2}$	$50^{8.3}$	.
Hypnum cupressiforme	D	.	$11^{2.5}$	$10^{2.2}$	$15^{5.2}$	$8^{4.4}$	$15^{4.5}$	$29^{7.9}$	.	$31^{9.0}$	$33^{13.9}$	$13^{3.2}$
Conocephalum conicum	D	$75^{16.7}$	$11^{2.5}$	.	.	.	.	$19^{4.2}$	.	.	.	$13^{3.2}$
Paraleucobryum sauteri	D	$88^{19.4}$	$67^{14.8}$	.	.	.	.	.	.	.	.	.
Mnium thomsonii	D	$69^{15.3}$	$50^{11.7}$	.	.	.	.	$10^{2.1}$	$6^{1.2}$	.	.	$13^{3.2}$
Peltigera canina	D	$50^{11.1}$	$33^{7.4}$	$5^{1.1}$	.	$4^{0.9}$	.	$5^{1.1}$	$6^{1.2}$	.	.	.
Cladonia digitata	D	$6^{1.4}$	.	$45^{10.0}$	$15^{3.3}$	$20^{4.4}$	$4^{0.8}$	$5^{1.1}$	.	$13^{2.8}$	$17^{2.8}$	.
Atrichum undulatum	D	.	$17^{3.7}$	$5^{1.1}$	$9^{2.0}$	.	$22^{4.9}$	$10^{2.1}$	.	$6^{1.4}$	$33^{6.9}$	$13^{3.2}$
Plagiomnium undulatum	D	.	.	$5^{1.1}$	.	$20^{5.8}$	$15^{3.3}$	$43^{14.3}$	.	.	$17^{2.8}$	.
Orthothecium rufescens	D	$31^{6.9}$	.	.	.	.	.	.	$6^{1.2}$	.	.	.
Eurhynchium striatum	D	$50^{10.4}$	$6^{1.2}$	.	.	.	.	$10^{2.1}$	.	.	.	$25^{6.3}$
Rhizomnium punctatum	D	$56^{13.9}$	$6^{1.2}$	$5^{1.1}$	.	.	$7^{1.6}$	$5^{1.1}$	.	.	.	.
Homalothecium philippeanum	D	$31^{6.9}$	$17^{3.7}$	.	.	.	$4^{0.8}$	$19^{4.2}$	.	.	.	$13^{3.2}$
Camptothecium lutescens	D	.	$6^{1.2}$	.	.	.	$7^{1.6}$	$33^{7.9}$	$6^{1.3}$	$25^{5.6}$	.	.
Leucobryum glaucum	D	$6^{1.4}$	.	$10^{2.8}$	.	.	.	.	$18^{3.7}$	.	.	.
Hylocomium splendens	D	$25^{5.6}$	.	.	.	$4^{0.9}$	$15^{3.3}$	$19^{9.5}$	.	.	$17^{2.8}$	.
Thamnobryum alopecurum	D	.	$11^{2.5}$	.	.	.	$4^{0.8}$	$19^{4.8}$	.	$6^{1.4}$	.	$38^{9.5}$
Cladonia furcata	D	.	.	$40^{9.4}$	$15^{3.3}$	.	.	.	.	.	$17^{2.8}$	.
Encalypta streptocarpa	D	$19^{4.2}$	$6^{1.2}$	.	.	.	.	$5^{1.1}$	$18^{3.7}$	.	.	.
Bryum capillare	D	$13^{2.8}$	$22^{4.9}$	$5^{1.1}$	.	.	.	$29^{7.4}$	.	.	.	.
Rhytidiadelphus triquetrus	D	$31^{7.6}$	.	$5^{1.7}$	.	.	$11^{2.5}$	.	.	.	.	.
Thuidium tamariscinum	D	$13^{2.8}$	$11^{2.5}$	.	.	$4^{0.9}$	$4^{0.8}$	$5^{1.1}$	.	$6^{1.4}$	.	$13^{3.2}$
Mnium sp.	D	.	$6^{1.2}$	.	.	.	.	$24^{6.3}$	.	.	.	.
Plagiothecium undulatum	D	$25^{5.6}$	.	$5^{1.1}$	.	.	.	.	.	.	.	.
Radula complanata	D	.	.	$15^{3.3}$	$6^{1.3}$	$4^{0.9}$	.	.	.	.	.	.
Rhytidiadelphus loreus	D	$31^{6.9}$	$6^{1.2}$	.	.	.	$7^{1.6}$	.	.	.	.	.
Neckera complanata	D	$6^{1.4}$	.	$5^{1.1}$	.	.	$11^{2.5}$	$5^{1.1}$	.	.	$17^{2.8}$	.
Peltigera aphthosa	D	.	.	.	.	.	$33^{7.4}$	.	.	$6^{1.4}$	.	.
Plagiothecium sp.	D	$6^{1.4}$	.	.	.	.	$22^{5.8}$	$5^{1.1}$	.	$6^{1.4}$	.	.
Eurhynchium zetterstedtii	D	.	.	.	.	.	$30^{7.4}$	$5^{1.6}$	.	.	.	.
Plagiopus oederi	D	$6^{1.4}$	.	$5^{1.1}$	.	.	.	.	.	.	.	.
Bartramia halleriana	D	$13^{2.8}$	.	.	.	.	.	.	$6^{1.2}$	.	.	.
Mnium spinosum	D	$19^{4.2}$	.	.	.	.	.	$5^{1.1}$	.	$6^{1.4}$	.	.
Plagiothecium sylvaticum	D	.	.	.	.	.	$7^{1.6}$	$5^{1.1}$	.	$13^{2.8}$	.	.
Metzgeria conjugata	D	.	.	.	$12^{2.6}$	.	$7^{1.6}$	$5^{1.1}$	.	.	.	.
Plagiomnium cuspidatum	D	.	$6^{1.2}$	.	.	.	.	$5^{1.1}$	.	.	.	$13^{3.2}$
Anomodon viticulosus	D	.	.	.	.	.	$11^{2.9}$	$10^{2.1}$	.	.	.	.
Fissidens taxifolius	D	.	$6^{1.2}$	.	.	.	.	.	.	.	.	$13^{3.2}$
Collema flaccidum	D	.	.	$10^{2.2}$	$3^{0.7}$	$4^{0.9}$	.	.	.	.	.	.
Mnium orthorrhynchium	D	.	.	.	.	.	$11^{2.5}$	$5^{1.1}$	.	.	.	.
Tetraphis pellucida	D	.	.	$5^{1.1}$	$6^{1.3}$	.	.	.	.	.	.	.
Herzogiella seligeri	D	.	.	$5^{1.1}$	.	.	.	$5^{1.1}$	.	.	.	.
Isothecium myurum	D	.	.	$5^{1.1}$	.	.	.	$5^{1.1}$	.	.	.	.
Mnium marginatum	D	.	.	$5^{1.1}$	.	.	.	$5^{1.1}$	.	.	.	.

Table 5: Analytical table of the subassociation *Omphalodo-Fagetum* var. geogr. *Saxifraga cuneifolia adenostyletosum glabrae* subass. nova in the Trnovski gozd plateau (NW Dinaric Alps; complete linkage, Euclidian distances).

Tabela 5: Analizna tabela subasociacije *Omphalodo-Fagetum* var. geogr. *Saxifraga cuneifolia adenostyletosum glabrae* subass. nova v Trnovskem gozdu (severozahodni Dinaridi; metoda popolnega povezovanja, Evklidske razdalje).

	Taxa		1	2	3	4	5	6	7	8	9*	10	11	12	13	14	15	16	17	18
	Characteristic species of the association *Omphalodo-Fagetum*																			
AF	*Cardamine trifolia*	C	1	1	1	1	1	+	+	.	1	1	1	1	1	.	1	1	+	1
AF	*Aremonia agrimonoides*	C	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.
AF	*Omphalodes verna*	C	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
AF	*Rhamnus fallax*	B	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r
	Differential species for the geographical variant *Saxifraga cuneifolia*																			
AT	*Paederota lutea*	C	+	.	.	+	.	.	.	+	+	.	+	.	.	.	.	.	.	+
FS	*Laburnum alpinum*	B	.	r	.	1	+	+	.	+	.	.	.	.	.	.	.	.	.	.
		C	.	.	.	.	.	+	.	1	.	.	.	.	.	.	.	.	.	.
AT	*Phyteuma scheuchzeri/columnae*	C	.	+	.	+	.	.	.	+	r	.	.	.	.	.	.	.	.	.
VP	*Saxifraga cuneifolia*	C	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.
	Differential species combination for the subassociation *-adenostyletosum glabrae*																			
TR	*Adenostyles glabra*	C	2	1	+	1	1	+	2	1	1	+	1	+	+	+	+	1	+	1
MA	*Veratrum album*	C	1	+	+	+	1	+	+	1	+	+	+	r	+	+	+	1	1	+
MA	*Saxifraga rotundifolia*	C	+	+	+	.	.	.	.	.	.	.	.	1	+	+	.	+	+	.
AF	***Aremonio-Fagion***																			
	Cardamine enneaphyllos	C	1	1	1	1	1	+	1	1	1	1	1	1	.	1	1	1	1	1
	Cyclamen purpurascens	C	+	.	.	+	+	+	+	+	+	.	1	.	+	.	.	.	.	+
	Helleborus niger	C	.	+	.	+	1	.	.	+	.	.	.	.	.	.	.	.	.	.
	Euphorbia carniolica	C	+	.	.	.	.	.	+	+	.	.	.	.	.	.	.	.	.	.
FS	***Fagetalia sylvaticae***																			
		A	4	5	5	5	5	5	3	5	5	5	5	3	3	5	5	5	5	5
	Fagus sylvatica	B	+	+	1	2	1	+	+	+	+	1	1	3	3	1	2	+	r	+
		C	+	1	1	+	1	1	+	1	1	1	1	+	1	.	1	1	1	.
	Prenanthes purpurea	C	+	1	1	1	1	+	+	1	+	+	1	.	+	+	+	1	1	1
		A	1	1	+	+	+	+	+	+	+	+	.	1	+	1	+	1	1	+
	Acer pseudoplatanus	B	+	+	1	1	1	.	+	+	+	1	1	1	1	1	1	+	+	.
		C	1	1	2	1	1	1	.	1	1	1	.	.	1	1	1	1	+	1
	Galeobdolon flavidum	C	+	1	1	+	+	.	1	.	1	1	1	+	+	1	1	1	1	1
	Dryopteris filix-mas	C	.	+	1	+	+	.	+	.	+	1	+	+	1	1	1	1	1	+
	Mycelis muralis	C	+	+	.	1	1	.	.	.	+	+	+	+	+	+	+	+	+	+
	Neottia nidus-avis	C	.	+	+	+	+	.	.	+	+	+	+	r	+	+	+	.	+	+
	Paris quadrifolia	C	1	+	.	.	+	.	+	.	+	.	+	+	+	+	+	+	+	+
	Carex sylvatica	C	+	+	+	+	1	.	+	.	.	+	.	.	+	+	+	+	.	+
	Phyteuma spicatum/coeruleum	C	+	+	+	+	+	.	.	.	+	+	1	.	+	.	.	+	+	+
	Galium odoratum	C	1	.	1	.	.	.	+	.	.	1	+	.	+	1	1	1	+	+
	Cradamine bulbifera	C	+	.	+	.	.	.	.	.	.	+	+	+	.	1	1	+	+	+
	Epilobium montanum	C	1	+	+	.	.	.	+	.	r	+	.	1	+	.	+	.	+	.
	Festuca altissima	C	.	.	+	.	.	.	.	.	+	+	+	.	+	+	+	+	+	+
	Polystichum aculeatum	C	+	+	+	.	.	.	+	.	+	.	.	+	+	.	+	+	+	.
	Daphne mezereum	B	.	+	.	.	+	.	+	+	.	.	+	.	+	.	.	.	+	+
	Lilium martagon	C	+	+	+	.	+	.	.	.	.	.	.	.	+	.	+	+	+	.
	Sanicula europaea	C	.	.	+	.	+	.	.	.	.	+	+	.	.	+	.	+	+	+
	Galium laevigatum	C	.	.	+	+	+	.	.	+	+	.	1	.	.	.	.	.	.	+
	Mercurialis perennis	C	2	.	.	.	.	+	2	1	+	.	.	.	.	.	.	.	1	.
	Actaea spicata	C	+	+	.	.	.	.	.	.	.	.	.	r	.	.	.	+	+	.

	Taxa		1	2	3	4	5	6	7	8	9*	10	11	12	13	14	15	16	17	18
	Scrophularia nodosa	C	+	.	+	+	.	.	.	.	.	+	.	.	.	.	.	.	.	+
	Symphytum tuberosum	C	1	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+
	Adoxa moschatellina	C	+	+	1	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.
	Circaea alpina	C	+	.	+	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.
	Stellaria montana	C	.	.	+	.	.	.	.	.	.	.	.	.	.	+	+	r	.	.
	Lonicera alpigena	B	.	+	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	+
	Poa nemoralis	C	.	.	.	.	.	.	.	.	+	.	+	.	.	.	.	.	.	+
	Carex pilosa	C	.	.	.	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.
		A	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Fraxinus excelsior	B	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.
		C	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	r	.	.
	Campanula trachelium	C	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.
	Chrysosplenium alternifolium	C	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.
	Circaea lutetiana	C	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.
	Epipactis helleborine	C	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.
	Melica nutans	C	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.
	Milium effusum	C	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.
	Myosotis sylvatica	C	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.
	Phyllitis scolopendrium	C	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.
	Salvia glutinosa	C	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.
QF	***Querco-Fagetea***																			
	Anemone nemorosa	C	1	1	1	1	1	+	+	1	1	1	+	+	1	1	1	1	1	1
	Carex digitata	C	.	.	.	.	+	.	.	+	+	.	.	.	+	.	.	.	.	.
QP	***Quercetalia pubescentis***																			
		A	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.
	Sorbus aria	B	.	+	+	+	+	.	.	+	.	.	.	.	.	+	.	.	.	+
		C	.	.	.	.	.	+	.	.	+	.	.	.	.	.	.	.	.	.
EP	***Erico-Pinetea***																			
	Calamagrostis varia	C	.	+	+	+	+	.	.	+	.	.	+	.	+	.	.	.	.	+
	Carex alba	C	.	.	.	r	+	.	.	+	.	.	.	.	.	.	.	.	.	.
	Cirsium erisithales	C	r	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.
VP	***Vaccinio-Piceetea***																			
		A	r	+	1	1	1	+	+	+	+	+	+	+	2	+	.	.	r	r
	Abies alba	B	.	+	.	.	.	r	+	.	+	.	.	.	+	.	.	.	.	r
		C	+	+	1	1	1	+	.	1	+	1	+	+	1	+	+	r	r	+
	Calamagrostis arundinacea	C	+	+	.	+	+	1	+	2	+	+	1	.	+	+	+	+	1	+
	Oxalis acetosella	C	+	1	1	1	1	.	.	.	+	1	+	1	1	1	1	1	+	1
	Veronica urticifolia	C	+	+	+	.	+	.	.	.	+	+	1	+	1	.	+	+	1	+
	Gentiana asclepiadea	C	+	+	.	+	.	+	+	+	.	.	+	.	+	.	.	+	+	.
	Aposeris foetida	C	+	+	.	+	+	+	1	1	r	.	.	.	.	.	.	+	.	.
	Maianthemum bifolium	C	+	.	+	.	.	+	+	.	.	.	.	.	+	+	.	+	+	+
	Dryopteris dilatata	C	.	.	+	.	.	+	.	.	.	+	.	+	+	+	+	+	r	.
	Vaccinium myrtillus	C	+	+	.	+	+	1	1	2	.	.	.	.	+	.	.	.	.	.
	Luzula sylvatica/sylvatica	C	.	.	+	+	+	1	.	.	.	.	.	.	+	+	.	.	.	+
		A	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.
	Picea abies	B	.	.	+	.	.	.	+	.	.	.	.	+	.	.	+	.	.	r
		C	.	.	.	.	+	+	.	.	r	.	.	.	+	.	.	.	.	.
	Dryopteris expansa	C	.	+	.	.	.	.	.	.	.	+	.	+	1	.	.	.	.	.
	Gymnocarpium dryopteris	C	.	+	.	.	.	.	.	.	r	.	.	1	.	.	+	.	.	.
	Rosa pendulina	C	.	+	.	.	+	.	.	.	.	.	+	.	.	.	.	.	+	.
	Solidago virgaurea	C	.	.	.	.	+	+	.	.	.	.	+	.	.	.	.	+	.	.
	Huperzia selago	C	.	.	.	+	.	+	.	+	.	.	.	.	.	.	.	.	.	.

	Taxa		1	2	3	4	5	6	7	8	9*	10	11	12	13	14	15	16	17	18
	Valeriana tripteris	C	.	.	.	.	.	.	.	+	+	.	+	.	.	.	.	.	.	.
	Hieracium murorum	C	.	.	.	.	.	.	.	+	.	.	+	.	.	.	.	.	.	.
MA	***Mulgedio-Aconitetea***																			
	Polygonatum verticillatum	C	+	+	+	+	1	+	+	1	1	+	+	+	+	+	+	+	1	1
	Athyrium filix-femina	C	1	1	1	1	+	+	+	.	+	1	+	2	1	1	1	1	1	+
	Senecio ovatus	C	+	+	+	+	+	.	.	+	.	1	+	+	1	1	1	+	+	+
	Ranunculus platanifolius	C	+	+	+	.	r	.	.	.	r	+	+	r	+	r	+	+	+	.
	Heracleum sphondylium	C	.	r	+	.	+	+	.	+	.	+	.	.	.	.	.	+	.	+
	Adenostyles alliariae	C	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.
	Geranium robertianum	C	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	r	.	.
	Senecio cacaliaster	C	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.
	Urtica dioica	C	r	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.
	Aconitum degenii/paniculatum	C	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.
	Aconitum lycoctonum	C	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.
	Salix appendiculata	B	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.
ES	***Elyno-Seslerietea***																			
	Aster bellidiastrum	C	+	.	.	+	+	.	.	+	+	.	+	.	.	.	.	.	.	.
	Carex ferruginea	C	.	.	.	.	+	r	.	+	.	.	+	.	.	.	.	.	.	.
	Sesleria caerulea/calcaria	C	.	.	.	.	.	r	.	+	.	.	.	.	.	.	.	.	.	.
AT	***Asplenietea tricohmanis***																			
	Cystopteris fragilis	C	+	.	+	.	.	.	.	.	+	+	+	+	+	.	.	r	+	.
	Asplenium trichomanes	C	.	+	+	.	.	.	.	.	+	.	+	.	+	.	.	.	+	.
	Asplenium viride	C	+	+	.	.	.	.	.	.	.	.	+	.	+	.	.	.	+	.
	Carex brachystachys	C	.	.	.	.	.	.	.	.	r	.	+	.	.	.	.	.	.	.
	Moehringia muscosa	C	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	+
	Sedum hispanicum	C	.	.	+	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.
	Other taxa																			
	Rubus idaeus	B	.	.	1	1	1	+	+	r	+	1	1	1	1	1	1	+	+	+
	Sorbus aucuparia	B	.	+	.	+	+	+	+	.	.	+	.	.	+	+	+	+	+	.
		C	+	.	+	1	+	1	.	+	+	.	+	.	.	.	+	.	+	+
	Galeopsis speciosa	C	.	.	+	.	.	.	.	.	.	.	.	+	.	r	.	.	.	.
	Fragaria vesca	C	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	+
	Lichens and mosses																			
	Ctenidium molluscum	D	1	1	1	1	1	+	+	2	2	1	2	1	2	1	1	1	2	1
	Isothecium alopecuroides	D	1	1	+	+	+	.	+	.	2	1	1	+	1	1	1	1	2	1
	Schistidium apocarpum	D	1	1	+	1	1	+	.	1	1	+	1	.	+	+	1	1	1	1
	Paraleucobryum sauteri	D	+	+	+	+	.	+	.	+	.	+	+	.	.	+	+	.	+	+
	Tortella tortuosa	D	+	+	+	+	1	.	.	+	.	+	+	+	+	.	+	.	1	.
	Fissidens dubius	D	+	+	+	+	+	.	.	.	+	.	.	.	+	.	.	+	1	.
	Mnium thomsonii	D	+	+	.	.	.	+	.	+	.	.	+	1	+	.	.	+	+	.
	Polytrichum formosum	D	+	.	.	+	+	+	.	+	.	.	.	.	+	.	.	+	.	+
	Peltigera canina	D	+	+	.	.	.	.	.	.	.	.	+	.	+	.	+	+	.	.
	Dicranum scoparium	D	+	.	.	+	+	.	.	+	.	.	.	.	.	.	.	.	.	+
	Plagiochila porelloides	D	+	.	.	.	.	.	.	.	.	.	.	+	+	.	+	.	1	.
	Bryum capillare	D	.	+	.	.	.	.	.	.	.	.	.	.	+	.	+	.	+	.
	Atrichum undulatum	D	.	.	.	.	.	.	.	.	.	.	.	.	+	.	+	.	+	.
	Homalothecium philippeanum	D	.	+	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	+
	Neckera crispa	D	+	.	.	.	.	.	.	.	+	.	+	.	.	.	.	.	.	.
	Conocephalum conicum	D	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.
	Hypnum cupressiforme	D	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	+	.
	Thamnobryum alopecurum	D	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Thuidium tamariscinum	D	+	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.

Table 6: Analytical table of the subassociation *Omphalodo-Fagetum* var. geogr. *Saxifraga cuneifolia saxifragetosum cuneifoliae* subass. nova in the Trnovski gozd plateau (NW Dinaric Alps; complete linkage, Euclidian distances).

Tabela 6: Analizna tabela subasociacije *Omphalodo-Fagetum* var. geogr. *Saxifraga cuneifolia saxifragetosum cuneiofliae* subass. nova v Trnovskem gozdu (severozahodni Dinaridi; metoda popolnega povezovanja, Evklidske razdalje).

	Taxa		1	2*	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	Characteristic species of the association *Omphalodo-Fagetum*																					
AF	*Cardamine trifolia*	C	1	1	+	1	1	+	+	+	1	1	.	.	+	+	1	2	2	+	.	.
AF	*Omphalodes verna*	C	.	2	+	2	1	.	2	.	2	.	.	.	.	.	2	1	.	.	.	.
AF	*Aremonia agrimonoides*	C	.	.	.	+	.	.	.	.	+	.	.	.	.	+	.	.	+	.	.	.
AF	*Calamintha grandiflora*	C	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.
	Differential species for the geographical variant *Saxifraga cuneifolia*																					
VP	*Saxifraga cuneifolia*	C	1	+	1	1	2	1	.	1	1	2	1	2	+	+	.	.	1	2	+	+
AT	*Paederota lutea*	C	.	2	2	.	.	1	.	2	2	1	2	+	.	.	.	.	.	.	.	.
AT	*Phyteuma scheuchzeri/columnae*	C	1	1	+	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.
FS	*Laburnum alpinum*	B	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.
		C	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.
	Differential species for the subassociation -*saxifragetosum cuneifoliae*																					
VP	*Saxifraga cuneifolia*	C	1	+	1	1	2	1	.	1	1	2	1	2	+	+	.	.	1	2	+	+
AF	***Aremonio-Fagion***		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Cardamine enneaphyllos	C	.	+	.	1	2	+	+	+	.	+	1	1	1	+	1	1	.	+	1	+
	Cyclamen purpurascens	C	+	+	+	+	.	.	.	.	.	.	.	1	1	+	+	.	.	.	+	+
	Euphorbia carniolica	C	.	.	.	.	+	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.
	Lamium orvala	C	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.
FS	***Fagetalia sylvaticae***																					
		A	3	1	2	+	3	2	4	2	1	2	3	1	4	4	4	4	4	4	3	3
	Fagus sylvatica	B	2	1	2	1	2	2	2	2	2	.	.	.	+	.	1	2	.	.	+	+
		C	+	+	+	+	1	+	1	+	+	+	2	+	+	+	2	1	1	1	+	.
	Prenanthes purpurea	C	+	1	1	1	1	+	1	1	1	+	+	+	1	+	1	3	1	+	+	.
	Daphne mezereum	B	1	1	+	+	+	+	+	+	1	+	+	+	+	1	.	.	+	1	+	+
	Dryopteris filix-mas	C	+	1	1	1	+	+	+	+	+	+	.	+	+	+	+	+	1	+	.	.
		A	.	.	+	.	+	.	.	.	.	.	.	.	.	.	.	1	.	+	.	.
	Acer pseudoplatanus	B	.	.	+	+	+	+	1	.	.	.	.	.	.	.	+	1	.	.	.	.
		C	+	+	+	+	+	+	2	.	+	.	.	+	+	.	+	+	+	+	.	.
	Mycelis muralis	C	.	1	+	1	+	+	+	1	+	+	.	+	+	+	1	.	+	.	.	.
	Paris quadrifolia	C	+	.	+	+	+	+	+	+	.	+	.	+	+	.	+	+	+	+	.	.
	Lonicera alpigena	B	2	.	+	.	1	.	.	.	2	+	.	.	+	+	1	+	+	2	.	+
	Epilobium montanum	C	.	+	+	+	+	+	+	.	+	.	.	.	.	+	+	.	1	+	.	.
	Polystichum aculeatum	C	+	1	+	+	.	+	+	1	+	.	.	.	.	+	+	.	.	.	.	.
	Galeobdolon flavidum	C	.	+	+	+	+	+	+	.	.	.	.	.	.	.	+	1	+	.	.	.
	Actaea spicata	C	+	+	+	+	+	.	+	.	.	+	.	.	.	.	.	.	+	.	.	.
	Galium laevigatum	C	.	.	.	.	.	1	.	.	.	1	.	.	1	2	.	.	1	+	+	1
	Lilium martagon	C	.	.	+	.	.	.	.	+	.	+	+	+	+	+	.	.	.	.	.	+
	Festuca altissima	C	.	.	.	.	.	1	2	+	.	.	.	.	.	.	.	.	3	+	+	+
	Mercurialis perennis	C	.	1	+	1	.	.	1	.	.	.	.	.	.	.	.	.	1	2	.	.
	Galium odoratum	C	.	.	+	.	.	.	+	.	.	.	.	.	.	+	.	1	1	.	.	.
	Sambucus nigra	C	+	+	+	.	.	.	+	.	.	.	.	.	+	.	.	.	.	.	.	.
	Aruncus dioicus	C	.	+	+	.	r	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.
	Phyteuma spicatum	C	.	.	.	.	.	.	.	+	.	+	.	+	.	+	.	.	.	.	.	.
	Lathyrus vernus/flaccidus	C	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	+	.	.	.
	Lathyrus vernus/vernus	C	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	1	.	.	.
	Phyteuma spicatum/coeruleum	C	.	.	.	.	2	.	.	.	.	.	.	.	.	.	2	+	.	.	.	.

	Taxa		1	2*	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	Viola reichenbachiana	C	+	+	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.
	Adoxa moschatellina	C	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.
QP	***Quercetalia pubescentis***																					
		A	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.	.	1	.	+	.
	Sorbus aria	B	1	+	.	.	.	+	.	+	+	+	.	.	+	+	.	.	.	+	+	+
		C	1	.	+	+	.	+	.	+	+	+	.	+	+	+	.	.	+	+	.	.
	Sesleria autumnalis	C	.	.	.	.	.	.	.	.	.	.	.	.	3	+	.	.	.	.	.	.
QF	***Querco-Fagetea***																					
	Anemone nemorosa	C	1	1	1	1	.	1	1	2	1	2	2	+	1	+	2	2	1	1	1	1
	Carex digitata	C	+	.	+	+	.	.	.	+	.	+	+	+	+	+	.	.	.	1	+	+
	Hepatica nobilis	C	2	1	.	.	.	.	+	+	1	.	.	.	1	+	.	.	.	.	.	.
	Anemone x pittonii	C	.	.	+	.	.	.	.	.	+	.	.	.	.	.	.	.	1	.	.	.
	Cruciata glabra	C	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.
EP	***Erico-Pinetea***																					
	Cirsium erisithales	C	+	+	+	1	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.
	Rhododendron hirsutum	B	.	.	.	.	.	.	.	2	3	.	.	.	.	.	.	.	.	.	.	.
	Rubus saxatilis	C	.	.	.	.	+	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.
VP	***Vaccinio-Piceetea***																					
		A	2	2	2	2	1	+	3	1	1	3	1	2	1	1	2	2	1	1	2	1
	Abies alba	B	1	2	2	1	2	2	3	1	2	.	.	.	+	+	2	.	.	+	+	+
		C	2	2	2	2	1	+	2	1	2	+	+	+	+	+	2	1	1	+	.	.
	Gentiana asclepiadea	C	1	+	1	1	1	+	+	1	1	+	+	+	+	+	1	1	+	1	1	+
	Calamagrostis arundinacea	C	3	2	3	4	2	2	2	.	2	4	4	4	1	2	2	2	3	4	2	2
	Rosa pendulina	C	1	2	1	1	2	+	1	.	2	+	+	+	+	+	1	+	+	+	1	+
	Clematis alpina	C	2	2	3	1	1	3	1	2	3	3	2	3	1	2	.	.	1	2	2	1
		A	.	3	3	2	3	2	2	2	2	+	1	2	+	1	1	1	1	.	+	+
	Picea abies	B	+	1	1	2	.	2	2	1	2	.	.	.	+	+	.	.	.	+	+	+
		C	1	2	2	2	.	+	2	1	2	.	+	+	.	+	+	+	+	+	.	+
	Solidago virgaurea	C	1	1	2	1	.	1	+	2	1	+	+	+	+	+	+	.	1	1	+	+
	Valeriana tripteris	C	1	2	2	.	2	2	1	.	1	+	+	+	+	+	2	+	+	+	+	1
	Maianthemum bifolium	C	+	.	1	.	1	+	1	1	.	1	2	1	1	3	+	+	1	1	1	1
	Oxalis acetosella	C	.	2	1	1	1	1	1	+	.	2	2	2	+	+	1	1	2	1	+	.
	Huperzia selago	C	1	1	1	+	.	1	+	1	+	+	+	+	+	+	.	.	.	+	+	+
	Veronica urticifolia	C	1	1	+	.	2	1	+	2	+	+	.	+	+	1	2	1	+	+	.	.
	Homogyne sylvestris	C	2	1	2	.	1	1	.	2	2	+	+	+	+	+	1	.	1	1	.	.
	Vaccinium myrtillus	C	3	.	1	2	3	4	3	+	3	.	+	+	.	.	4	3	.	1	.	.
	Lonicera nigra	B	1	1	+	1	+	+	.	.	1	.	.	.	+	.	+	1	+	+	.	.
	Luzula luzuloides	C	.	.	1	+	.	.	.	.	.	+	+	1	+	+	.	.	3	2	+	1
	Dryopteris dilatata	C	.	+	+	1	.	+	+	1	.	.	.	.	.	.	.	.	.	+	.	.
	Hieracium murorum	C	.	.	.	.	.	.	.	+	.	.	+	.	+	1	1	.	.	.	+	+
	Phegopteris connectilis	C	.	+	.	.	1	+	+	1	+	+	.	.	.	.	.	.	.	.	.	.
	Luzula sylvatica/sylvatica	C	.	.	.	+	.	1	.	1	.	+	+	.	.	.	1	.	.	.	.	.
	Polystichum lonchitis	C	.	+	+	+	+	+	.	.	1	.	.	.	.	.	.	.	.	.	.	.
	Gymnocarpium dryopteris	C	.	.	.	+	1	.	+	.	+	.	.	.	.	+	.	.	.	.	.	.
	Vaccinium vitis-idaea	C	+	.	.	.	.	1	.	.	1	.	.	.	.	.	.	.	.	.	.	.
	Aposeris foetida	C	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.
	Dryopteris expansa	C	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.
	Lycopodium annotinum	C	.	.	.	.	.	.	.	1	+	.	.	.	.	.	.	.	.	.	.	.
MA	***Mulgedio-Aconitetea***																					
	Polygonatum verticillatum	C	+	+	+	1	1	1	+	+	+	+	1	1	+	.	2	3	2	+	+	1
	Ranunculus platanifolius	C	.	1	+	1	1	1	+	1	+	+	+	+	+	+	.	.	+	.	.	.
	Veratrum album	C	1	+	+	+	+	+	.	+	+	+	+	+	.	.	1	1	.	1	.	.

	Taxa		1	2*	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	Athyrium filix-femina	C	+	+	+	1	1	+	+	+	+	.	.	.	.	.	1	1	.	+	.	.
	Senecio ovatus	C	+	+	+	.	.	+	+	.	.	.	+	+	+	+	+	+	1	.	.	.
	Salix appendiculata	B	+	+	+	.	.	+	+	+	+	.	.	.	.	.	.	.	.	.	.	.
	Doronicum austriacum	C	.	.	.	.	+	+	.	+	.	.	.	.	.	.	.	.	.	.	.	.
	Geranium robertianum	C	.	+	.	.	.	+	.	.	.	.	.	.	.	.	.	.	+	.	.	.
	Phyteuma ovatum	C	.	.	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Urtica dioica	C	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	+	.	.
AT	***Asplenietea trichomanis***																					
	Asplenium viride	C	1	1	1	2	+	1	1	1	1	+	+	+	+	+	+	+	+	1	+	+
	Asplenium trichomanes	C	+	1	+	+	+	+	+	+	1	+	+	.	+	.	.	.	+	+	.	.
	Cystopteris fragilis	C	1	.	1	+	+	.	.	1	1	+	+	.	.	.	+	.	+	+	.	.
	Moehringia muscosa	C	+	+	.	.	+	.	+	.	.	+	+	+	+	+	.	.	+	.	.	+
	Asplenium ruta-muraria	C	1	1	1	1	.	+	1	+	1	.	.	.	.	+	.	.	.	1	.	.
	Polypodium vulgare	C	+	+	.	+	.	+	.	+	.	.	.	+	.	.	.	.	+	.	.	.
	Cystopteris montana	C	.	+	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.	.	.	.
TR	***Thlaspietea rotundifolii***																					
	Adenostyles glabra	C	.	+	+	1	.	+	.	.	.	1	+	+	1	+	+	+	1	+	+	+
	Gymnocarpium robertianum	C	+	+	.	.	.	.	.	1	+	.	.	+	.	+	.	.	.	.	.	.
	Other taxa																					
		A	+	1	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.
	Sorbus aucuparia	B	+	.	1	+	.	+	.	.	1	.	.	.	.	.	+	1	.	.	.	+
		C	+	+	1	+	+	+	+	.	1	+	+	+	+	+	+	+	+	+	.	.
	Rubus idaeus	B	+	.	+	1	1	+	+	.	.	+	+	1	+	.	1	+	+	+	+	+
	Fragaria vesca	C	+	.	.	.	.	+	.	.	+	.	.	.	.	+	+	+	.	.	.	.
	Spiraea chamaedryfolia	B	.	.	.	.	.	+	.	1	.	+	.	.	.	.	.	.	.	.	+	+
	Solanum dulcamara	C	.	+	.	.	.	.	+	.	.	.	.	.	.	.	.	.	+	+	.	.
	Sambucus racemosa	B	.	.	.	+	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.
	Lichens and mosses																					
	Ctenidium molluscum	D	2	2	1	.	2	2	2	.	2	2	.	1	+	.	2	2	2	.	+	+
	Cladonia pyxidata	D	.	+	+	+	+	+	+	.	.	+	+	+	+	.	+	+	+	+	.	.
	Dicranum scoparium	D	1	2	2	2	2	2	1	.	1	.	1	+	+	.	1	+	.	+	.	.
	Plagiochila asplenioides	D	1	.	.	.	+	+	+	.	.	2	1	+	+	.	1	+	+	.	.	.
	Neckera crispa	D	.	2	.	2	.	1	+	.	2	.	+	+	1	.	.	.	2	.	.	+
	Cladonia digitata	D	.	.	+	.	+	+	+	.	+	+	+	+	.	.	.	.	.	+	.	.
	Cladonia furcata	D	+	+	.	+	+	1	+	.	+	.	.	.	.	.	+	.	.	.	.	.
	Cladonia coniocraea	D	.	.	+	.	+	.	.	.	+	+	.	+	.	.	.	.	+	+	.	.
	Grimmia pulvinata	D	1	.	.	.	.	+	.	.	.	.	.	.	1	.	.	+	1	+	.	.
	Polytrichum formosum	D	.	.	1	2	.	+	1	.	.	.	.	.	+	.	1	.	.	.	.	.
	Tortella tortuosa	D	+	.	.	.	.	+	.	.	.	.	.	.	+	.	.	.	.	.	.	1
	Radula complanata	D	.	.	.	.	+	+	.	.	.	.	.	.	.	.	.	.	+	.	.	.
	Collema flaccidum	D	.	.	.	+	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.
	Hypnum cupressiforme	D	.	.	.	.	.	+	.	.	.	.	.	.	+	.	.	.	.	.	.	.
	Isothecium alopecuroides	D	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	+	.
	Leucobryum glaucum	D	.	1	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Plagiothecium laetum	D	.	.	.	.	.	+	.	+	.	.	.	.	.	.	.	.	.	.	.	.

Table 7: Analytical table of the subassociation *Omphalodo-Fagetum* var. geogr. *Saxifraga cuneifolia calamagrostietosum arundinaceae* subass. nova in the Trnovski gozd, plateau (NW Dinaric Alps; complete linkage, Euclidian distances).

Tabela 7: Analizna tabela subasociacije *Omphalodo-Fagetum* var. geogr. *Saxifraga cuneifolia calamagrostietosum arundinaceae* subass. nova v Trnovskem gozdu (severozahodni Dinaridi; metoda popolnega povezovanja, Evklidske distance).

	Taxa		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	30	31	32	33	34
	Characteristic species of the association *Omphalodo-Fagetum*																																			
AF	*Cardamine trifolia*	C	1	1	1	1	2	1	1	2	2	2	1	2	1	2	2	1	1	1	1	1	1	1	.	.	+	1	1	1	1	1	1	1	1	1
AF	*Aremonia agrimonoides*	C	.	+	+	1	1	1	1	+	+	+	+	+	+	+	+	+	1	.	+	+	.	+	.	.	+	.	.	.	.	.	+	+	+	+
AF	*Calamintha grandiflora*	C	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+
AF	*Omphalodes verna*	C	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+
	Differential species for the geographical variant *Saxifraga cuneifolia*																																			
VP	*Saxifraga cuneifolia*	C	1	.	.	+	+	+	+	2	1	+	+	+	+	.	.	1	+	1	1	.	.	.	1	.	1	2	.	.	.	.	.	1	.	.
AT	*Phyteuma scheuchzeri/columnae*	C	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Differential species for the subassociation *-calamagrostietosum arundinaceae*																																			
VP	*Calamagrostis arundinacea*	C	1	3	3	4	3	4	4	+	4	4	2	4	3	+	.	4	2	3	3	4	2	4	3	3	3	3	4	4	3	2	4	2	3	.
AF	***Aremonio-Fagion***																																			
	Cardamine enneaphyllos	C	.	1	1	.	1	2	1	+	1	2	1	.	+	2	1	2	2	2	1	.	+	+	1	2	+	+	+	+	1	+	1	.	1	1
	Cyclamen purpurascens	C	.	2	2	+	.	+	1	+	.	+	1	.	.	.	+	.	+	1	.	.	.	.	.	1	1	1	.	+	.	.	.	.	1	+
	Lamium orvala	C	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	2	2	.	.	.	.	.	+
	Anemone trifolia	C	.	+	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
FS	***Fagetalia sylvaticae***																																			
		A	3	3	+	4	4	3	3	3	2	2	2	2	4	3	3	3	3	3	4	2	2	3	2	4	2	2	3	+	4	2	3	3	4	2
	Fagus sylvatica	B	1	1	1	2	2	2	2	2	1	1	2	2	1	3	2	2	2	1	2	2	1	2	1	+	2	1	1	2	2	2	+	2	2	2
		C	1	1	2	1	1	1	1	1	1	1	2	2	+	1	1	1	1	1	1	1	1	1	2	2	1	1	2	1	+	+	2	2	+	+
	Dryopteris filix-mas	C	+	+	+	1	+	+	+	1	+	+	+	1	+	1	+	+	2	+	+	+	1	+	+	1	1	+	+	2	+	+	+	1	1	1
	Mycelis muralis	C	+	1	+	+	1	+	+	+	+	+	+	+	+	+	+	+	1	1	+	+	1	1	1	1	+	+	+	+	+	1	+	+	1	1
	Galeobdolon flavidum	C	.	+	+	1	1	+	+	.	+	+	+	+	+	+	+	+	1	+	+	+	1	1	+	+	+	+	+	+	+	+	+	1	2	1
	Prenanthes purpurea	C	+	1	1	+	+	1	1	+	1	1	+	1	2	+	2	1	1	+	1	2	2	1	+	1	+	+	.	+	1	1	.	+	1	1
		A	1	.	.	1	.	+	.	.	.	+	.	1	+	.	.	+	+	.	.	.	.	+	.	+	.	.	.	.	.	.	.	.	.	.
	Acer pseudoplatanus	B	.	+	1	2	1	1	2	+	1	1	+	.	1	1	1	1	+	1	+	+	.	1	.	+	.	+	.	.	+	+	+	1	+	+
		C	.	.	1	2	2	2	2	2	2	2	1	2	1	2	2	2	1	2	1	1	+	2	2	1	+	+	+	1	+	1	1	2	1	.
	Daphne mezereum	B	+	1	+	1	+	+	+	1	+	+	+	.	+	+	1	.	+	+	1	1	.	.	.	+	+	+	1	+	+	1	+	.	.	+
	Paris quadrifolia	C	+	r	+	+	+	+	+	+	.	.	r	+	+	+	+	+	.	.	+	.	.	+	.	.	+	+	+	+	+	+	+	+	+	+
	Epilobium montanum	C	.	.	+	1	.	+	+	.	+	+	r	.	.	+	.	+	2	+	+	1	+	1	.	1	+	+	.	+	+	+	+	1	+	+
	Festuca altissima	C	.	+	+	.	1	+	2	+	1	+	1	+	2	1	.	+	4	1	1	1	3	+	+	+	.	.	.	.	+	.	.	+	.	.
	Actaea spicata	C	.	.	.	.	+	.	.	r	+	+	+	+	+	1	+	.	.	+	.	.	+	.	+	+	+	+	+	+	+	.	1	+	+	.
	Sambucus nigra	C	.	+	+	.	+	.	+	.	.	.	.	.	.	+	.	.	1	+	.	+	+	+	+	+	+	+	.	+	+	+	+	+	+	.

Neottia nidus-avis	C	.	+	+	+	+	+	.	.	.	+	r	.	.	+	+	+	+	.	.	.	.	+	.	+	.	.	.	+	.	.	r	+	.	.
Galium odoratum	C	.	.	.	.	1	.	2	.	.	.	.	1	.	.	+	1	+	.	2	.	.	+	.	.	.	+	1	1	.	.	+	.	.	1
Polystichum aculeatum	C	.	.	+	.	.	r	.	+	.	+	.	.	+	.	.	.	+	.	.	.	+	.	+	.	.	+	.	.	.	+	+	+	1	.
Lonicera alpigena	B	.	.	.	+	+	.	.	1	.	.	.	.	1	.	+	+	.	.	.	.	.	.	.	.	.	1	1	+	.	1	.	.	.	1
Adoxa moschatellina	C	.	.	.	.	+	.	.	.	+	+	.	.	.	.	.	.	+	.	.	.	+	.	.	.	+	+	+	+	.	.	+	.	.	.
Lathyrus vernus/vernus	C	.	+	1	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	+	+	+	1	.	.	+	.	.	.
Mercurialis perennis	C	.	3	3	2	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	2	1	+	2	.	.	.	.	.	.
Sanicula europaea	C	.	.	.	+	1	.	+	+	.	+	.	.	.	+	+	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+
Scrophularia nodosa	C	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	r	.	.	.	+	.	+	.	.	+	+	.	.	+	.	1	+
Lathyrus vernus/flaccidus	C	.	+	1	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	+	+	+	.	.	.	+	.	.	.
Galium laevigatum	C	.	1	.	1	+	.	.	.	.	.	.	.	.	.	.	1	1	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.
Lilium martagon	C	+	.	.	.	.	.	.	.	.	+	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	+	.	+	.	.	.	.	+	.
Epipactis helleborine	C	.	.	.	.	.	.	.	+	.	.	.	.	.	.	+	.	.	.	.	.	.	+	.	.	.	.	.	+	.	r	.	.	.	.
Carex sylvatica	C	.	.	.	.	.	.	.	.	.	1	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	+
Stellaria montana	C	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	+	r	.	.	+	.	.	.
Phyteuma spicatum/coeruleum	C	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.
Ranunculus lanuginosus	C	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	r	.	+	.	.	.	.	.	.	.
Euphorbia amygdaloides	C	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+
Myosotis sylvatica	C	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.
Polygonatum multiflorum	C	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
QP ***Quercetalia pubescentis***																																			
	A	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.
Sorbus aria	B	+	1	+	.	.	.	+	.	+	+	+	.	.	+	.	+	.	.	+	.	+	.	.	.	+	+	+	+	+	1	.	.	.	.
	C	.	1	+	+	.	.	.	+	.	+	.	.	.	+	.	+	.	.	+	.	.	.	.	.	+	+	+	.	.	.	.	.	.	.
QF ***Querco-Fagetea***																																			
Anemone nemorosa	C	2	+	1	2	2	2	2	+	1	2	+	2	+	+	2	1	.	.	1	.	.	+	1	1	1	1	1	1	.	+	1	1	+	1
Carex digitata	C	.	+	+	+	.	+	+	+	.	+	.	.	.	+	+	.	.	.	+	+	+	+	.	.	+	+	+	.	.	.	+	+	.	.
Anemone x pittonii	C	.	+	.	.	.	.	+	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.
Lonicera xylosteum	B	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	+	.	.	.	.	+
Hepatica nobilis	C	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.	.	.
Platanthera bifolia	C	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.
EP ***Erico-Pinetea***																																			
Rubus saxatilis	C	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.
VP ***Vaccinio-Piceetea***																																			
	A	2	1	4	1	1	2	2	4	3	3	4	2	3	4	4	2	2	2	2	3	2	2	4	2	4	3	2	4	4	4	4	2	2	4
Abies alba	B	.	.	.	+	+	.	.	.	.	+	.	+	.	+	.	+	1	.	1	2	+	+	+	+	+	+	.	.	.	.	.	.	1	2
	C	1	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1	1	2	1	2	1	1	1	1	1	1	1	2	2	1	1	2
Oxalis acetosella	C	2	.	.	2	2	1	2	3	2	2	2	3	2	3	2	1	1	1	2	1	1	2	2	1	2	2	2	2	2	2	3	2	3	1

	Taxa		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	30	31	32	33	34
	Rosa pendulina	C	+	+	1	1	.	+	1	+	1	+	+	1	.	+	+	+	2	+	1	1	1	.	1	+	+	1	.	.	1	+	+	+	+	+
	Maianthemum bifolium	C	.	+	1	+	+	1	1	+	1	1	+	+	2	1	2	1	.	+	2	+	.	1	.	+	1	+	1	1	.	.	+	.	.	1
	Luzula luzuloides	C	+	2	+	.	+	2	1	.	+	+	.	+	+	+	1	1	2	3	.	.	1	1	.	1	1	1	1	1	.	.	+	1	+	.
		A	+	.	.	.	.	.	.	.	.	+	.	2	1	+	+	+	1	2	1	.	1	.	+	.	.	.	.	.	.	1	+	.	.	+
	Picea abies	B	.	.	.	.	.	.	.	.	.	+	.	2	.	+	.	.	.	.	.	+	+	.	.	.	+	.	.	.	.	+	.	.	.	1
		C	+	+	+	.	.	+	+	+	.	+	+	1	1	.	+	+	+	+	+	1	+	+	.	.	+	.	+	.	+	+	+	.	.	1
	Gentiana asclepiadea	C	.	.	.	1	+	r	.	+	+	+	+	+	1	+	+	.	.	.	+	+	+	.	.	.	+	+	+	.	+	+	.	.	.	.
	Solidago virgaurea	C	2	.	.	+	.	+	.	1	+	+	+	.	1	.	1	.	.	+	.	1	+	+	.	.	.	1	.	+	+	+	.	+	.	1
	Dryopteris dilatata	C	.	.	.	.	1	+	.	.	+	+	+	+	2	+	+	.	.	.	.	.	.	.	+	+	.	+	.	+	1	.	+	+	+	+
	Lonicera nigra	B	.	.	.	.	1	.	+	2	2	.	r	+	2	1	1	.	.	1	+	+	.	.	.	.	+	1	.	.	1	1	.	.	.	1
	Vaccinium myrtillus	C	.	+	.	.	.	.	.	.	1	+	+	1	2	+	+	.	.	+	2	1	.	.	+	.	.	+	.	.	+	.	.	.	.	+
	Huperzia selago	C	.	.	.	.	.	+	.	+	+	.	.	.	.	+	.	.	.	.	1	.	.	.	.	.	+	+	.	.	+	+	.	.	.	.
	Valeriana tripteris	C	+	.	+	+	.	.	.	.	.	.	.	.	+	.	+	.	.	.	.	.	.	.	.	.	.	1	.	.	.	2	.	.	.	+
	Homogyne sylvestris	C	1	.	.	.	r	.	.	2	.	.	.	.	+	.	.	.	.	.	+	.	.	.	.	.	.	1	.	.	.	.	.	+	.	.
	Veronica urticifolia	C	.	.	.	.	.	.	.	.	+	.	+	.	+	.	+	.	.	.	+	+	.	.	+	.	.	.	.	.	.	.	.	.	.	.
	Dryopteris expansa	C	.	.	.	+	1	.	.	.	.	.	.	.	.	.	+	.	.	.	+	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.
	Gymnocarpium dryopteris	C	.	.	.	.	.	.	.	1	.	.	.	.	.	+	.	.	+	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.	.
	Clematis alpina	C	.	.	.	1	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	2	.	.	.	.
	Hieracium murorum	C	.	1	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Phegopteris connectilis	C	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.
MA	***Mulgedio-Aconitetea***																																			
	Senecio ovatus	C	1	+	+	1	1	+	1	+	+	+	+	1	+	1	+	+	1	+	+	+	1	1	+	+	+	1	1	1	+	+	+	+	1	+
	Athyrium filix-femina	C	+	.	+	2	1	+	+	1	1	1	+	1	2	1	1	+	1	+	+	+	1	+	1	.	+	+	+	2	+	+	+	1	1	1
	Polygonatum verticillatum	C	+	+	+	1	+	1	1	.	+	+	.	+	+	+	+	1	1	1	+	+	+	+	+	+	1	+	1	.	.	+	1	+	+	.
	Geranium robertianum	C	.	2	.	+	+	r	+	+	+	+	+	.	.	+	.	+	1	+	.	+	+	1	+	+	+	+	+	+	.	1	+	+	+	+
	Urtica dioica	C	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	+	.	+	.	+	.	.	+	+	+	+
	Veratrum album	C	.	+	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.	.	.	+
	Ranunculus platanifolius	C	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+
AT	***Asplenietea trichomanis***																																			
	Asplenium trichomanes	C	.	1	+	+	+	+	+	+	+	+	+	+	.	+	.	+	+	+	+	+	1	+	+	1	+	+	+	+	+	1	+	+	1	+
	Asplenium viride	C	+	.	+	+	+	.	.	1	+	.	.	.	+	.	+	+	.	.	.	.	1	.	+	+	1	+	+	+	1	2	+	.	+	+
	Moehringia muscosa	C	.	2	+	+	.	.	+	.	+	.	.	.	.	+	.	.	.	.	.	+	+	.	+	1	1	+	r	+	1	+	+	+	.	.
	Cystopteris fragilis	C	+	.	.	.	+	.	.	+	.	+	.	.	.	.	.	.	+	+	+	+	.	+	.	+	+	.	.	r	.	1	+	+	+	+
	Asplenium ruta-muraria	C	+	1	1	.	.	.	+	.	.	.	.	.	.	.	.	.	+	+	.	+	+	.	.	+	+	+	.	.	.	+	.	.	+	1
	Polypodium vulgare	C	.	.	.	.	.	+	.	.	.	+	+	+	+	.	+	.	.	.	.	+	.	.	.	.	1	.	.	+	.	+	+	+	+	+
TR	***Thlaspietea rotundifolii***																																			
	Adenostyles glabra	C	+	1	1	1	1	1	1	+	1	1	1	+	+	1	+	1	1	1	1	1	1	1	+	+	1	1	+	.	1	1	.	1	1	+

Other taxa																																			
Rubus idaeus	B	+	.	1	1	+	+	1	+	+	1	1	+	+	1	+	1	.	1	+	1	1	1	+	+	+	+	+	1	+	+	+	1	+	+
	A	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.
Sorbus aucuparia	B	.	+	.	.	.	+	+	+	+	+	+	+	1	1	.	+	+	1	+	1	+	+	.	.	.	+	.	.	1	+	.	.	.	+
	C	+	1	+	+	+	+	+	1	+	+	+	1	1	+	+	.	1	1	+	+	+	+	+	.	+	+	+	.	+	.	+	.	.	1
Solanum dulcamara	C	+	.	+	+	+	.	.	+	+	+	+	.	.	.	.	.	1	+	.	+	.	.	+	+	.	.	.	.	+	+	.	.	.	+
Dactylorhiza maculata	C	+	.	.	.	.	.	.	.	+	1	.	+	+	r	1	.	.	.	.	.	.	.	.	.	r	.	.	+	+	.	+	.	.	.
Fragaria vesca	C	.	.	.	.	.	.	.	+	.	.	.	+	.	+	+	.	+	+	.	.	.	+	.	+	.	.	+	.	+	+	.	.	.	.
Galeopsis speciosa	C	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	+	.	.	.	.	.	.
Sambucus racemosa	B	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	1
Polystichum x luerssenii	C	+	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lichens and mosses																																			
Ctenidium molluscum	D	1	1	.	2	2	.	1	1	2	1	2	2	1	.	.	1	2	2	1	.	2	.	2	1	.	1	1	1	2	3	1	.	1	2
Cladonia pyxidata	D	.	+	+	.	+	+	+	.	.	.	.	+	.	+	.	+	+	+	+	1	+	.	.	.	+	+	+	.	.	+	.	+	.	+
Cladonia coniocraea	D	.	+	+	.	.	+	+	.	+	.	+	+	.	.	.	.	.	.	.	+	+	+	.	+	+	.	.	+	+	+	+	+	+	.
Neckera crispa	D	.	.	.	2	1	.	.	1	+	1	.	.	.	.	+	1	2	.	.	.	3	.	2	1	.	2	+	.	.	3	.	2	.	2
Dicranum scoparium	D	.	.	.	.	.	1	.	.	+	.	.	.	.	2	1	.	+	.	1	1	+	+	1	.	.	1	.	.	1	+	.	+	.	1
Grimmia pulvinata	D	.	.	.	1	+	.	.	.	+	.	.	.	.	+	.	.	+	.	+	.	1	.	.	.	.	+	.	.	.	.	.	.	.	1
Tortella tortuosa	D	.	1	.	+	1	.	.	.	.	.	.	.	.	.	+	1	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Hypnum cupressiforme	D	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	1	.	.	1	1	.	.
Cladonia digitata	D	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	+	.	.	.	.	.	.	.	.	.	+	.	+	.
Cladonia furcata	D	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	+	+	.	.	.	.	.	+	.	.
Metzgeria conjugata	D	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	+	.	+	.	.	.	.	.	.	.	.	+	.	.	.
Plagiochila asplenioides	D	1	.	.	1	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.
Atrichum undulatum	D	+	.	.	.	.	.	+	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Polytrichum formosum	D	+	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.
Radula complanata	D	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+
Tetraphis pellucida	D	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.	.	.

Table 8: Analytical table of the subassociation *Omphalodo-Fagetum* var. geogr. *Saxifraga cuneifolia festucetosum altissimae* (I) subass. nova in the Trnovski gozd plateau (NW Dinaric Alps; complete linkage, Euclidian distances).

Tabela 8: Analizna tabela subasociacije *Omphalodo-Fagetum* var. geogr. *Saxifraga cuneifolia festucetosum altissimae* (I) subass. nova v Trnovskem gozdu (severozahodni Dinaridi; metoda popolnega povezovanja, Evklidske razdalje).

	Taxa		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
	Characteristic species of the association *Omphalodo-Fagetum*																										
AF	*Cardamine trifolia*	C	1	2	1	2	1	1	1	1	2	.	1	+	.	1	.	+	1	1	1	1	2	1	1	1	2
AF	*Aremonia agrimonoides*	C	+	1	.	.	1	1	1	+	.	.	.	+	.	.	+	+	1	+	.	+	+	+	.	.	+
	Differential species for the geographical variant *Saxifraga cuneifolia*																										
VP	*Saxifraga cuneifolia*	C	+	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	1	2	1	1
AT	*Paederota lutea*	C	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.
	Differential species for the subassociation *-festucetosum altissimae*																										
FS	*Festuca altissima*	C	2	3	4	2	3	3	3	3	3	1	1	2	1	3	2	3	4	4	+	3	2	3	+	+	2
	Differential species combination for the variants																										
VP	*Calamagrostis arundinacea*	C	4	2	2	3	.	1	2	1	.	.	.	.	.	.	.	.	.	.	.	.	1	.	+	+	.
AF	*Lamium orvala*	C	.	+	.	.	.	.	.	.	.	+	+	+	2	2	2	1	2	.	1	+	.	+	.	.	.
FS	*Cardamine bulbifera*	C	.	+	.	.	.	.	.	.	+	1	+	+	1	+	+	.	.	.	+	.	.	.	.	.	.
FS	*Cardamine impatiens*	C	.	.	.	.	.	.	.	.	.	.	.	+	+	+	+	.	.	.	.	.	.	.	.	.	.
		A	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	1	+	.	1	.	1	1	.
VP	*Picea abies*	B	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	+
		C	.	+	.	+	.	.	+	.	.	+	.	.	+	.	+	.	.	.	+	+	+	.	+	+	.
MA	*Saxifraga rotundifolia*	C	.	+	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	+	+	+	1	+	1	1
VP	*Saxifraga cuneifolia*	C	+	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	1	2	1	1
AF	***Aremonio-Fagion***																										
	Cardamine enneaphyllos	C	3	1	2	+	1	.	.	1	2	2	3	2	2	1	1	1	1	1	1	2	2	3	1	1	.
	Anemone trifolia	C	.	.	.	.	.	1	.	.	.	.	1	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.
	Euphorbia carniolica	C	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.
	Rhamnus fallax	B	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	+	.	.	.	.	.	.	.	.	.
FS	***Fagetalia sylvaticae***																										
		A	3	4	3	4	3	3	3	4	4	4	3	4	2	2	3	3	4	3	2	2	4	4	3	3	3
	Fagus sylvatica	B	1	+	+	.	+	2	2	3	.	.	1	1	+	.	.	.	1	2	1	2	1	2	1	.	+
		C	1	1	1	1	1	1	1	1	1	1	+	+	+	+	+	+	1	2	2	1	1	1	1	2	+
	Dryopteris filix-mas	C	+	+	1	+	+	+	1	1	+	+	+	2	2	1	+	+	1	2	+	+	+	2	2	1	1
		A	.	.	.	+	.	.	.	.	.	.	.	1	1	+	.	.	.	.	1	.	.	+	1	2	1
	Acer pseudoplatanus	B	+	1	+	+	+	.	.	+	.	+	.	1	1	+	+	.	+	1	1	2	2	1	1	1	+
		C	.	+	2	1	+	+	+	1	1	1	+	+	1	+	1	+	+	2	4	2	1	3	1	2	1
	Paris quadrifolia	C	+	1	+	+	+	+	+	1	1	1	+	+	+	+	+	+	+	+	+	+	.	+	+	+	.
	Galium odoratum	C	1	+	2	+	1	1	1	1	1	+	1	+	+	1	2	3	2	1	1	1	3	.	.	.	1
	Mycelis muralis	C	+	.	+	1	+	+	+	+	.	+	+	1	+	+	+	1	.	+	+	+	.	+	+	+	1
	Galeobdolon flavidum	C	1	+	+	2	.	2	.	+	+	+	+	+	.	.	+	+	+	+	+	1	1	+	1	+	.
	Prenanthes purpurea	C	+	1	+	1	+	+	+	2	+	.	+	.	.	.	.	.	1	3	1	.	1	+	+	+	+
	Stellaria montana	C	.	+	.	+	.	.	+	.	+	1	.	.	2	+	+	+	+	+	2	3	+	.	+	2	+
	Actaea spicata	C	.	+	+	.	.	+	+	+	.	.	.	+	+	+	+	.	+	.	+	.	.	1	+	+	1
	Daphne mezereum	B	+	1	+	.	+	1	1	+	+	.	.	+	.	+	+	+	1	.	+	.	.	.	.	+	.
	Sambucus nigra	C	.	.	.	+	.	.	.	.	.	1	+	.	+	.	+	+	+	r	+	+	.	+	.	+	1
	Neottia nidus-avis	C	+	+	.	+	+	.	+	+	r	.	r	.	.	.	.	+	+	.	+	+	.	.	.	.	.
	Milium effusum	C	.	+	.	+	.	.	.	.	+	+	.	.	.	+	+	+	.	+	+	2	.	.	.	+	+
	Epilobium montanum	C	.	+	+	+	.	+	.	.	.	.	.	+	.	.	.	.	.	+	+	2	+	.	1	.	1
	Sanicula europaea	C	+	+	+	.	+	+	+	1	.	.	.	.	.	+	.	+	+	.	.	.	.	.	.	.	.
	Viola reichenbachiana	C	+	+	.	.	.	+	+	.	+	+	r	.	.	.	+	r	.	.	.	.	.	.	.	.	.
	Adoxa moschatellina	C	.	.	r	.	.	.	.	+	.	+	.	.	+	.	.	.	+	+	+	.	.	.	+	+	.

	Taxa		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
	Salvia glutinosa	C	.	.	.	.	+	+	+	+	.	.	.	.	.	+	1	+	+	.	+	.	.	.	.	.	.
	Lathyrus vernus/vernus	C	+	1	.	.	2	1	1	+	.	.	1	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.
	Chrysosplenium alternifolium	C	.	.	.	.	.	.	.	.	+	+	.	+	+	.	.	.	.	.	.	+	.	1	.	+	+
	Polygonatum multiflorum	C	+	.	.	.	.	+	.	+	.	.	+	.	.	+	.	+	.	.	.	.	.	1	+	.	.
	Lonicera alpigena	B	1	+	.	.	2	+	.	1	.	.	1	.	.	.	.	2	.	.	.	.	.	+	.	.	.
	Polystichum aculeatum	C	.	.	+	+	.	.	.	.	.	+	.	.	.	.	+	.	.	.	.	.	+	.	1	+	.
	Scrophularia nodosa	C	.	.	+	+	.	.	.	.	r	1	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+
	Mercurialis perennis	C	.	.	.	+	.	.	.	+	.	.	+	+	2	+	.	.	.	.	.	.	.	.	.	.	.
	Epipactis helleborine	C	.	r	.	+	.	.	.	+	.	.	.	.	.	.	+	.	+	.	.	.	.	.	.	.	.
	Galium laevigatum	C	+	.	.	.	1	1	.	+	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.
	Arum maculatum	C	.	.	.	.	.	.	.	.	.	.	+	.	.	.	+	.	.	.	.	.	.	.	.	.	.
	Cerastium sylvaticum	C	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	+
	Impatiens noli-tangere	C	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+
	Lathyrus vernus/flaccidus	C	+	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Myosotis sylvatica	C	.	.	.	.	.	.	.	.	.	+	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.
	Phyllitis scolopendrium	C	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.	.	.	.	.
	Veronica montana	C	.	.	.	.	.	.	.	.	+	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Lilium martagon	C	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	1	.	.	.	.
QP	***Quercetalia pubescentis***																										
	Sorbus aria	B	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.
		C	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	+	.	.	.	.	.	.
	Fraxinus ornus	B	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	r	.	.	.	.	.	.	.	.
QF	***Querco-Fagetea***																										
	Anemone nemorosa	C	+	+	1	+	+	.	1	1	1	1	.	.	+	+	.	+	1	+	1	1	2	+	+	1	.
	Carex digitata	C	+	.	.	+	+	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+
	Lonicera xylosteum	B	+	.	.	.	.	1	.	.	.	.	.	.	.	.	+	+	+	.	.	.	.	.	.	.	.
	Corylus avellana	B	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.
		C	.	.	.	.	.	.	.	.	.	.	r	.	.	.	+	.	+	.	.	.	.	.	.	.	.
EP	***Erico-Pinetea***																										
	Rubus saxatilis	C	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	+	.	.	.	.	.
VP	***Vaccinio-Piceetea***																										
		A	2	2	2	2	3	3	3	4	2	2	2	1	2	4	4	3	4	3	3	3	1	2	2	1	3
	Abies alba	B	+	+	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	+	.	.
		C	+	1	1	1	1	1	1	1	1	1	+	+	+	1	+	+	1	1	1	1	1	1	1	1	2
	Oxalis acetosella	C	2	3	2	1	1	2	+	1	3	3	+	2	+	1	1	1	+	2	3	2	3	3	2	3	2
	Maianthemum bifolium	C	2	2	1	1	2	1	1	3	1	+	+	.	.	+	+	+	2	1	3	1	1	.	.	1	.
	Luzula luzuloides	C	1	1	2	1	+	+	1	+	1	+	.	.	.	.	+	.	+	+	+	+	.	.	.	+	+
	Lonicera nigra	B	+	+	.	.	.	1	1	+	.	.	.	.	.	.	+	1	+	r	+	.	1	.	+	+	.
	Gentiana asclepiadea	C	+	1	+	.	+	+	1	+	.	.	.	.	.	.	+	+	+	+	+	.	.	.	.	.	.
	Rosa pendulina	C	+	.	.	+	+	.	+	.	.	.	.	.	.	.	.	.	.	.	.	+	+	+	+	1	.	1
	Gymnocarpium dryopteris	C	.	.	.	.	.	.	.	.	1	.	.	.	.	+	.	+	.	.	1	.	3	.	1	+	.
	Dryopteris expansa	C	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	+	.	.	.	.
	Hieracium murorum	C	.	.	.	.	.	+	+	+	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.
	Solidago virgaurea	C	+	.	.	.	.	+	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	+	.	.	.
	Dryopteris dilatata	C	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	1	+	+
	Veronica urticifolia	C	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	+	.	.
	Homogyne sylvestris	C	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.
	Vaccinium myrtillus	C	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.
MA	***Mulgedio-Aconitetea***																										
	Senecio ovatus	C	1	+	+	+	1	2	1	+	+	1	+	+	1	+	+	1	1	+	+	1	1	+	.	+	+
	Athyrium filix-femina	C	.	+	+	+	.	+	1	1	+	1	+	+	1	+	+	+	.	.	2	+	1	1	2	1	1
	Geranium robertianum	C	+	.	+	.	.	+	.	.	+	2	+	+	1	+	+	.	r	+	+	+	.	+	+	1	2

	Taxa		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
	Urtica dioica	C	+	.	+	+	.	.	.	.	.	.	.	+	.	1	+	.	.	.	+	1	.	+	.	+	+
	Polygonatum verticillatum	C	+	1	+	+	.	.	.	.	+	.	.	.	.	.	.	+	.	+	+	+	.	.	.	.	+
	Veratrum album	C	.	.	1	+	.	.	.	.	.	+	.	.	.	.	.	.	.	+	+	.	1	+	.	1	.
	Ranunculus platanifolius	C	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	1	.	.	.
AT	***Asplenietea trichomanis***																										
	Asplenium trichomanes	C	+	+	.	+	+	+	+	.	.	.	+	+	+	+	+	+	.	+	.	.	.	+	+	+	.
	Polypodium vulgare	C	+	.	+	.	.	+	+	.	+	.	.	+	+	.	+	.	.	+	.	.	+	+	+	1	+
	Cystopteris fragilis	C	.	.	.	+	.	.	.	.	.	.	.	+	+	.	.	.	.	r	.	.	.	+	1	+	+
	Moehringia muscosa	C	+	.	.	.	.	1	r	.	.	.	+	.	.	.	.	.	r	.	.	.	.	+	.	.	.
	Asplenium viride	C	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	+	+	+	2
	Cymbalaria muralis	C	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.	.	.	.	.	.
TR	***Thlaspietea rotundifolii***																										
TR	*Adenostyles glabra*	C	+	+	1	+	+	+	1	+	+	.	+	+	.	+	+	.	.	+	.	+	1	+	+	+	+
	Other taxa																										
	Rubus idaeus	B	1	1	+	+	+	+	+	+	.	1	+	+	2	+	+	+	+	1	+	2	2	+	1	1	+
	Sorbus aucuparia	B	+	.	.	+	+	+	.	.	.	.	.	.	.	+	+	.	+	+	1	1	1	1	.	.	.
		C	.	+	+	+	1	1	+	1	+	.	.	+	.	.	.	+	1	+	2	+	1	+	.	+	.
	Galeopsis speciosa	C	.	+	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	+	+	+	.	.	.	.	+
	Dactylorhiza maculata	C	.	r	+	.	.	.	r	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	+	.
	Fragaria vesca	C	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	+	.	.	.	.	.	.	.
	Solanum dulcamara	C	.	.	.	.	.	+	.	.	.	.	+	.	.	.	+	.	.	.	+	.	.	.	.	.	.
	Sambucus racemosa	B	+	.	.	.	.	.	.	.	.	.	.	+	.	+	.	.	.	.	.	1	.	.	.	.	.
	Polystichum x luerssenii	C	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.	.	.	.	.	.	.
	Lichens and mosses																										
	Ctenidium molluscum	D	2	2	+	.	1	2	1	1	+	+	+	2	2	.	1	3	1	.	.	3	1	2	1	2	.
	Neckera crispa	D	2	1	+	.	1	.	+	+	.	+	+	2	1	.	1	1	+	.	.	2	.	2	2	2	3
	Grimmia pulvinata	D	.	+	+	.	+	+	.	+	+	+	+	.	.	.	+	+	+	.	.	1	+	.	.	.	.
	Cladonia coniocraea	D	+	+	.	+	.	.	.	.	+	.	.	+	+	.	.	.	.	.	+	+	.	+	+	+	+
	Cladonia pyxidata	D	+	+	.	+	.	.	.	.	+	.	.	+	.	.	.	.	.	.	.	+	.	+	+	.	+
	Dicranum scoparium	D	.	+	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	+	.	1	+	.
	Plagiomnium undulatum	D	.	.	.	.	+	.	+	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	1
	Cladonia digitata	D	.	.	+	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.	.	.	.	+	+	.
	Plagiochila asplenioides	D	.	+	+	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	1	.	.	.
	Hypnum cupressiforme	D	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	3	.	.	.	.	.	.	.	.	.

Table 9: Analytical table of the subassociation *Omphalodo-Fagetum* var. geogr. *Saxifraga cuneifolia festucetosum altissimae* (II) subass. nova in the Trnovski gozd plateau (NW Dinaric Alps; complete linkage, Euclidian distances).

Tabela 9: Analizna tabela subasociacije *Omphalodo-Fagetum* var. geogr. *Saxifraga cuneifolia festucetosum altissimae* (II) subass. nova v Trnovskem gozdu (severozahodni Dinaridi; metoda popolnega povezovanja, Evklidske razdalje).

	Taxa		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
	Characteristic species of the association *Omphalodo-Fagetum*																												
AF	*Cardamine trifolia*	C	+	+	+	.	1	1	+	+	1	1	1	2	1	+	1	1	1	1	1	2	1	1	+	2	1	1	1
AF	*Aremonia agrimonoides*	C	+	+	+	.	1	1	+	+	+	+	+	+	+	+	+	+	+	+	.	+	+	.	.	+	+	.	+
AF	*Rhamnus fallax*	B	1	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Differential species for the geographical variant *Saxifraga cuneifolia*																												
VP	*Saxifraga cuneifolia*	C	.	.	.	.	.	.	.	.	.	+	.	+	+	1	1	+	+	.	.	.	.	.	.	.	+	+	.
	Differential species for the subassociation *-festucetosum altissimae*																												
FS	*Festuca altissima*	C	2	4	3	1	3	3	+	+	2	1	+	+	+	+	+	+	+	+	+	+	1	1	+	+	+	+	+
AF	***Aremonio-Fagion***																												
	Cardamine enneaphyllos	C	+	.	.	.	+	+	.	.	1	+	1	+	.	+	+	.	+	.	1	1	1	1	+	.	+	.	.
	Lamium orvala	C	.	.	+	.	.	r	.	.	.	.	.	.	.	.	.	.	.	1	1	.	.	.	.	.	.	.	.
	Vicia oroboides	C	.	+	.	+	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
FS	***Fagetalia sylvaticae***																												
		A	2	2	1	+	2	2	3	4	3	3	2	3	3	3	1	1	2	2	3	3	1	3	3	1	2	3	2
	Fagus sylvatica	B	.	+	1	+	2	3	+	+	+	+	.	+	+	+	+	1	+	+	+	+	+	+	+	+	+	+	1
		C	+	.	.	.	+	1	.	.	+	+	+	.	.	.	+	.	.	.	.	+	+	.	.	.	+	.	.
	Dryopteris filix-mas	C	+	+	+	+	1	+	+	+	+	+	+	+	+	+	+	+	1	+	+	+	+	+	+	+	+	+	+
	Galeobdolon flavidum	C	2	+	1	+	1	1	+	+	+	+	.	+	+	+	+	+	+	+	+	+	+	.	.	+	+	.	+
	Mycelis muralis	C	+	.	+	+	1	1	+	+	+	+	+	+	+	.	+	.	+	.	+	+	+	.	.	+	+	.	+
	Prenanthes purpurea	C	+	.	+	.	.	.	+	+	+	+	.	+	+	+	+	+	.	.	+	+	+	1	1	+	+	+	+
		A	.	.	.	.	.	.	.	+	.	.	.	+	.	.	.	.	.	.	+	.	.	.	.	.	+	.	.
	Acer pseudoplatanus	B	.	.	.	.	+	+	.	+	+	.	+	+	+	.	.	+	+	.	+	+	+	1	+	+	.	+	+
		C	+	.	.	.	+	1	.	.	.	.	.	.	.	.	.	+	.	.	+	+	.	.	.	+	.	+	.
	Daphne mezereum	B	+	+	+	+	1	.	+	+	+	+	.	+	+	+	+	.	.	+	.	.	.	.	.	+	.	.	.
	Paris quadrifolia	C	+	+	+	.	+	+	+	.	.	+	.	.	.	.	.	+	+	.	+	+	+	.	.	+	.	.	+
	Actaea spicata	C	.	+	+	.	1	+	.	.	.	+	.	+	.	.	.	.	+	+	+	.	+	.	.	+	+	.	.
	Carex sylvatica	C	.	.	.	.	.	.	+	+	+	.	.	.	+	.	.	.	.	+	.	+	+	.	.	+	+	+	+
	Epilobium montanum	C	.	+	+	+	+	.	.	.	+	.	.	.	.	.	+	+	+	+	.	+	.	.	.	.	.	.	.
	Galium odoratum	C	.	+	+	.	.	.	1	.	+	+	+	.	.	.	.	.	.	2	2	.	+	.	.	+	.	.	.
	Lonicera alpigena	B	+	.	+	1	.	.	.	.	.	+	.	+	.	.	.	.	.	+	.	.	.	.	.	+	+	.	+
	Polystichum aculeatum	C	.	.	+	.	+	+	.	.	.	.	+	+	+	.	.	.	+	.	.	.	.	.	.	.	.	.	.
	Sanicula europaea	C	.	.	.	.	+	.	+	.	+	.	.	.	.	.	+	.	.	+	.	.	+	.	.	.	.	.	+
	Epipactis helleborine	C	.	+	+	.	+	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	+
	Sambucus nigra	C	.	.	+	.	1	+	.	.	.	.	+	.	.	.	+	.	.	+	.	.	.	.	.	.	.	.	.
	Viola reichenbachiana	C	.	.	+	.	.	.	.	.	+	+	+	.	.	.	.	.	.	.	.	.	+	.	.	.	+	.	.
	Stellaria montana	C	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	+	+	+	+	.	.	.	.	.	.
	Milium effusum	C	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	+	.	.	.	.	.
	Salvia glutinosa	C	.	.	+	.	+	.	.	.	.	+	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.
	Galium laevigatum	C	2	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Mercurialis perennis	C	.	.	.	.	.	.	.	.	+	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Neottia nidus-avis	C	.	.	.	.	.	.	.	.	.	.	.	+	.	+	.	.	.	.	.	.	.	.	.	+	.	.	.
	Scrophularia nodosa	C	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.
	Cardamine bulbifera	C	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.
	Lilium martagon	C	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.
	Phyllitis scolopendrium	C	.	.	.	.	1	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Polygonatum multiflorum	C	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	+

	Taxa		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
QP	***Quercetalia pubescentis***																												
	Sorbus aria	B	.	.	.	.	+	.	.	+	.	+	.	.	.	.	.	.	+	+	.	.	+	+	.	+	.	.	.
	Sesleria autumnalis	C	2	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
QF	***Querco-Fagetea***																												
	Anemone nemorosa	C	+	.	+	.	.	.	.	.	+	.	1	+	+	.	.	.	.	+	+	+	+	+	+	+	+	+	+
	Carex digitata	C	+	.	+	1	+	.	+	+	+	.	.	.	+	+	+	.	.	+	.	.	.	.	.	+	+	.	+
	Lonicera xylosteum	B	+	.	.	+	+	.	.	.	.	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
VP	***Vaccinio-Piceetea***																												
		A	3	2	4	4	3	3	3	1	2	2	4	3	2	3	4	3	4	4	3	3	3	3	1	4	3	3	2
	Abies alba	B	1	+	+	.	.	+	.	.	+	+	+	+	1	+	+	+	+	.	.	.	.	.	.	+	+	.	.
		C	+	+	+	.	1	2	.	.	+	+	+	+	+	+	+	+	+	.	+	+	.	+	+	+	+	.	.
	Oxalis acetosella	C	+	1	1	+	2	1	1	1	1	+	+	2	1	1	1	2	1	2	2	2	2	3	1	3	2	2	2
	Gentiana asclepiadea	C	+	.	+	.	+	+	+	+	+	+	.	+	+	+	+	.	+	+	.	.	+	+	+	+	+	+	+
	Lonicera nigra	B	.	+	+	1	1	.	+	+	+	+	.	.	.	+	.	+	+	+	+	+	.	+	+	1	+	+	+
	Calamagrostis arundinacea	C	.	+	+	1	.	.	.	1	1	2	.	3	2	3	3	3	2	.	.	.	+	.	1	1	1	1	+
	Luzula luzuloides	C	+	+	+	+	+	+	.	.	+	+	+	.	.	.	.	.	.	.	+	1	2	+	.	+	+	+	+
	Dryopteris dilatata	C	.	+	+	+	.	+	+	.	+	.	.	+	+	.	+	+	+	.	+	+	+	.	+	+	+	+	.
	Rosa pendulina	C	+	+	+	+	1	.	+	+	+	+	.	+	+	+	1	.	+	.	.	.	.	.	+	+	.	.	+
	Solidago virgaurea	C	+	+	+	+	+	.	+	+	.	+	.	+	+	+	+	+	.	.	.	.	.	.	.	1	+	+	+
	Maianthemum bifolium	C	+	+	+	.	.	.	+	.	.	+	.	+	.	.	.	.	.	1	+	2	2	+	+	+	+	+	+
		A	.	.	.	.	1	1	.	.	.	.	.	+	.	1	+	.	.	.	1	1	1	1	2	1	1	1	2
	Picea abies	B	.	.	.	.	.	1	.	.	.	.	+	+	.	+	+	+	.	.	.	.	.	.	.	+	+	+	+
		C	+	.	.	.	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.
	Vaccinium myrtillus	C	.	.	.	.	.	.	.	1	.	+	.	.	+	.	.	.	.	.	.	.	.	1	2	+	1	+	1
	Orthilia secunda	C	.	+	+	1	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	+
	Luzula luzulina	C	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	1	.	.	+	+	+
	Rubus hirtus	B	.	.	.	.	.	.	.	.	+	.	+	+	+	.	.	.	.	.	.	.	.	.	.	+	.	.	.
	Homogyne sylvestris	C	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	+	.	.	.	.	.	.	+	.	+	.
	Huperzia selago	C	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	+
	Phegopteris connectilis	C	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	+	.
	Gymnocarpium dryopteris	C	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	+	.	.	.	.
	Luzula sylvatica/sylvatica	C	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	+	.	.	.
	Thelypteris limbosperma	C	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.
	Veronica urticifolia	C	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.
MA	***Mulgedio-Aconitetea***																												
	Athyrium filix-femina	C	.	+	1	.	+	+	+	.	.	+	.	+	+	+	+	+	1	+	+	+	+	+	+	+	1	+
	Senecio ovatus	C	1	+	+	.	+	2	+	.	.	+	.	.	.	.	.	+	+	+	+	+	1	.	+	+	+	+	.
	Geranium robertianum	C	+	+	1	1	1	+	.	.	+	+	.	+	+	.	+	+	1	+	.	.	.	.	.	.	.	.	.
	Polygonatum verticillatum	C	.	.	.	.	.	.	+	.	+	+	.	+	+	.	+	.	.	.	+	+	+	.	.	+	+	+	+
	Veratrum album	C	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	+	1	+	+	.	.	.	.	.
AT	***Asplenietea trichomanis***																												
	Asplenium trichomanes	C	+	+	1	+	1	2	.	.	+	+	+	+	+	+	+	+	+	.	.	.	.	.	.	.	.	.	+
	Asplenium viride	C	.	+	.	.	1	+	.	.	.	+	.	.	+	+	+	+	+	.	.	.	.	.	.	.	.	.	.
	Moehringia muscosa	C	+	+	+	+	1	.	.	.	.	.	.	.	+	.	.	+	+	.	.	.	.	.	.	.	.	.	.
	Polypodium vulgare	C	.	+	.	+	1	+	.	.	.	.	.	.	+	.	.	.	.	+	.	.	.	.	.	.	.	.	.
	Asplenium ruta-muraria	C	.	.	.	.	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TR	***Thlaspietea rotundifolii***																												
	Adenostyles glabra	C	.	1	+	+	.	1	+	+	1	1	.	1	1	1	1	1	+	.	.	+	1	1	1	1	1	+	1
	Other taxa																												
		A	.	.	.	.	.	1	.	.	.	.	+	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.
	Sorbus aucuparia	B	+	+	+	.	+	+	.	.	+	+	.	+	+	.	.	.	+	+	1	+	1	+	+	1	+	+	+
		C	.	.	.	.	+	+	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	+	.

Taxa		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
Rubus idaeus	B	.	+	+	+	1	+	+	.	+	.	.	+	+	+	.	+	+	+	.	1	+	+	+	+	+	+	.
Solanum dulcamara	C	+	+	+	1	2	1	.	.	.	+	.	+	+	.	.	+	+	.	.	.	.	.	.	.	.	.	.
Fragaria vesca	C	.	+	+	.	.	.	+	.	.	.	.	.	.	.	.	+	+	+	.	+	.	.	.	.	.	.	.
Lichens and mosses																												
Ctenidium molluscum	D	2	2	2	3	4	2	+	+	1	1	+	2	2	1	2	3	2	+	+	+	+	+	+	1	1	.	+
Neckera crispa	D	2	1	+	1	4	3	.	+	+	+	+	+	+	+	+	+	+	+	.	.	.	.	.	+	.	.	+
Polytrichum formosum	D	.	+	+	.	.	.	+	+	+	+	+	.	+	+	+	.	+	+	.	+	1	.	+	+	+	+	+
Isothecium alopecuroides	D	.	1	1	2	.	.	+	+	+	+	1	1	1	+	1	.	1	+	.	.	+	.	.	.	+	.	+
Dicranum scoparium	D	.	+	+	+	+	+	.	+	.	.	.	+	+	1	+	.	+	.	.	.	.	.	.	+	+	.	+
Plagiochila asplenioides	D	.	+	.	.	1	+	.	.	+	+	.	+	+	.	+	+	+	+	.	.	.	.	.	+	+	.	+
Fissidens dubius	D	.	+	.	+	.	.	.	.	.	.	.	+	+	+	+	+	+	.	.	.	.	.	+	+	+	.	.
Cladonia pyxidata	D	.	+	+	+	.	.	.	.	+	+	.	.	+	.	.	.	+	.	.	.	.	.	.	+	+	.	.
Peltigera aphthosa	D	.	+	+	+	.	.	.	.	.	.	.	.	+	+	+	+	.	.	.	.	.	.	.	+	+	.	.
Eurhynchium zetterstedtii	D	.	+	1	1	.	.	+	.	.	.	.	.	.	+	.	.	+	+	.	.	.	.	.	+	.	.	.
Atrichum undulatum	D	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	+	.	.	+	+	+	+
Plagiothecium sp.	D	.	.	.	.	.	.	.	.	.	.	.	.	+	+	1	+	1	.	.	.	.	.	.	+	.	.	.
Tortella tortuosa	D	.	.	.	.	.	.	.	.	.	+	.	.	.	+	.	+	+	.	.	.	.	.	+	.	.	.	.
Grimmia pulvinata	D	+	.	.	.	+	.	.	.	.	+	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.
Hylocomium splendens	D	.	+	+	+	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Hypnum cupressiforme	D	.	.	.	+	2	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.
Plagiomnium undulatum	D	+	.	+	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.
Anomodon viticulosus	D	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	1	.	.	.	.	.	.	+	.	.	.
Mnium orthorrhynchium	D	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	+	.	+	.
Neckera complanata	D	.	+	.	+	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Rhytidiadelphus triquetrus	D	.	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.
Camptothecium lutescens	D	.	+	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Metzgeria conjugata	D	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.
Plagiothecium sylvaticum	D	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.
Rhizomnium punctatum	D	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.
Rhytidiadelphus loreus	D	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+
Cladonia rangiferina	D	.	.	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Table 10: Analytical table of the subassociation *Omphalodo-Fagetum* var. geogr. *Saxifraga cuneifolia stellarietosum montanae* subass. nova in the Trnovski gozd plateau (NW Dinaric Alps; complete linkage, Euclidian distances).
Tabela 10: Analizna tabela subasociacije *Omphalodo-Fagetum* var. geogr. *Saxifraga cuneifolia stellarietosum montanae* subass. nova v Trnovskem gozdu (severozahodni Dinaridi; metoda popolnega povezovanja, Evklidske razdalje).

	Taxa		1	2	3	4	5	6	7*	8	9	10	11	12	13	14	15	16*	17	18	19	20	21
	Characteristic species of the association *Omphalodo-Fagetum*																						
AF	*Cardamine trifolia*	C	.	.	1	+	1	+	1	1	.	.	.	+	+	+	+	+	+	.	.	.	.
AF	*Aremonia agrimonoides*	C	.	+	+	+	.	1	+	+	.	+	+	+	.	.	.	r	.	.	.	.	.
AF	*Omphalodes verna*	C	.	.	.	.	.	.	2	.	.	.	.	.	.	.	+	.	.	+	.	.	.
AF	*Rhamnus fallax*	B	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	+
	Differential species for the geographical variant *Saxifraga cuneifolia*																						
VP	*Saxifraga cuneifolia*	C	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	r	.	.	+	.	.
	Differential species for the subassociation *-stellarietosum montanae*																						
FS	*Stellaria montana*	C	2	3	1	1	2	2	2	1	1	2	2	2	2	.	.	1	1	+	+	1	+
FS	*Impatiens noli-tangere*	C	1	+	2	.	4	3	+	2	+	1	2	2	2	.	+	+	+	+	+	.	.
FS	*Adoxa moschatellina*	C	.	.	.	1	1	+	+	+	+	+	.	+	+	+	.	+	1	+	1	1	1
FS	*Arum maculatum*	C	+	+	+	+	1	1	.	.	+	+	.	.	.	+	.	+	+	+	+	+	.
FS	*Lunaria rediviva*	C	+	1	4	4	.	.	+	.	5	+	.	.	.	+	.	1	+	1	.	3	.
FS	*Circaea lutetiana*	C	+	+	.	+	r	+	.	.	.	+	1	1	.	.	.	+	.	r	+	.	.
	Differential species for the variant																						
FS	*Cardamine pentaphyllos*	C	.	+	.	.	.	.	.	.	.	.	.	.	.	1	2	2	2	2	3	2	.
	Mercurialis perennis	C	.	.	.	.	.	+	.	.	+	+	.	+	.	.	1	+	1	1	1	1	2
AF	***Aremonio-Fagion***																						
	Lamium orvala	C	3	+	+	.	2	1	1	.	+	3	.	+	+	1	1	1	.	+	+	1	+
	Cardamine enneaphyllos	C	2	2	+	1	1	1	1	1	1	1	.	1	1	1	1	1	1	1	1	.	1
	Anemone trifolia	C	.	.	.	.	.	.	.	.	.	+	.	.	.	1	1	+	+	+	.	+	.
	Polystichum setiferum	C	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	+	.	+	+	.	r
	Scopolia carniolica	C	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	+	.	.	.	.	.
	Calamintha grandiflora	C	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.
FS	***Fagetalia sylvaticae***																						
		A	3	4	4	2	2	3	3	+	5	4	2	2	2	4	4	4	5	5	4	3	5
	Fagus sylvatica	B	1	2	4	1	+	1	1	1	+	.	+	1	+	1	1	1	+	+	+	+	+
		C	+	+	+	+	.	1	1	1	+	+	.	.	.	1	1	1	.	1	1	+	1
	Paris quadrifolia	C	+	+	+	+	+	1	+	1	+	+	+	+	+	+	+	+	1	+	+	+	1
	Dryopteris filix-mas	C	2	3	1	2	2	2	1	1	1	1	2	2	1	1	1	1	1	1	1	1	+
	Cardamine bulbifera	C	1	1	1	1	1	+	1	1	1	1	.	+	+	1	1	1	+	+	+	1	1
	Festuca altissima	C	+	+	+	1	+	3	.	+	+	1	+	+	+	+	2	1	2	+	+	.	+
	Mycelis muralis	C	+	+	+	+	+	+	+	r	.	+	.	.	+	+	+	1	+	+	+	+	+
		A	.	.	.	1	.	.	2	2	.	.	.	.	.	2	+	+	1	+	+	3	r
	Acer pseudoplatanus	B	3	1	5	3	2	2	1	2	+	1	.	1	1	.	+	1	+	+	+	1	.
		C	+	.	2	1	1	3	2	2	.	1	.	.	.	1	1	1	1	1	1	1	+
	Actaea spicata	C	+	+	+	.	+	+	+	+	+	.	+	.	.	+	+	1	+	+	+	+	+
	Sambucus nigra	C	+	1	+	1	1	1	.	+	1	2	.	.	+	+	+	1	+	+	1	1	.
	Salvia glutinosa	C	+	.	+	+	+	+	.	.	+	+	1	.	.	+	+	+	+	+	+	+	+
	Galium odoratum	C	1	1	2	+	1	1	2	.	+	.	+	+	.	.	+	+	.	1	+	+	2
	Galeobdolon flavidum	C	+	+	+	.	1	1	+	+	+	2	2	+	+	.	.	.	.	.	+	.	+
	Daphne mezereum	B	+	+	+	+	+	1	+	.	+	r	+	+	+	.	.	.	.	.	.	+	.
	Myosotis sylvatica	C	+	.	+	+	+	.	+	1	.	.	+	1	.	+	.	+	.	+	+	.	+
	Epilobium montanum	C	.	.	+	+	+	+	.	+	.	.	.	+	+	.	.	1	+	+	+	.	+
	Phyllitis scolopendrium	C	+	1	+	+	.	.	+	+	+	+	.	.	.	+	.	+	.	.	+	+	.
	Chrysosplenium alternifolium	C	.	1	.	1	1	+	+	1	1	1	+	1	+	.	.	.	r	.	.	.	.

	Taxa		1	2	3	4	5	6	7*	8	9	10	11	12	13	14	15	16*	17	18	19	20	21
	Polystichum aculeatum	C	.	.	+	.	.	.	+	.	.	+	+	.	+	1	.	1	+	+	+	+	.
	Cardamine impatiens	C	+	.	1	+	+	r	+	.	+	1	.	.	.	.	.	+	.	.	.	.	+
	Scrophularia nodosa	C	.	.	.	.	.	.	.	.	+	.	+	.	+	+	.	1	+	+	+	.	1
	Milium effusum	C	+	.	+	.	.	.	+	.	.	.	.	.	.	+	.	1	.	1	+	+	2
	Lonicera alpigena	B	.	.	.	.	+	.	.	.	.	.	+	.	.	+	+	+	+	+	r	.	.	+
	Lathyrus vernus/vernus	C	+	.	.	.	.	+	.	.	.	.	.	.	.	+	+	+	+	+	.	.	+
	Polygonatum multiflorum	C	.	.	.	.	.	.	.	+	.	+	+	.	.	+	+	+	.	+	+	.	.
	Prenanthes purpurea	C	.	.	.	.	.	.	1	1	.	.	.	+	.	1	+	+	.	+	+	.	.
	Sanicula europaea	C	+	.	.	.	.	+	.	+	.	+	+	.	+	.	.	.	.	.	.	.	1
	Symphytum tuberosum	C	.	.	.	.	.	.	+	.	.	.	.	.	.	1	+	1	.	+	.	+	+
	Carex sylvatica	C	.	.	+	.	.	.	.	+	.	.	+	+	1	.	.	.	.	.	.	.	.
	Corydalis solida	C	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	+	.	+	1	1	.
	Ranunculus lanuginosus	C	.	.	.	.	.	.	.	r	.	r	.	+	+	.	.	.	.	.	.	.	.
	Viola reichenbachiana	C	+	.	.	.	+	+	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.
	Galium laevigatum	C	.	.	.	.	.	.	.	.	.	.	.	.	.	1	+	+	.	.	.	.	+
	Polystichum braunii	C	.	.	.	.	2	.	+	.	.	.	.	.	.	.	.	.	r	.	.	+	.
	Corydalis cava	C	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	1	2	1	.
		A	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.
	Acer platanoides	B	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	+	+	.	.
		C	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.
	Campanula trachelium	C	.	.	.	.	.	.	.	.	.	.	+	.	.	+	.	+	.	.	.	.	.
	Tilia platyphyllos	B	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.
	Ulmus glabra	A	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	r	.	.	.	.	.
	Fraxinus excelsior	B	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.
QP	***Quercetalia pubescentis***																						
	Arabis turrita	C	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	+
	Hypericum montanum	C	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.
	Piptatherum virescens	C	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.	.	.	.
QF	***Querco-Fagetea***																						
	Anemone nemorosa	C	+	+	+	1	+	1	3	+	1	+	.	+	.	1	1	1	1	1	.	+	1
	Lonicera xylosteum	B	.	+	.	.	1	.	.	.	.	.	.	.	.	+	+	.	r	.	.	.	+
	Platanthera bifolia	C	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	+
	Moehringia trinervia	C	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	+	+	.	.
	Vinca minor	C	.	.	.	+	.	.	+	.	.	+	.	.	.	.	.	.	.	.	.	.	.
	Anemone x pittonii	C	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	+	.	.	.	.	.
	Carex digitata	C	.	.	.	.	.	.	.	.	.	.	+	.	.	+	.	.	.	.	.	.	.
	Corylus avellana	B	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	+	.	.
	Gagea lutea	C	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	+	.
VP	***Vaccinio-Piceetea***																						
		A	2	2	2	1	1	1	2	2	1	1	2	2	2	+	2	2	1	1	1	1	1
	Abies alba	B	.	.	+	.	.	.	.	.	.	.	.	+	.	+	+	+	r	+	+	.	r
		C	+	+	.	+	+	+	+	+	1	+	.	+	.	+	+	+	+	+	.	.	.
	Oxalis acetosella	C	2	2	3	+	1	2	3	3	2	1	1	1	1	.	1	1	.	1	+	+	.
	Dryopteris dilatata	C	+	.	.	.	.	.	.	.	.	.	+	+	+	r	.	+	+	.	+	+	r
	Maianthemum bifolium	C	+	+	.	.	.	r	.	.	.	.	+	+	.	+	+	.	.	+	.	.	+
	Luzula luzuloides	C	.	.	+	r	.	+	.	.	.	.	.	.	.	+	+	.	.	+	+	.	+
	Dryopteris expansa	C	.	.	+	1	+	.	.	+	.	+	.	.	.	.	+	.	+	.	+	.	.
	Lonicera nigra	B	.	.	.	+	+	.	+	+	.	.	1	+	.	.	r	.	.	.	.	.	.
	Phegopteris connectilis	C	.	.	.	+	1	.	.	+	.	.	+	.	+	.	.	.	.	.	.	.	.
	Calamagrostis arundinacea	C	.	.	.	.	.	.	+	.	.	.	+	.	.	.	.	+	.	.	.	.	.
	Gentiana asclepiadea	C	+	.	.	.	.	.	.	+	.	.	.	.	.	+	.	.	.	.	.	.	.
	Veronica urticifolia	C	.	.	.	.	.	.	+	.	.	.	.	.	.	+	.	+	.	.	.	.	.

	Taxa		1	2	3	4	5	6	7*	8	9	10	11	12	13	14	15	16*	17	18	19	20	21
	Gymnocarpium dryopteris	C	.	.	.	.	1	.	+	1	.	.	.	.	.	.	.	.	.	.	.	.	.
	Picea abies	A	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r
		C	.	.	.	+	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Polystichum lonchitis	C	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.	.	.
MA	***Mulgedio-Aconitetea***																						
	Athyrium filix-femina	C	+	2	1	2	2	1	2	5	1	1	2	2	2	+	+	1	1	+	+	1	+
	Senecio ovatus	C	+	+	1	1	1	.	1	1	1	+	1	2	+	1	1	1	1	.	1	+	1
	Urtica dioica	C	+	2	1	+	2	2	+	1	1	+	1	+	2	.	.	+	1	+	1	1	1
	Geranium robertianum	C	+	.	+	+	+	1	.	1	+	+	+	1	1	.	.	.	.	.	+	.	1
	Polygonatum verticillatum	C	.	.	.	+	.	+	+	+	.	.	.	+	+	.	+	+	+	+	+	.	+
	Veratrum album	C	.	.	.	.	.	.	+	.	.	.	.	.	+	.	.	.	.	+	+	+	.
	Heracleum sphondylium	C	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	+	.	+	.	.	+
	Aconitum lycoctonum	C	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	+	+
	Saxifraga rotundifolia	C	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	+	.	.	.
AT	***Asplenietea trichomanis***																						
	Asplenium trichomanes	C	+	+	+	+	+	+	.	+	.	+	.	.	.	+	+	+	.	+	+	.	.
	Cystopteris fragilis	C	.	.	.	+	+	+	+	+	+	+	.	+	.	.	.	+	.	.	+	.	+
	Polypodium vulgare	C	.	+	.	+	.	+	+	+	+	.	.	.	.	.	.	.	.	.	+	.	.
	Sedum hispanicum	C	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	r	r
	Moehringia muscosa	C	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	+
TR	***Thlaspietea rotundifolii***																						
	Adenostyles glabra	C	.	.	.	.	+	+	+	.	.	.	.	1	+	.	.	.	r	.	.	.	1
	Other taxa		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Rubus idaeus	B	+	2	+	1	.	2	1	1	.	.	1	+	+	.	.	1	.	+	+	1	.
	Solanum dulcamara	C	+	+	+	+	.	.	.	+	.	.	+	.	+	.	.	+	+	.	+	.	.
		A	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.
	Sorbus aucuparia	B	.	.	.	1	.	+	.	+	.	.	+	.	+	.	+	r	+	+	+	.	.
		C	+	.	+	+	+	.	+	+	.	.	.	.	.	r	.	.	+	.	.	.	.
	Fragaria vesca	C	.	+	.	.	.	.	+	.	.	.	+	+	+	+	.	.	.	.	.	.	.
	Polystichum x luerssenii	C	.	.	.	.	.	+	.	.	+	.	.	.	.	.	.	.	+	+	.	.	+	.
	Atropa bella-donna	C	.	.	.	+	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Galeopsis speciosa	C	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	+
	Sambucus racemosa	B	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	+	.	.	.
	Lichens and mosses																						
	Ctenidium molluscum	D	.	.	.	.	2	1	1	1	.	.	1	+	+	1	1	1	+	+	.	1	.
	Neckera crispa	D	.	.	.	3	2	1	.	1	.	1	+	.	.	1	+	1	+	+	1	.	.
	Isothecium alopecuroides	D	.	.	.	.	.	.	.	.	.	.	1	+	+	1	1	1	1	1	2	1	+
	Plagiomnium undulatum	D	.	.	.	3	.	.	+	.	.	2	1	+	+	.	.	.	.	+	+	+	.
	Camptothecium lutescens	D	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	+	+	+	+	+	1
	Plagiochila porelloides	D	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	+	+	+	+	+	.
	Schistidium apocarpum	D	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	+	+	+	+	.	1
	Bryum capillare	D	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	+	1	+	1	.	.
	Hypnum cupressiforme	D	.	.	.	.	.	.	.	.	.	2	.	.	.	+	.	+	+	.	+	+	.
	Mnium sp.	D	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	+	.	1	1	.
	Conocephalum conicum	D	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	+	+	.
	Homalothecium philippeanum	D	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	+	+	.	.	+	.
	Hylocomium splendens	D	.	.	.	3	.	+	.	+	.	3	.	.	.	.	.	.	.	.	.	.	.
	Plagiochila asplenioides	D	.	.	.	.	.	.	.	+	.	.	+	+	+	.	.	.	.	.	.	.	.
	Thamnobryum alopecurum	D	.	.	.	.	.	.	.	.	.	.	1	.	.	+	.	+	.	.	+	.	.
	Cladonia coniocraea	D	.	.	+	+	.	+	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.
	Grimmia pulvinata	D	.	.	.	.	.	+	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.
	Plagiomnium affine	D	.	.	.	.	.	.	.	.	.	.	+	+	+	.	.	.	.	.	.	.	.

	Taxa		1	2	3	4	5	6	7*	8	9	10	11	12	13	14	15	16*	17	18	19	20	21
	Anomodon viticulosus	D	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	+
	Atrichum undulatum	D	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.	.	.
	Eurhynchium striatum	D	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.	.	.
	Mnium thomsonii	D	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	+	.
	Polytrichum formosum	D	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	+	.	.	.
	Porella platyphylla	D	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	+
	Tortella tortuosa	D	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.

Table 11: Analytical table of the subassociation *Omphalodo-Fagetum* var. geogr. *Saxifraga cuneifolia calamagrostietosum variae* subass. nova in the Trnovski gozd plateau (NW Dinaric Alps; complete linkage, Euclidian distances).

Tabela 11: Analizna tabela subasociacije *Omphalodo-Fagetum* var. geogr. *Saxifraga cuneifolia calamagrostietosum variae* subass. nova v Trnovskem gozdu (severozahodni Dinaridi; metoda popolnega povezovanja, Evklidske razdalje).

	Taxa		1	2	3	4*	5	6	7	8	9	10	11	12	13	14	15	16	17
	Characteristic species of the association *Omphalodo-Fagetum*																		
AF	*Omphalodes verna*	C	+	+	.	.	.	.	.	.	+	+	+	+	1	+	1	+	.
AF	*Rhamnus fallax*	B	.	+	+	+	+	.	.	+	+	+	.	.	+	+	.	+	.
AF	*Cardamine trifolia*	C	.	.	+	.	.	.	.	+	+	+	.	.	.	.	+	+	.
AF	*Calamintha grandiflora*	C	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Differential species for the geographical variant *Saxifraga cuneifolia*																		
AT	*Paederota lutea*	C	+	+	+	+	+	+	+	.	r	r	+	+	1	+	1	+	+
		A	.	.	.	r	+	.	.	+	.	.	.	+	+	.	.	.	+
FS	*Laburnum alpinum*	B	+	+	+	r	+	.	.	.	+	+	.	.	+	.	+	1	.
		C	+	+	+	1	1	1	.	+	+	+	+	+	+	+	+	+	+
AT	*Phyteuma scheuchzeri/columnae*	C	.	.	+	+	+	.	1	.	.	+	.	.	.	.	.	+	1
	Differential species for the subassociation *-calamagrostietosum variae*																		
EP	*Calamagrostis varia*	C	+	1	1	1	+	1	1	+	1	1	+	1	+	+	2	1	1
EP	*Carex alba*	C	+	+	+	3	+	.	+	.	+	1	.	.	2	+	+	1	.
FS	*Polygonatum multiflorum*	C	+	.	.	+	+	.	.	+	+	+	.	+	+	+	1	+	.
AF	*Rhamnus fallax*	B	.	+	+	+	+	.	.	+	+	+	.	.	+	+	.	+	.
AF	*Helleborus niger*	C	.	1	1	1	1	+	1	.	.	+	1	.	.	.	1	.	.
EP	*Buphthalmum salicifolium*	C	.	.	.	+	+	.	.	.	+	+	.	.	+	+	.	+	.
AF	***Aremonio-Fagion***																		
	Cyclamen purpurascens	C	1	1	1	1	+	+	1	1	+	+	.	+	+	1	+	1	.
	Cardamine enneaphyllos	C	2	1	1	.	+	.	+	2	1	1	1	1	1	1	1	1	1
	Euphorbia carniolica	C	+	+	.	.	.	.	.	+	+	+	+	.	.	.	+	.	.
	Scopolia carniolica	C	+	.	.	.	.	.	.	1	+	.	.	.	.	.	1	1	.
	Lamium orvala	C	1	.	.	.	.	.	.	+	.	+	1	.	.	.	.	.	.
	Knautia drymeia	C	.	.	.	.	+	.	.	.	.	.	.	+	+	.	.	.	.
	Hacquetia epipactis	C	.	.	.	.	.	.	.	.	.	1	1	.	.	.	.	.	.
FS	***Fagetalia sylvaticae***																		
		A	5	4	4	5	5	5	4	4	4	5	5	4	4	4	4	4	4
	Fagus sylvatica	B	1	1	1	+	1	1	1	2	2	3	2	2	1	+	1	1	1
		C	.	1	+	+	+	1	+	+	1	1	1	1	1	+	1	1	1
		A	+	+	1	+	r	1	+	+	1	+	1	+	+	1	1	1	+
	Acer pseudoplatanus	B	+	+	+	.	.	.	.	.	.	.	.	.	.	.	.	+	.
		C	+	1	.	+	+	+	+	+	1	1	+	1	1	1	+	+	+
	Prenanthes purpurea	C	+	1	+	+	1	1	1	1	1	1	1	1	1	+	+	1	1
	Mercurialis perennis	C	1	1	1	1	1	1	.	1	1	1	1	1	1	1	1	1	1
	Daphne mezereum	B	+	+	1	1	+	+	.	+	1	1	1	1	.	1	+	+	+

	Taxa		1	2	3	4*	5	6	7	8	9	10	11	12	13	14	15	16	17
	Galium laevigatum	C	.	.	1	1	1	1	1	1	1	+	1	1	1	+	1	1	1
	Dryopteris filix-mas	C	1	+	+	+	.	+	+	+	+	+	+	r	.	+	+	.	+
	Epipactis helleborine	C	.	.	+	+	+	+	+	.	+	+	+	+	+	+	.	+	+
	Phyteuma spicatum/coeruleum	C	.	r	+	+	.	+	1	+	+	1	1	1	1	.	+	.	+
	Salvia glutinosa	C	+	+	+	1	+	.	.	+	1	1	1	+	.	1	+	+	.
	Galeobdolon flavidum	C	+	1	+	.	+	+	.	1	1	1	1	+	.	1	.	.	+
	Lonicera alpigena	B	+	1	.	.	+	.	.	1	+	+	+	+	1	.	1	.	+
	Mycelis muralis	C	+	+	.	1	+	+	1	+	+	+	.	.	.	+	.	+	.
	Neottia nidus-avis	C	.	.	.	+	+	+	.	.	.	+	+	+	+	+	.	+	+
		A	+	+	+	.	.	.	.	r	.	r	r	.	.	1	.	.	.
	Fraxinus excelsior	B	.	+	1	.	.	.	.	+	+	.	.	+	.	+	.	.	.
		C	.	1	.	.	.	+	.	1	+	1	1	1	1	1	.	.	.
	Polystichum aculeatum	C	+	+	+	.	.	.	.	1	+	.	+	.	.	+	+	+	.
	Actaea spicata	C	1	+	+	+	+	.	1	+	+	.	.	.	.	.	.	.	.
	Lilium martagon	C	1	+	+	+	+	.	+	.	.	.	+	.	.	.	.	.	.
	Aruncus dioicus	C	.	+	.	.	+	.	.	+	.	.	.	.	.	.	+	+	.
	Euphorbia amygdaloides	C	.	.	.	+	.	.	.	.	+	1	1	.	.	+	.	.	.
	Melica nutans	C	.	.	.	+	.	.	.	+	+	.	+	.	.	.	.	+	.
	Lathyrus vernus/vernus	C	1	.	.	.	.	.	.	.	.	.	.	1	+	.	.	1	.
	Paris quadrifolia	C	+	.	.	.	.	.	.	+	.	.	.	.	.	.	+	+	.
	Symphytum tuberosum	C	+	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.	.
	Asarum europaeum/caucasicum	C	+	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.
	Cephalanthera longifolia	C	.	.	.	.	.	.	.	.	+	.	.	.	.	1	.	.	.
	Cardamine bulbifera	C	+	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.
	Sambucus nigra	C	+	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.
	Scrophularia nodosa	C	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.
	Ulmus glabra	C	.	.	.	.	.	.	.	+	.	+	.	.	.	.	.	.	.
QP	***Quercetalia pubescentis***																		
		A	.	+	+	.	.	.	+	.	.	.	.	.	+	.	.	.	r
	Sorbus aria	B	+	.	.	+	.	.	.	.	.	.	.	.	.	.	2	.	+
		C	.	+	+	.	.	+	.	+	.	+	.	+	+	.	+	.	.
	Fraxinus ornus	C	.	r	.	+	+	.	.	+	+	+	.	.	.	+	.	.	.
	Melittis melissophyllum	C	.	.	.	.	.	.	.	+	+	.	+	+	+	.	.	+	.
	Ostrya carpinifolia	B	+	r	.	.	.	.	.	r	.	.	.	.	.	.	+	.	.
QF	***Querco-Fagetea***		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Anemone nemorosa	C	+	1	1	+	+	1	1	+	+	+	+	.	.	.	1	.	.
	Carex digitata	C	.	.	+	.	+	+	.	.	+	+	.	+	+	+	.	.	+
	Hepatica nobilis	C	.	.	+	1	+	.	1	+	+	.	.	.	.	.	1	+	.
	Primula vulgaris	C	+	.	.	.	.	.	.	r	1	1	1	1	1	+	.	.	.
	Clematis vitalba	B	.	.	+	.	.	.	.	+	+	.	.	.	.	+	.	.	.
	Platanthera bifolia	C	.	.	+	+	.	.	.	r	.	.	.	.	.	.	.	.	+
	Corylus avellana	B	r	.	.	.	.	.	.	+	+	.	.	.	.	.	.	.	.
	Lonicera xylosteum	B	+	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	r
	Taxus baccata	A	.	.	.	.	.	.	.	.	.	.	.	.	r	.	r	+	.
EP	***Erico-Pinetea***																		
	Cirsium erisithales	C	+	1	1	+	1	+	+	+	1	1	+	1	1	+	+	1	.
	Rhododendron hirsutum	B	.	+	r	r	r	.	.	.	.	.	.	.	.	.	.	.	.
	Rubus saxatilis	C	.	.	.	+	+	.	.	.	.	.	.	.	.	.	.	.	.
VP	***Vaccinio-Piceetea***																		
		A	1	1	+	1	1	r	2	r	r	r	r	.	.	.	+	+	2
	Abies alba	B	1	.	+	.	.	.	+	.	.	.	.	.	.	.	1	+	1
		C	+	.	+	.	+	1	.	.	+	+	.	.	.	.	.	.	1

	Taxa		1	2	3	4*	5	6	7	8	9	10	11	12	13	14	15	16	17
	Veronica urticifolia	C	+	1	1	1	+	+	1	+	.	+	1	1	1	.	+	.	+
	Valeriana tripteris	C	+	+	+	+	+	.	+	+	.	.	+	+	1	.	1	.	+
	Gentiana asclepiadea	C	+	+	1	+	+	.	+	.	+	+	+	.	+	.	+	.	.
	Solidago virgaurea	C	+	.	.	.	+	.	.	+	+	+	+	+	+	.	+	.	+
	Hieracium murorum	C	.	.	+	+	+	+	+	.	+	+	.	.	+	.	.	+	.
	Homogyne sylvestris	C	.	.	1	1	1	.	1	.	.	.	.	+	+	.	1	1	+
	Rosa pendulina	C	+	+	.	.	+	.	1	+	.	+	.	.	.	.	+	+	1
	Clematis alpina	C	+	+	+	+	.	.	2	.	.	.	.	.	.	.	+	+	+
	Aposeris foetida	C	.	.	.	.	.	.	.	+	1	1	1	1	1	+	.	.	.
		A	.	.	.	.	r	r	.	.	r	.	.	.	.	.	+	r	r
	Picea abies	B	+	+	+	.	.	.	.	r	r	.	.	.	.	.	1	.	+
		C	.	.	+	+	.	.	.	.	.	.	.	.	+	.	+	.	.
	Maianthemum bifolium	C	.	+	.	.	.	+	+	.	.	.	.	.	.	.	+	.	.
	Vaccinium myrtillus	C	+	.	.	.	.	.	.	.	.	.	.	.	+	.	+	.	1
	Lonicera nigra	B	.	.	.	.	.	.	.	r	.	.	.	.	.	.	+	.	+
	Oxalis acetosella	C	+	.	.	.	.	.	+	.	.	.	.	.	.	.	+	.	.
	Calamagrostis arundinacea	C	+	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.
	Huperzia selago	C	.	.	.	.	+	.	+	.	.	.	.	.	.	.	.	.	.
	Rubus hirtus	B	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.
MA	***Mulgedio-Aconitetea***																		
	Senecio ovatus	C	1	1	+	+	+	1	+	+	.	1	1	1	.	1	.	+	+
	Polygonatum verticillatum	C	.	1	1	1	+	.	+	1	+	+	+	+	.	.	.	.	+
	Athyrium filix-femina	C	+	.	+	.	+	.	.	+	+	.	.	.	.	.	.	.	.
	Aconitum lycoctonum	C	.	.	.	.	.	.	.	+	1	.	1	1	.	.	.	.	.
	Centaurea montana	C	.	.	.	.	.	.	.	.	+	+	.	.	+	.	.	+	.
	Heracleum sphondylium	C	.	+	.	.	.	+	.	+	.	.	.	.	.	.	+	.	.
	Veratrum album	C	+	.	1	+	.	.	.	.	.	.	.	.	.	.	1	.	.
	Aconitum degenii/paniculatum	C	.	.	.	.	.	.	.	.	+	.	.	.	.	+	+	.	.
	Geranium robertianum	C	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+
	Salix appendiculata	B	.	.	+	.	.	.	.	.	.	.	.	.	.	.	r	.	.
ES	***Elyno-Seslerietea***																		
	Carex ferruginea	C	.	.	1	1	+	+	1	+	+	+	r	.	+	.	.	.	.
	Aster bellidiastrum	C	.	.	.	+	.	.	.	.	.	r	.	.	.	.	.	.	.
	Sesleria caerulea/calcaria	C	.	.	.	+	+	.	.	.	.	.	.	.	.	.	.	.	.
AT	***Asplenietea trichomanis***																		
	Asplenium viride	C	.	.	+	+	+	+	1	+	+	r	.	.	.	+	+	.	.
	Asplenium ruta-muraria	C	.	.	.	.	.	.	.	.	.	+	.	.	+	+	+	+	+
	Asplenium trichomanes	C	.	.	.	.	.	.	.	+	+	.	+	.	.	.	+	.	+
	Cystopteris fragilis	C	.	.	.	.	.	+	+	.	.	.	+	.	.	.	.	.	.
	Moehringia muscosa	C	+	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	+
	Polypodium vulgare	C	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TR	***Thlaspietea rotundifoliae***																		
	Adenostyles glabra	C	+	1	1	2	1	1	1	1	1	1	1	.	.	1	+	1	+
	Gymnocarpium robertianum	C	.	.	.	+	+	.	.	+	+	.	.	.	.	.	+	+	.
	Astrantia carniolica	C	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.
TG	***Trifolio-Geranietea***																		
	Vincetoxicum hirundinaria	C	.	r	.	.	.	.	.	.	r	.	.	.	.	+	.	.	.
	Clinopodium vulgare	C	.	.	.	.	.	.	.	.	+	.	.	.	.	+	.	.	.
	Other taxa		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Eupatorium cannabinum	C	.	.	1	+	.	+	.	+	+	+	.	.	.	1	.	+	.
	Rubus idaeus	B	+	+	+	.	+	.	.	.	.	.	.	.	.	.	+	+	.

	Taxa		1	2	3	4*	5	6	7	8	9	10	11	12	13	14	15	16	17
	Sorbus aucuparia	C	.	.	+	.	+	+	.	+	.	.	.	.	+	.	+	.	.
	Atropa bella-donna	C	.	r	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.
	Lichens and mosses																		
	Ctenidium molluscum	D	1	1	1	1	.	1	1	.	1	+	.	+	+	+	2	1	1
	Fissidens dubius	D	.	+	+	+	1	+	1	+	+	+	+	+	+	+	.	+	.
	Neckera crispa	D	1	+	+	.	+	.	.	+	.	+	.	+	+	.	1	1	1
	Tortella tortuosa	D	+	+	1	+	+	+	1	.	.	.	+	.	+	.	+	.	+
	Schistidium apocarpum	D	.	+	.	.	.	+	1	+	+	.	+	+	.	.	1	.	+
	Polytrichum formosum	D	+	.	+	.	+	+	1	.	.	.	+	.	+	.	+	.	.
	Plagiochila porelloides	D	.	+	1	.	.	.	+	.	.	.	.	.	.	.	+	.	+
	Dicranum scoparium	D	.	.	.	+	.	.	+	.	.	.	.	.	.	.	.	.	+
	Encalypta streptocarpa	D	.	.	.	.	.	.	.	.	.	+	.	+	.	+	.	.	.
	Leucobryum glaucum	D	.	.	.	+	+	.	.	.	.	.	.	.	.	.	.	.	+
	Isothecium alopecuroides	D	+	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.

Table 12: Analytical table of the subassociation *Omphalodo-Fagetum* var. geogr. *Saxifraga cuneifolia seslerietosum autumnalis* subass. nova in the Trnovski gozd plateau (NW Dinaric Alps; complete linkage, Euclidian distances).

Tabela 12: Analizna tabela subasociacije *Omphalodo-Fagetum* var. geogr. *Saxifraga cuneifolia seslerietosum autumnalis* subass. nova v Trnovskem gozdu (severozahodni Dinaridi; metoda popolnega povezovanja, Evklidske razdalje).

	Taxa		1	2	3*	4	5	6*	7	8	9	10	11	12	13	14*	15	16
	Characteristic species of the association *Omphalodo-Fagetum*																	
AF	*Cardamine trifolia*	C	+	+	1	+	+	+	1	1	1	+	1	+	+	+	+	.
AF	*Aremonia agrimonoides*	C	+	+	+	.	+	+	+	+	+	+	+	+	+	.	+	.
AF	*Rhamnus fallax*	B	+	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.
	Differential species for the geographical variant *Saxifraga cuneifolia*																	
VP	*Saxifraga cuneifolia*	C	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	+
AT	*Phyteuma scheuchzeri/columnae*	C	.	.	.	.	.	.	.	.	.	.	+	.	.	+	.	1
FS	*Laburnum alpinum*	C	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.
	Differential species for the subassociation -*seslerietosum autumnalis*																	
QP	*Sesleria autumnalis*	C	3	3	5	3	2	3	1	2	3	3	3	4	3	4	4	5
FS	*Lathyrus vernus/vernus*	C	+	.	+	1	.	.	+	+	+	+	1	+	+	+	+	1
FS	*Lathyrus vernus/flaccidus*	C	.	+	+	.	.	.	.	.	.	.	1	+	+	+	1	+
	Differential species for the elevational variants																	
QF	*Platanthera bifolia*	C	+	.	.	+	+	+	+	+	.	+	.	.	.	.	.	.
QP	*Fraxinus ornus*	B	+	.	.	+	+	+	.	.	.	.	.	.	.	.	.	.
QF	*Lonicera xylosteum*	B	.	.	.	+	.	+	.	.	+	+	.	.	.	.	.	.
MA	*Polygonatum verticillatum*	C	.	1	+	.	.	.	.	.	.	.	+	+	+	1	1	+
VP	*Rosa pendulina*	C	+	.	+	.	.	.	+	+	.	.	.	+	+	1	1	1
VP	*Huperzia selago*	C	.	.	.	.	.	.	.	.	.	.	.	+	.	+	+	.
TR	*Anthriscus fumarioides*	C	.	.	.	.	.	.	.	.	.	.	.	1	+	1	+	.
AF	***Aremonio-Fagion***																	
	Cardamine enneaphyllos	C	2	2	2	1	+	.	1	2	1	2	+	1	+	+	.	+
	Lamium orvala	C	+	+	+	+	+	+	+	+	+	+	+	+	+	.	.	.
	Cyclamen purpurascens	C	.	.	+	.	+	.	+	+	.	+	1	+	+	+	+	2
	Anemone trifolia	C	.	.	.	+	+	1	+	+	.	1	.	1	2	+	.	.
	Vicia oroboides	C	.	.	.	.	+	+	.	.	.	.	.	.	.	.	.	.

	Taxa		1	2	3*	4	5	6*	7	8	9	10	11	12	13	14*	15	16
FS	***Fagetalia sylvaticae***																	
		A	4	3	2	4	3	4	3	3	4	4	2	3	3	1	1	3
	Fagus sylvatica	B	3	3	3	+	+	+	+	+	+	+	1	+	.	.	.	+
		C	+	+	+	+	.	.	+	+	1	+	2	+	+	+	+	1
	Mycelis muralis	C	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	Daphne mezereum	B	+	+	+	+	+	+	+	+	+	.	1	1	+	+	+	1
	Dryopteris filix-mas	C	.	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	Galeobdolon flavidum	C	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	.
	Mercurialis perennis	C	.	+	1	+	1	+	+	+	+	+	2	2	3	2	.	2
	Galium odoratum	C	.	+	1	+	+	+	+	+	1	1	1	+	+	.	+	.
	Prenanthes purpurea	C	+	+	+	.	+	+	+	+	+	.	.	+	+	+	+	+
	Paris quadrifolia	C	+	+	+	+	+	+	.	+	+	+	+	+	+	.	.	.
	Festuca altissima	C	+	2	2	+	+	+	+	.	+	+	.	.	+	.	.	.
	Galium laevigatum	C	1	+	r	+	.	.	.	.	+	+	+	.	.	+	1	2
	Sambucus nigra	C	.	+	.	+	.	.	.	.	.	.	+	+	+	+	+	.
		A	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.
	Acer pseudoplatanus	B	.	.	.	+	+	+	+	.	+	+	.	.	.	.	.	.
		C	+	+	+	+	.	.	+	.	.	.	+	.	+	+	+	.
	Lonicera alpigena	B	.	.	.	1	.	.	+	+	+	+	.	.	.	.	.	+
	Actaea spicata	C	.	+	.	.	.	.	.	.	+	.	+	.	+	+	.	.
	Epipactis helleborine	C	+	.	.	.	.	.	.	+	+	+	+	.	.	.	.	.
	Scrophularia nodosa	C	.	.	+	.	.	.	.	+	+	+	.	.	+	.	.	.
	Viola reichenbachiana	C	.	.	.	.	+	.	+	+	+	+	.	.	.	.	.	.
	Epilobium montanum	C	.	.	.	.	+	.	.	.	.	+	+	.	.	+	.	.
	Neottia nidus-avis	C	.	+	+	.	.	.	+	.	.	+	.	.	.	.	.	.
	Polygonatum multiflorum	C	+	.	+	.	.	.	.	+	+	.	.	.	.	.	.	.
	Tilia platyphyllos	A	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.
		B	.	.	.	+	+	+	.	.	.	.	.	.	.	.	.	.
	Polystichum aculeatum	C	.	.	.	+	.	+	.	.	.	+	.	.	.	.	.	.
	Ranunculus lanuginosus	C	.	.	.	.	.	.	+	.	+	+	.	.	.	.	.	.
	Salvia glutinosa	C	.	.	.	+	.	.	+	.	.	+	.	.	.	.	.	.
	Carex sylvatica	C	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.
	Cephalanthera damasonium	C	.	.	.	.	.	+	+	.	.	.	.	.	.	.	.	.
	Cardamine bulbifera	C	.	.	.	+	.	.	.	+	.	.	.	.	.	.	.	.
	Sanicula europaea	C	.	.	.	.	.	.	.	.	.	+	.	.	.	.	+	.
QP	***Quercetalia pubescentis***																	
		A	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+
	Sorbus aria	B	+	.	.	.	.	+	.	.	.	+	.	.	.	.	.	+
		C	+	+	.	.	.	.	.	.	.	.	.	.	.	.	+	+
	Convallaria majalis	C	+	.	.	.	.	.	.	.	.	+	+	.	.	.	.	1
QF	***Querco-Fagetea***																	
	Anemone nemorosa	C	.	+	1	.	+	+	1	1	+	1	1	+	.	+	2	1
	Carex digitata	C	+	.	+	.	+	.	.	.	.	.	.	.	.	.	+	+
	Hepatica nobilis	C	.	.	.	.	.	.	.	.	.	.	+	.	.	+	1	+
	Corylus avellana	B	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.	.
	Anemone x pittonii	C	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.
VP	***Vaccinio-Piceetea***																	
		A	2	4	4	1	3	1	2	3	2	2	3	2	2	4	4	2
	Abies alba	B	.	.	.	+	+	+	+	+	+	1	+	+	.	.	.	.
		C	+	+	+	+	+	.	+	+	+	+	1	+	+	+	+	1
	Calamagrostis arundinacea	C	+	.	1	.	+	+	+	1	+	+	2	1	2	1	1	1
	Luzula luzuloides	C	1	+	+	+	+	+	+	+	+	+	+	+	.	.	+	1

	Taxa		1	2	3*	4	5	6*	7	8	9	10	11	12	13	14*	15	16
	Maianthemum bifolium	C	1	+	2	+	+	+	+	+	+	+	1	+	.	.	2	2
	Oxalis acetosella	C	+	3	1	1	1	1	1	.	+	1	1	.	+	+	+	.
	Solidago virgaurea	C	+	.	.	.	.	.	+	.	+	+	.	+	+	+	+	+
		A	.	.	.	.	.	.	1	.	+	+	.	.	.	.	+	.
	Picea abies	B	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.
		C	+	.	r	.	.	.	.	.	.	.	+	+	+	.	+	+
	Gentiana asclepiadea	C	.	.	+	.	.	+	.	.	+	+	.	.	.	+	+	.
	Valeriana tripteris	C	+	.	.	.	.	.	.	.	.	.	.	.	.	+	+	+
	Lonicera nigra	B	+	.	.	.	.	+	.	.	.	+	.	.	.	.	.	.
	Clematis alpina	C	.	.	.	.	.	.	.	.	.	.	+	.	.	.	1	+
	Dryopteris expansa	C	.	.	+	+	.	.	.	.	.	.	.	.	.	.	.	.
MA	***Mulgedio-Aconitetea***																	
	Senecio ovatus	C	+	1	+	1	+	+	+	+	1	+	1	+	+	+	+	.
	Geranium robertianum	C	.	+	.	+	.	+	+	.	+	.	+	+	+	+	+	+
	Athyrium filix-femina	C	.	+	+	.	.	.	.	+	.	.	+	.	.	+	+	.
	Urtica dioica	C	.	+	.	.	.	.	.	.	.	.	.	.	.	+	.	.
AT	***Asplenietea trichomanis***		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	Asplenium trichomanes	C	.	+	.	+	+	.	.	.	+	.	+	+	+	+	+	+
	Asplenium ruta-muraria	C	+	.	+	.	+	.	.	.	.	.	+	+	.	+	1	+
	Asplenium viride	C	+	.	+	.	.	.	.	.	.	+	+	+	+	.	+	.
	Moehringia muscosa	C	+	.	.	+	.	.	+	.	.	.	+	+	.	.	+	+
	Polypodium vulgare	C	+	.	.	+	+	+	.	.	.	.	+	+	+	.	.	.
	Cymbalaria muralis	C	.	.	.	1	.	.	.	.	.	.	.	.	.	.	+	.
TR	***Thlaspietea rotundifolii***																	
	Adenostyles glabra	C	+	1	+	+	+	+	+	1	1	1	+	+	+	+	1	.
	Other taxa																	
	Rubus idaeus	B	+	1	1	+	.	.	+	+	.	.	1	1	+	+	+	.
	Solanum dulcamara	C	+	.	.	.	.	.	+	.	.	.	.	+	1	1	+	+
	Sorbus aucuparia	B	.	.	+	.	+	.	.	.	.	.	+	.	.	.	+	.
		C	+	.	+	.	+	.	.	.	.	.	+	.	.	.	.	+
	Fragaria vesca	C	+	.	.	.	.	.	.	.	.	+	+	+	.	.	.	.
	Sambucus racemosa	B	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	+
	Lichens and mosses																	
	Ctenidium molluscum	D	1	2	1	.	1	1	2	1	+	+	1	2	2	3	2	.
	Neckera crispa	D	1	1	+	.	+	+	1	1	+	+	.	2	1	2	2	.
	Grimmia pulvinata	D	+	+	+	.	+	.	+	+	+	+	.	+	.	+	.	.
	Tortella tortuosa	D	.	.	.	.	+	+	.	+	+	.	.	+	+	+	+	.
	Cladonia pyxidata	D	.	+	+	.	.	.	+	.	.	.	.	+	+	+	+	+
	Isothecium alopecuroides	D	.	.	.	.	+	+	+	+	+	+	.	.	.	.	.	.
	Hypnum cupressiforme	D	+	1	1	.	.	.	.	.	.	.	.	+	1	.	.	.
	Plagiochila asplenioides	D	.	1	.	.	.	.	+	.	+	+	.	.	.	.	+	.
	Camptothecium lutescens	D	.	.	.	.	+	.	+	.	+	+	.	.	.	.	.	.
	Cladonia coniocraea	D	.	.	.	.	.	.	.	.	.	.	.	.	+	.	+	+
	Dicranum scoparium	D	.	.	.	.	.	.	.	.	.	.	.	.	1	+	.	.
	Plagiothecium sylvaticum	D	.	.	.	.	.	.	+	.	+	.	.	.	.	.	.	.
	Cladonia digitata	D	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.

Table 13: Analytical table of the subassociation *Omphalodo-Fagetum* var. geogr. *Calamintha grandiflora sambucetosum nigrae* subass. nova in the Trnovski gozd plateau (NW Dinaric Alps; complete linkage, Euclidian distances).

Tabela 13: Analizna tabela subasociacije *Omphalodo-Fagetum* var. geogr. *Calamintha grandiflora sambucetosum nigrae* subass. nova v Trnovskem gozdu (severozahodni Dinaridi; metoda popolnega povezovanja, Evklidske razdalje).

	Taxa		1	2	3*	4	5	6
	Characteristic species of the association *Omphalodo-Fagetum*							
AF	*Omphalodes verna*	C	2	2	2	2	3	2
AF	*Cardamine trifolia*	C	1	1	1	1	1	1
AF	*Calamintha grandiflora*	C	1	+	r	1	1	1
AF	*Aremonia agrimonoides*	C	+	1	+	+	+	+
	Differential species for the geographical variant *Calamintha grandiflora*							
AF	*Omphalodes verna*	C	2	2	2	2	3	2
AF	*Calamintha grandiflora*	C	1	+	r	1	1	1
	Differential species for the subassociation *sambucetosum nigrae*							
FS	*Sambucus nigra*	C	+	1	1	+	1	+
FS	*Euphorbia amygdaloides*	C	1	.	+	+	.	+
FS	*Tilia platyphyllos*	B	+	.	+	.	+	.
		C	.	.	+	.	.	.
AF	***Aremonio-Fagion***							
	Cyclamen purpurascens	C	1	+	.	1	1	1
	Cardamine enneaphyllos	C	+	+	.	+	+	1
	Euphorbia carniolica	C	.	+	+	+	+	1
	Lamium orvala	C	.	.	+	.	1	+
FS	***Fagetalia sylvaticae***							
	Fagus sylvatica	A	2	3	2	4	4	4
		B	2	3	2	3	3	2
		C	1	+	+	+	1	+
	Acer pseudoplatanus	A	+	1	.	.	.	.
		B	1	1	.	1	2	2
		C	2	2	2	2	2	1
	Actaea spicata	C	+	+	+	+	+	+
	Daphne mezereum	B	1	2	1	1	1	+
	Dryopteris filix-mas	C	+	1	+	+	+	+
	Epipactis helleborine	C	+	+	+	+	+	r
	Festuca altissima	C	1	2	+	1	1	+
	Mercurialis perennis	C	2	2	1	2	2	2
	Mycelis muralis	C	1	+	+	+	+	+
	Paris quadrifolia	C	+	+	+	+	+	+
	Prenanthes purpurea	C	1	1	1	1	1	1
	Carex sylvatica	C	+	+	+	+	+	.
	Galeobdolon flavidum	C	1	1	.	1	1	1
	Neottia nidus-avis	C	+	+	.	+	+	r
	Polystichum aculeatum	C	+	1	+	.	+	+
	Sanicula europaea	C	1	.	+	+	+	+
	Galium odoratum	C	1	1	1	.	.	+
	Salvia glutinosa	C	+	.	1	.	+	+
	Cardamine pentaphyllos	C	.	.	2	.	+	1
	Epilobium montanum	C	.	.	.	+	+	1
	Fraxinus excelsior	B	+	+	.	+	.	.
		C	+	.	+	+	.	.
	Galium laevigatum	C	+	.	+	+	.	.

	Taxa		1	2	3*	4	5	6
	Lonicera alpigena	B	1	+	.	+	.	.
	Viola reichenbachiana	C	+	+	.	.	+	.
	Laburnum alpinum	C	.	.	.	.	+	.
QP	***Quercetalia pubescentis***							
	Sorbus aria	B	+	.	.	+	.	+
		C	+	.	.	+	.	.
QF	***Querco-Fagetea***							
	Anemone nemorosa	C	1	1	1	.	+	+
	Platanthera bifolia	C	+	.	+	1	+	+
	Clematis vitalba	B	+	+	.	+	+	.
	Carex digitata	C	+	.	.	.	+	r
	Corylus avellana	B	.	.	.	+	+	.
		C	.	.	.	1	+	+
EP	***Erico-Pinetea***							
	Rubus saxatilis	C	+	1	+	+	.	.
	Calamagrostis varia	C	+	.	.	+	+	.
VP	***Vaccinio-Piceetea***							
	Abies alba	A	4	3	3	2	3	2
		B	.	.	.	.	.	+
		C	+	.	1	2	2	1
	Gentiana asclepiadea	C	+	+	+	+	+	1
	Maianthemum bifolium	C	1	1	1	2	2	1
	Oxalis acetosella	C	1	1	1	+	2	1
	Picea abies	A	+	1	+	1	1	+
		B	+	.	.	+	.	.
		C	+	1	.	1	1	1
	Solidago virgaurea	C	1	1	+	2	1	+
	Dryopteris dilatata	C	+	+	+	.	+	+
	Lonicera nigra	B	.	1	+	1	+	1
	Veronica urticifolia	C	.	1	+	+	+	+
	Rosa pendulina	C	+	1	.	1	.	.
	Homogyne sylvestris	C	.	.	+	1	.	.
	Huperzia selago	C	.	.	.	.	+	+
	Valeriana tripteris	C	.	.	r	+	.	.
MA	***Mulgedio-Aconitetea***							
	Athyrium filix-femina	C	+	1	+	+	2	+
	Polygonatum verticillatum	C	+	+	+	1	+	+
	Senecio ovatus	C	2	2	1	.	2	1
	Salix appendiculata	B	.	.	.	+	+	.
AT	***Asplenietea trichomanis***							
	Asplenium trichomanes	C	+	+	+	+	+	+
	Asplenium viride	C	+	+	+	+	+	+
	Cystopteris fragilis	C	.	.	.	+	+	+
	Other taxa							
	Sorbus aucuparia	B	.	.	.	.	+	1
		C	+	+	+	+	+	+
	Rubus idaeus	B	+	+	+	+	1	+
	Solanum dulcamara	C	+	+	+	.	+	+
	Eupatorium cannabinum	C	+	.	.	+	+	+
	Fragaria vesca	C	+	+	.	.	.	.
	Rubus fruticosus agg.	C	.	1	.	+	.	.

	Taxa		1	2	3*	4	5	6
	Lichens and mosses							
	Plagiochila asplenioides	D	+	+	+	+	+	+
	Ctenidium molluscum	D	1	2	.	1	2	1
	Grimmia pulvinata	D	+	.	.	.	+	+
	Neckera crispa	D	1	.	+	.	+	.
	Tortella tortuosa	D	+	.	.	.	+	+
	Cladonia coniocraea	D	.	+	.	.	+	+
	Atrichum undulatum	D	.	.	.	.	1	+
	Hypnum cupressiforme	D	2	.	2	.	.	.
	Polytrichum formosum	D	.	.	.	.	1	+

Table 14: Analytical table of the subassociation *Omphalodo-Fagetum* var. geogr. *Calamintha grandiflora asaretosum europaei* Puncer 1980 var. *Symphytum tuberosum* var. nova in the Trnovski gozd plateau (NW Dinaric Alps; complete linkage, Euclidian distances).

Tabela 14: Analizna tabela subasociacije *Omphalodo-Fagetum* var. geogr. *Calamintha grandiflora asaretosum europaei* Puncer 1980 var. *Symphytum tuberosum* var. nova v Trnovskem gozdu (severozahodni Dinaridi; metoda popolnega povezovanja, Evklidske razdalje).

	Taxa		1	2	3*	4	5	6	7	8
	Characteristic species of the association *Omphalodo-Fagetum*									
AF	*Omphalodes verna*	C	+	+	+	1	r	+	1	.
AF	*Cardamine trifolia*	C	+	.	+	+	+	+	.	+
AF	*Calamintha grandiflora*	C	.	.	1	.	+	1	+	+
AF	*Aremonia agrimonoides*	C	.	.	+	.	+	.	.	.
	Differential species for the geographical variant *Calamintha grandiflora*									
AF	*Omphalodes verna*	C	+	+	+	1	r	+	1	.
AF	*Calamintha grandiflora*	C	.	.	1	.	+	1	+	+
	Differential species combination for the subassociation *-asaretosum*									
FS	*Asarum europaeum/caucasicum*	C	1	1	1	+	1	1	1	1
FS	*Pulmonaria officinalis*	C	1	+	+	1	+	1	+	1
		A	r	1	2	.	+	1	2	1
FS	*Ulmus glabra*	B	+	.	.	+	.	1	+	.
		C	+	+	.	+	+	1	+	+
QF	*Hedera helix*	C	1	+	+	+	+	.	.	+
QF	*Carex digitata*	C	+	+	+	+	+	+	.	.
QF	*Primula vulgaris*	C	+	.	+	+	+	+	+	.
	Differential species of the variant									
FS	*Symphytum tuberosum*	C	1	+	1	1	+	.	+	1
FS	*Petasites albus*	C	+	.	+	+	.	1	2	2
AF	***Aremonio-Fagion***									
	Daphne laureola	B	1	1	+	+	+	+	+	+
	Lamium orvala	C	+	+	1	2	+	1	2	2
	Cyclamen purpurascens	C	+	+	.	+	1	+	.	.
	Scopolia carniolica	C	.	.	+	.	.	.	+	1
	Hacquetia epipactis	C	+	.	+	.	.	.	.	.
	Polystichum setiferum	C	.	.	.	.	.	.	+	+
FS	***Fagetalia sylvaticae***									
		A	1	2	1	3	4	4	4	4
	Fagus sylvatica	B	1	1	1	1	+	1	1	.
		C	+	+	.	1	.	1	1	1

	Taxa		1	2	3*	4	5	6	7	8
	Actaea spicata	C	+	+	+	1	+	1	+	1
	Dryopteris filix-mas	C	+	+	1	+	+	1	1	+
	Paris quadrifolia	C	+	+	+	+	+	+	+	+
	Salvia glutinosa	C	1	1	+	1	+	1	1	+
		A	1	1	1	1	+	1	1	.
	Acer pseudoplatanus	B	+	.	.	.	.	+	.	.
		C	1	1	1	1	.	1	1	+
	Polystichum aculeatum	C	1	+	1	1	1	1	.	+
	Sanicula europaea	C	1	+	+	+	+	+	+	.
	Carex sylvatica	C	+	.	1	+	+	+	+	.
		A	.	.	.	+	.	.	.	.
	Fraxinus excelsior	B	.	.	+	+	.	+	.	.
		C	.	1	1	1	+	1	+	.
	Galeobdolon flavidum	C	+	.	+	+	+	.	+	+
	Prenanthes purpurea	C	+	+	+	+	.	.	+	1
	Viola reichenbachiana	C	+	.	+	+	+	+	+	.
	Campanula trachelium	C	+	+	.	.	+	+	+	.
	Prunus avium	A	r	+	+	+	+	.	.	.
		C	+	.	.	+	+	.	.	.
	Daphne mezereum	B	.	+	+	+	+	.	.	.
	Galium laevigatum	C	.	.	+	.	+	+	+	.
	Galium odoratum	C	.	.	+	.	.	+	1	1
	Mercurialis perennis	C	.	2	.	.	1	+	+	.
	Mycelis muralis	C	+	.	+	.	+	+	.	.
	Phyllitis scolopendrium	C	r	.	+	.	.	.	+	+
	Sambucus nigra	C	.	.	+	.	.	+	+	1
	Scrophularia nodosa	C	.	.	.	+	.	+	+	+
		A	+	+	.	.	+	.	.	.
	Acer campestre	B	.	.	+	.	.	.	.	.
		C	.	.	.	.	+	.	.	.
	Arum maculatum	C	.	.	.	.	.	1	+	+
	Aruncus dioicus	C	+	.	+	+	.	.	.	.
	Cardamine bulbifera	C	.	.	.	.	.	+	1	1
	Euphorbia amygdaloides	C	+	+	.	.	+	.	.	.
	Fraxinus excelsior	A	.	.	.	+	.	.	.	.
		B	.	.	+	+	.	+	.	.
	Lathyrus vernus/vernus	C	+	.	.	.	+	+	.	.
	Phyteuma spicatum/coeruleum	C	.	+	+	.	.	+	.	.
	Acer platanoides	B	.	.	.	.	.	.	+	.
		C	.	.	.	.	.	+	1	.
	Allium ursinum	C	.	.	.	.	.	+	+	.
	Carpinus betulus	A	.	.	.	.	.	r	+	.
	Dryopteris affinis	C	.	.	.	.	.	.	+	+
	Epipactis helleborine	C	.	+	.	.	+	.	.	.
	Juglans regia	B	.	+	.	+	.	.	.	.
		C	r	.	.	.	+	.	.	.
	Polygonatum multiflorum	C	.	.	+	.	.	+	.	.
QP	***Quercetalia pubescentis***									
	Ostrya carpinifolia	A	+	1	+	.	+	+	1	.
		A	r	+	r	.	.	.	.	.
	Fraxinus ornus	B	.	.	.	+	+	.	.	.
		C	+	1	+	.	+	+	.	.
	Sorbus aria	A	.	+	.	.	.	.	+	.
		B	.	.	+	.	.	.	.	.

	Taxa		1	2	3*	4	5	6	7	8
R	***Quercetalia robori-petraeae***									
	Pteridium aquilinum	C	+	+	.	.	+	.	.	.
QF	***Querco-Fagetea***									
	Clematis vitalba	B	+	+	+	+	+	+	+	.
	Corylus avellana	A	.	.	.	.	.	.	.	+
		B	+	+	+	+	.	+	1	.
	Anemone nemorosa	C	+	+	+	.	.	+	+	.
	Lonicera xylosteum	B	.	+	+	+	.	.	.	.
	Taxus baccata	A	.	.	.	r	1	.	.	.
		B	.	.	.	.	+	.	.	.
EP	***Erico-Pinetea***									
	Cirsium erisithales	C	+	.	+	.	+	.	.	.
VP	***Vaccinio-Piceetea***									
	Abies alba	A	3	3	3	3	2	2	1	2
		B	+	1	1	1	+	1	1	.
		C	1	+	1	1	+	+	.	+
	Oxalis acetosella	C	1	.	1	1	1	1	+	1
	Solidago virgaurea	C	+	+	1	+	.	+	+	1
	Gentiana asclepiadea	C	+	+	+	+	+	+	+	.
	Picea abies	A	3	+	2	+	+	1	+	.
		B	.	.	+	+	+	.	.	+
		C	.	+	.	+	.	r	.	.
	Rubus hirtus	B	+	+	1	+	+	+	.	.
	Calamagrostis arundinacea	C	+	+	+	+	1	.	.	.
	Veronica urticifolia	C	.	.	.	+	.	+	.	+
	Blechnum spicant	C	+	.	+	.	.	.	.	.
	Larix decidua	A	r	.	.	.	r	.	.	.
MA	***Mulgedio-Aconitetea***									
	Senecio ovatus	C	+	+	1	1	+	1	1	1
	Athyrium filix-femina	C	1	+	2	1	.	1	1	2
	Angelica sylvestris	C	+	+	+	.	.	.	.	+
	Doronicum austriacum	C	.	.	+	.	.	.	+	1
AT	***Asplenietea trichomanis***									
	Asplenium trichomanes	C	.	.	+	+	+	+	+	+
	Polypodium vulgare	C	.	.	.	+	.	.	+	.
	Other taxa									
	Hypericum hirsutum	C	.	.	+	+	+	.	.	.
	Polystichum x luerssenii	C	.	.	+	.	.	+	+	.
	Ajuga reptans	C	+	.	+	.	.	+	.	.
	Polystichum x bicknellii	C	.	.	.	.	.	1	.	2
	Rubus idaeus	B	+	.	.	.	.	+	.	.
	Viscum album/abietis	A	+	+	.	.	.	.	.	.
	Lichens and mosses									
	Ctenidium molluscum	D	1	+	+	+	1	1	1	+
	Fissidens dubius	D	1	+	+	+	1	+	.	.
	Polytrichum formosum	D	+	.	+	+	+	+	+	.
	Isothecium alopecuroides	D	.	+	.	+	.	2	1	+
	Neckera crispa	D	.	.	.	+	+	2	+	+
	Schistidium apocarpum	D	.	.	.	.	.	+	+	+
	Thamnobryum alopecurum	D	.	.	+	.	.	+	.	+
	Eurhynchium striatum	D	+	.	+	.	.	.	.	.