

FOREST AND SCRUB COMMUNITIES WITH GREEN ALDER (*ALNUS VIRIDIS*) IN SLOVENIA

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Abstract

This paper provides phytosociological tables that describe scrub and forest communities with *Alnus viridis* in the Slovenian Alps. We described three new associations: *Rhododendro hirsuti-Alnetum viridis* (a green alder community on calcareous bedrock in the Eastern and Southeastern Alps), *Huperzio selagi-Alnetum viridis* (a green alder community in the silicate rocks under Mt. Komen in the eastern Savinja Alps) and *Alno viridis-Sorbetum aucupariae* (a successional stage of mountain ash and green alder on potential beech sites in the foothills of the southern Julian Alps; similar stages are known also elsewhere in the Alps), and presented additional three associations (*Polysticho lonchitis-Fagetum*, *Rhodothamno-Laricetum* and *Rhododendro hirsuti-Pinetum mugo*) whose stands comprise green alder.

Key words: phytosociology, synsystematics, *Alnetum viridis*, *Rhododendro hirsuti-Alnetum viridis*, *Huperzio selagi-Alnetum viridis*, *Alno viridis-Sorbetum aucupariae*, the Julian Alps, the Karavanke Mountains, the Smrekovec Mountains.

Izveček

V članku s fitocenološkimi tabelami opisujemo grmiščne in gozdne združbe, v katerih v slovenskih Alpah uspeva vrsta *Alnus viridis*. Opisali smo tri nove asociacije: *Rhododendro hirsuti-Alnetum viridis* (združba zelene jelše na karbonatni podlagi v vzhodnih in jugovzhodnih Alpah), *Huperzio selagi-Alnetum viridis* (združba zelene jelše v silikatnem skalovju pod goro Komen v vzhodnih Savinjskih Alpah) ter *Alno viridis-Sorbetum aucupariae* (sukcesijski stadij jerebike in zelene jelše na potencialno bukovih rastiščih v prigorju južnih Julijskih Alp, podobne stadije poznajo tudi drugod v Alpah) ter predstavili še tri druge asociacije (*Polysticho lonchitis-Fagetum*, *Rhodothamno-Laricetum* in *Rhododendro hirsuti-Pinetum mugo*), v čigar sestojih uspeva zelena jelša.

Ključne besede: fitocenologija, sinsistematika, *Alnetum viridis*, *Rhododendro hirsuti-Alnetum viridis*, *Huperzio selagi-Alnetum viridis*, *Alno viridis-Sorbetum aucupariae*, Julijske Alpe, Karavanke, Smrekovško pogorje.

1. INTRODUCTION

Alnus viridis [syn. *Alnus alnobetula* (Ehrh.) Hartig] is a species with Eurasian and North American distribution. Its nominate subspecies *Alnus viridis* subsp. *viridis* is a south-European montane taxon known across the Alpine Arc, in the Pyrenees, Apennines, Carpathians, the Dinaric and

Balkan Mountains (Ball 1993, Aeschmann et al. 2004: 230). It is a character species of the class *Betulo carpaticae-Alnetea viridis* that incorporates subalpine alder and willow scrub communities. Its communities in the Alps are well studied and are known also in other mountain ranges (e.g. in the Balkan Peninsula – Čolić et al. 1963, Stefanović & Beus 1982, Stefanović 1986: 211, Tzonev

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et al. 2009, and in North America – Talbot et al. 2005). A synthetic overview of phytosociological studies of *Alnus viridis* communities in the Alps was published by Boscutti et al. (2013). In Slovenia, green alder is relatively common only in the Alpine and pre-Alpine phytogeographical regions, but there are individual localities in the Dinaric, pre-Dinaric and sub-Pannonian phytogeographical region (Figure 1). Brus (2008: 33) mentions its occurrence on the Nanos plateau, which would be its southernmost locality in Slovenia. However, the original source of this information is unreliable and was therefore not included in the distribution map. Green alder sites are mainly in the altimontane and subalpine belt, some also in the lower part of the alpine belt (the highest it was spotted was on Prestreljeniški podi in the Kanin Mountains, at the elevation of around 2250 m). Sporadically, it occurs also in the lower montane belt. The lowest locality where it was spotted by the authors was at around 500 m a.s.l. at Dolenji Novaki in the Cerkljansko region. In literature there are reports of even lower-elevat-

ed localities. Most of them are listed by Paulin (1915: 189) for the vicinity of Ljubljana: Šišenski hrib, 400 m a.s.l.; Velika Trata at Šentvid, 350 m a.s.l.; Golovec, 400 m a.s.l.; Hrušica and Bizovik under Golovec, around 350 m a.s.l.; above the right bank of the Sava at Laze (under Janče), 450 m a.s.l. (former occurrence of green alder on Rožnik was discussed also by Šercelj, 1996: 66, and by Fleischmann for Golovec, 1844: 136). Very low, at around 400 m a.s.l., is also the locality on Goričko (Križarka – Boreča) – Bakan (2006: 63). In Slovenia, green alder usually grows on fresh, often acid soil (eutric and dystric brown soils), on mountain hay meadows and pastures, forest edges and reaches its ecological optimum in moist, shady gullies where snowslides occur in the winter. Geological bedrock on its sites is usually mixed (limestone with addition of marlstone, claystone or chert) or silicate (marlstone, claystone, chert, igneous and metamorphic rocks). However, it frequently occurs also on pure limestone, dolomite limestone or dolomite, in places where the soil is moist enough and acid due to

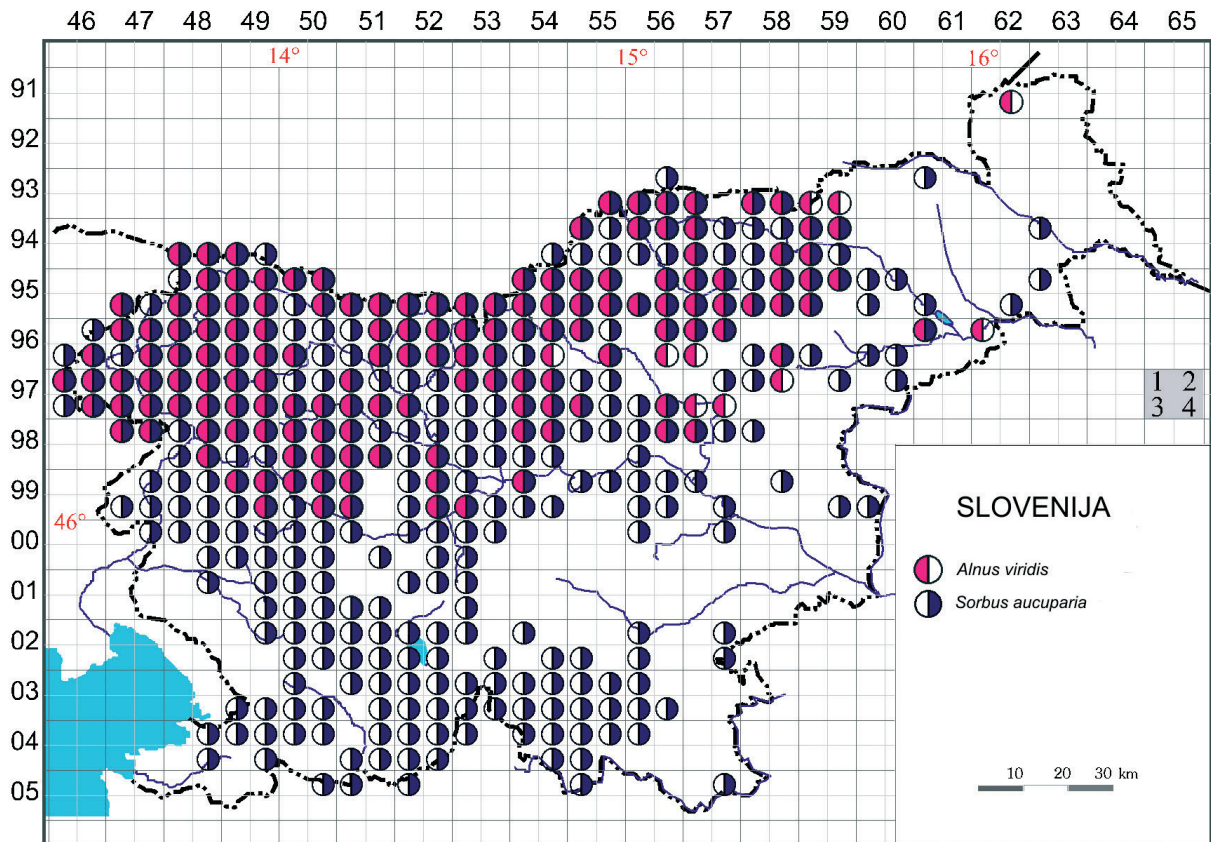


Figure 1: Distribution of *Alnus viridis* and *Sorbus aucuparia* in Slovenia
 Slika 1: Razširjenost vrst *Alnus viridis* in *Sorbus aucuparia* v Sloveniji

slow decomposition of organic matter in surface horizons (moder rendzina). Green alder therefore requires sufficient light and high soil moisture, but has no special temperature requirements and is well-adapted to snow accumulation and resistant to snow mould. Sufficient and constant water supply is crucial for its growth and symbiotic fungi in the soil supply nitrogen from the air (Richard 1969, quoted after Mertz 2000: 374). As a heliophilous species it is not very common in forest communities. It occurs in communities characterised by natural, open tree layer; e.g., very rarely in acidophilous Scots pine stands of the association *Vaccinio myrtilli-Pinetum sylvestris* (Šercelj 1996: 66), scattered to frequent in eastern-Alpine larch stands (*Rhodothamno-Laricetum*) – Dakskobler (2006), scattered (constancy 1 or 2) also in several spruce communities (*Adenostylo glabrae-Piceetum* – Zupančič (1999), *Avenello flexuosae-Piceetum* – M. Wraber (1955: 15) and *Asplenio-Piceetum*) and in subalpine beech stands (*Polysticho lonchitis-Fagetum*). In successional stages it grows also on the sites of the syntaxa *Luzulo-Fagetum abietetosum* and *Luzulo sylvaticae-Piceetum*. It is relatively common in subalpine scrub communities, especially in Alpine dwarf pine scrub (*Rhododendro hirsuti-Pinetum mugo*) where it has constancy 2 – Zupančič et al. (2006), in the Carpathian birch community (*Rhododendro hirsuti-Betuletum carpaticae*) – Dakskobler et al. (2012) and in subalpine willow communities (*Salicetum waldsteinianae* – (Zupančič & Žagar (2001), Surina 2005) and *Aceri-Salicetum appendiculatae*). One of the first descriptions of green alder stands as a community in the territory of today's Slovenia was published by Paulin (1915: 188–190). When describing the new locality of *Athyrium distentifolium* = *A. alpestre* in the Karavanke Mountains he listed all the species growing in the green alder community (formation). The locality of the relevé is under Lepi vrh above the Kočna Saddle in the Struška ridge, at the elevation of around 1680 m. A phytosociological table of green alder stands (*Alnetum viridis* s. lat.) with four relevés from the Austrian side of the Karavanke was published by Aichinger (1933: 173–174), while Seljak (1974) and Piskernik (1982) published two phytosociological tables of this community in Slovenia. Seljak published six relevés from Mt. Porezen in his graduation thesis and Piskernik applied his own method in making nine relevés on Mt. Porezen and three under Mt. Olševa. According to our opinion *Alnus viridis* stands occupy a sig-

nificant ecological niche and their protective role against erosion and snowslides is important also in the Southeastern Alps but they have not yet been sufficiently phytosociologically researched in Slovenia. By processing the material which we had obtained mainly in the phytosociological research of subalpine beech and larch forests in the Julian Alps, the Kamnik-Savinja Alps and the Karavanke Mountains, we described some of the communities where it occurs.

2. METHODS

Vegetation on the sites of *Alnus viridis* was researched applying the Central-European method (Braun-Blanquet 1964). We made a total of 44 relevés of scrub communities with dominant green alder. These relevés were combined with additional six relevés of this community from Seljak's graduation thesis (1974). These 50 relevés were entered into the FloVegSi database (Seliškar et al. 2003). Combined cover-abundance values were transformed into ordinal values (van der Maarel 1979). Numerical comparisons were made with the software package SYN-TAX (Podani 2001) and R (R Development Core Team 2012), using the package "vegan" (Oksanen et al. 2012). The relevés were compared using the following methods: "(Unweighted) average linkage" – UPGMA, "Incremental sum of squares" – MISSQ and "Principal Coordinates Analysis" – PCoA. Wishart's similarity ratio was applied in this comparisons. For their suitable syntaxonomic classification a synthetic table was made in which we compared the communities from Slovenia with similar communities from other regions of the Alps in Austria, Italy and Switzerland. Our decision for such comparison was partly based on the fact that we did not have access to all analytic tables, while we did have at our disposal synthetically organised material for the entire territory of Austria. Even more decisive, however, was our conclusion that only the synthetic table provides the means to effectively present the floristic individuality of a syntaxon, which is always an abstract unit and therefore usually requires as many relevés of actual stands in nature as possible for an accurate description. As a rule, none of these stands serves as a typical representative of the described syntaxon, which is only a synthesis of all actual relevés. Although we compared columns, some of which differed

considerably in the number of relevés, this did not significantly affect the results (e.g. the columns with four and seven relevés did not group together). The columns (syntaxa) in the synthetic table were compared applying the same methods as for the relevés in the analytic table. In order to obtain full information on the sites of green alder in Slovenia we used those relevés from the FloVegSi database that we made of larch, dwarf pine and subalpine beech stands that comprise also this species; these relevés were subsequently arranged into three separate tables (subalpine beech stands, larch stands, dwarf mountain-pine stands). Two pioneer communities with frequent green alder (*Alno viridis-Sorbetum aucupariae* and *Rhododendro hirsuti-Betuletum carpaticae*) were also included in the comparison.

A phytoindication analysis in the stands with green alder was carried out using ecological indicator values (Landolt et al. 2010). In the relevés we determined average conditions in terms of temperature (T), continentality (K), light conditions (L), moisture (M), soil reaction (R), nutrients (N), humus content (H) and aeration (A). In our calculations we used van der Maarel's ordinal plant cover values as weight that was reduced by half in indicator values with a higher degree of variation (Landolt et al. 2010).

$$WA_{pop} = \frac{\sum_{i=1}^s (FV_i \times Abund_i \times VR_i)}{\sum_{i=1}^s (Abund_i \times VR_i)}$$

where WA_{pop} is the weighted average of indication values of plant species for an ecological factor on a relevé, FV_i is the phytoindication value of the i th species, $Abund_i$ is cover value, VR_i is range of variation of phytoindication value (I = 1, II = 0.5) and s the number of species in a relevé.

Relevés of the stands with green alder were compared using the Canonical Analysis of Principal Coordinates – CAP (Anderson & Willis 2003) on the basis of Bray-Curtis dissimilarity index where weighted averages of Landolt phytoindication values (WA_{pop}) were used as constrained variables.

The nomenclature source for the names of vascular plants is the Mala flora Slovenije (Martinčič et al. 2007). Martinčič (2003, 2011) is the nomenclature source for the names of mosses and Šupan et al. (2000) are the nomenclature source for the names of lichenicolous fungi. The nomenclature sources for the names of syntaxa are Theuri-

llat (2004) and Šilc & Čarni (2012). The data on the geological bedrock follow Jurkovšek (1987 a, b) and Buser (2009); the source for the nomenclature of soil types is Urbančič et al. (2005). Ecological description of the Smrekovec Mountains follows Lovrenčak et al. (1998) and Martinčič (2008). Climate data (precipitation volume, mean temperature) were obtained on the website of the Environmental Agency of the Republic of Slovenia, Ministry of Agriculture and Environment (<http://www.arso.gov.si/>).

3. RESULTS AND DISCUSSION

3.1 CONSPECTUS OF DETERMINED AND DESCRIBED SYNTAXA

Betulo carpaticae-Alnetea viridis Rejmánek in Huml et al. 1979

Alnetalia viridis Rübél ex Huml et al. 1979

Alnion viridis Schnyder 1930

Alnetum viridis Berger 1922 *typicum* Karner 2007

Rhododendro hirsuti-Alnetum viridis ass. nova hoc loco

Huperzio selagi-Alnetum viridis ass. nova hoc loco

Alno viridis-Sorbetum aucupariae ass. nova hoc loco

Alno viridis-Aceretum pseudoplatani nom. prov.

Quercu-Fagetea Br.-Bl. & Vlieg. 1937

Fagetalia sylvaticae Walas 1933

Aremonio-Fagion (Ht. 1938) Borhidi in Török, Podani & Borhidi 1989

Polysticho lonchitis-Fagetum (Horvat 1938)

Marinček in Poldini et Nardini 1993

Vaccinio-Piceetea Br.-Bl. in Br.-Bl., Sissingh & Vlieger 1939 (= *Vaccinio-Piceetea* Br.-Bl. 1939 emend. Zupančič (1976) 2000)

Piceetalia excelsae Pawłowski in Pawłowski & al. 1928 (= *Vaccinio-Piceetalia* Br.-Bl. 1939 em. Lund. 1967).

Pinion mugo Pawłowski 1928 (*Erico-Pinion mugo* Leibundgut 1948)

Rhododendro-Laricetum (Zukrigl 1973) Willner & Zukrigl 1999

Alno viridis-Laricetum deciduae nom. prov.

Rhododendro hirsuti-Pinetum prostratae Zöttl 1951 (= *Rhododendro-Pinetum mugo* Zupančič et Žagar in Zupančič 2013, sensu Zupančič 2013)

3.2 DESCRIPTION OF COMMUNITIES WITH DOMINANT *ALNUS VIRIDIS*

Based on our comparisons (Figure 2) the collected relevés with dominant *Alnus viridis* in Slovenia were arranged into three columns and compared with green alder communities elsewhere in the Alps. Three types of green alder stands in Austria (Karner 2007a, b) were classified into the synthetic table (Table 4): *Alnetum viridis typicum*, *Alnetum viridis aceretosum pseudoplatani* nom. prov. and *Alnetum viridis rhododendretosum ferruginei* nom. prov., as well as a green alder community (*Alnetum viridis* s. lat.) on the Austrian side of the Karavanke Mountains (Aichinger 1933), stands of the association *Alnetum viridis* from Switzerland (Braun-Blanquet 1973) and stands of the association *Rhododendro ferruginei-Alnetum viridis* from different parts of the Alps (Boscutti et al. 2013). Thus we obtained a table with nine columns which we compared applying hierarchical classification and two-dimensional ordination (PCoA). The results (Figures 3 and 4) demonstrate that the syntaxa form three groups. Among the compared communities the green alder stands recorded in the Smrekovec Mountains in the Savinja Alps stands out the most. The other two

of our communities are most similar to the stands of the subassociation *Alnetum viridis aceretosum pseudoplatani* and to green alder stands from the Austrian side of the Karavanke Mts. The third group comprises the syntaxa *Alnetum viridis typicum*, *Alnetum viridis rhododendretosum ferruginei* and *Rhododendro ferruginei-Alnetum viridis*.

The syntaxa from the first group could be classified into Karner's provisional subassociation *Alnetum viridis aceretosum pseudoplatani*. In addition to some character species of the association *Alnetum viridis* s. lat. (e.g. *Viola biflora*, *Saxifraga rotundifolia* and *Adenostyles alliariae*), all differential species of this subassociation are well represented in our stands. However, the dendrogram demonstrates that green alder stands on fresh limestone sites differ substantially from green alder stands on silicate bedrock. Although the analysis conducted by Boscutti et al. (2013) did not confirm this – they determined the occurrence of only two large groups (*Alnetum viridis* and *Rhododendro ferruginei-Alnetum viridis*) – our comparison demonstrates that the stands of the subassociation *Alnetum viridis aceretosum pseudoplatani* are less similar to the stands of the typical form *Alnetum viridis typicum* than are the stands of the association *Rhododendro fer-*

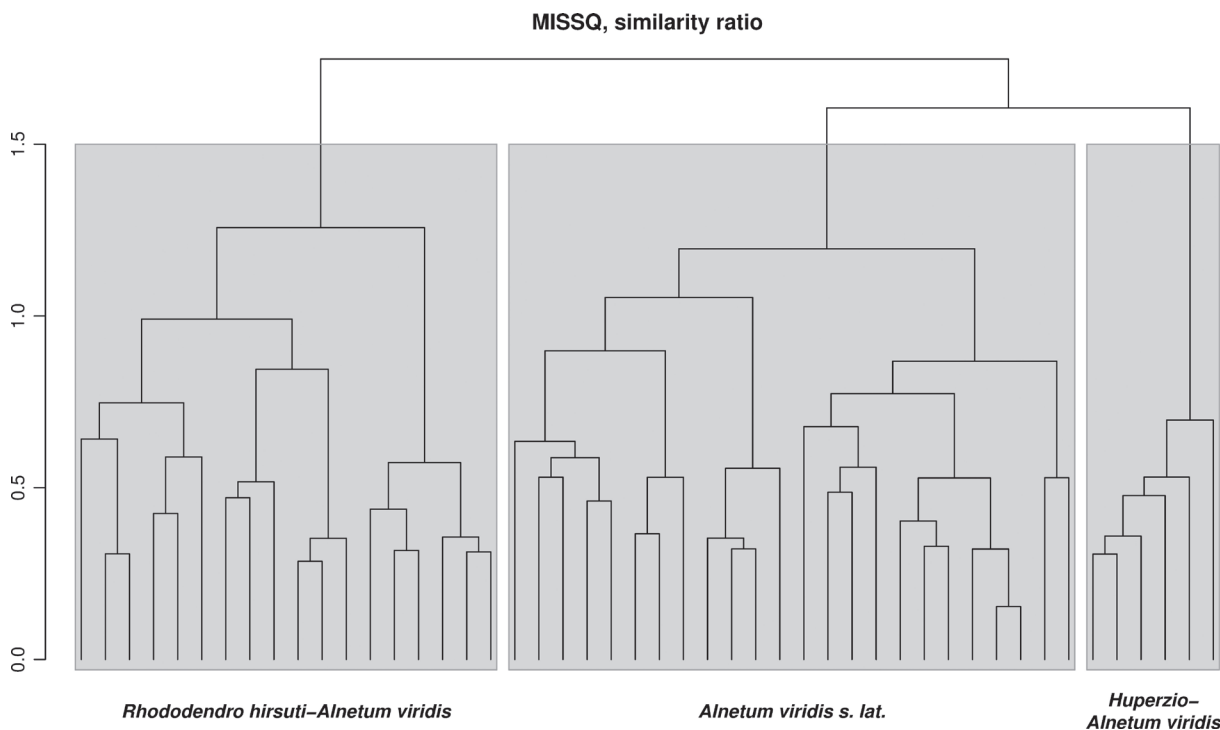


Figure 2: Dendrogram of relevés with dominant *Alnus viridis* in Slovenia (MISSQ, similarity ratio).

Slika 2: Dendrogram popisov z dominantno zeleno jelšo v Sloveniji (MISSQ, similarity ratio).

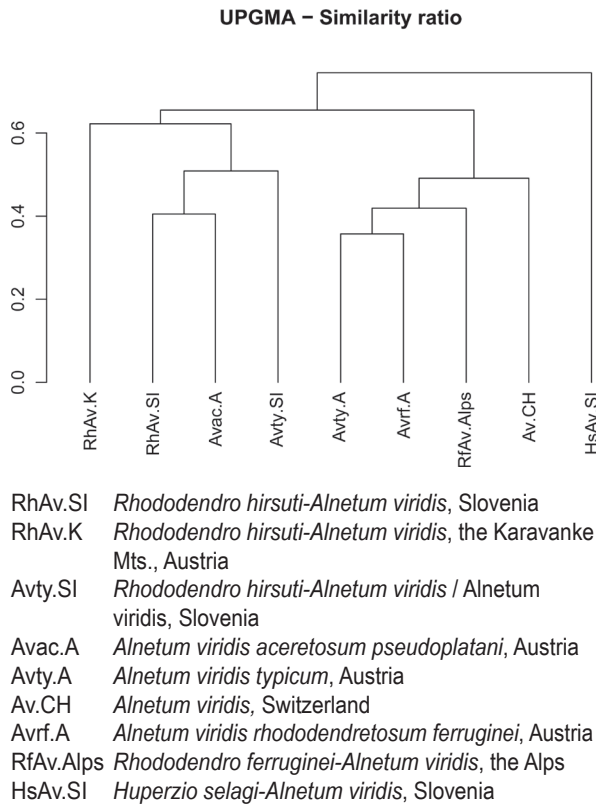


Figure 3: Dendrogram of communities with dominant *Alnus viridis* in the Alps (UPGMA, similarity ratio).

Slika 3: Dendrogram združb z dominantno zeleno jelšo v Alpah (UPGMA, similarity ratio).

ruginei-Alnetum viridis. In our opinion, a higher syntaxonomical rank for green alder stands on silicate bedrock (*Alnetum viridis rhododendretosum ferruginei* = *Rhododendro ferruginei-Alnetum viridis*) is justified, and based on our analysis we likewise confirm a higher syntaxonomical rank for green alder stands on calcareous (limestone and dolomite) bedrock. Our comparisons allow the possibility to consider the more or less primary green alder stands on predominantly calcareous bedrock in the Eastern and Southeastern Alps as an independent association *Rhododendro hirsuti-Alnetum viridis* ass. nova hoc loco and we have therefore increased their rank. Diagnostic (differential) species of the new association are *Rhododendron hirsutum*, *Sorbus chamaemespilus*, *Polystichum lonchitis*, *Valeriana tripteris*, *Asplenium viride*, *Aconitum lycoctonum* s. lat., *Galeobdolon flavidum*, *Thalictrum aquilegifolium*, *Salix waldsteiniana*, *Adenostyles glabra*, *Cystopteris montana*, *Acer pseudoplatanus* and *Primula elatior*, which is a differential combination whose frequency ef-

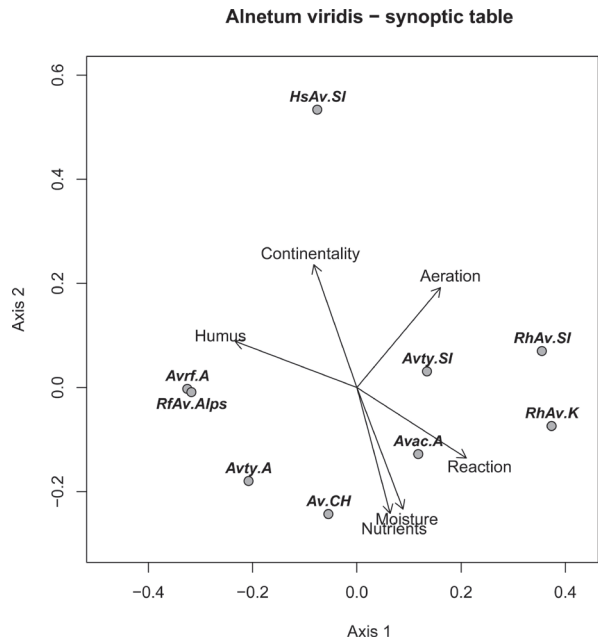


Figure 4: Two-dimensional scatter-diagram of communities with dominant *Alnus viridis* in the Alps (PCoA, similarity ratio). First two ordination axes explain 34,84% and 25,31% of total variation respectively. Arrows represent Landolt's indicator values as passive variables in the analysis.

Slika 4: Dvorazsežni ordinacijski diagram združb z dominantno zeleno jelšo v Alpah (PCoA, similarity ratio). Prvi dve ordinacijski osi pojasnita 34,84% oz. 25,31% skupne variabilnosti. Puščice predstavljajo Landoltove indikacijske vrednosti, kot pasivne spremenljivke v analizi.

ficiently differentiates these green alder stands from those on silicate bedrock (*Alnetum viridis typicum*, *Rhododendro ferruginei-Alnetum viridis*). Some character species of the alliance *Aremonio-Fagion* (*Cardamine enneaphylos*, *C. trifolia*, *Cyclamen purpurascens*, *Knautia drymeia*) that occasionally occur in these stands also have a certain diagnostic (differential) value (see also Table 5, columns 1–4). In central Bosnia, on Mt. Vranica, in the subalpine belt and on silicate and mixed bedrock (Paleozoic slates, phyllite, in places admixture of limestone), Stefanović & Beus (1982) described the association *Athyrio-Alnetum viridis* which in places comprises also *Rhododendron hirsutum* (after which they named the subassociation *Athyrio-Alnetum viridis rhododendretosum hirsuti*). In some stands of this community there are also other diagnostic species of the association *Rhododendro hirsuti-Alnetum viridis*: *Valeriana tripteris*, *Polystichum lonchitis*, *Asplenium viride*, *Primula elatior*, *Acer pseudoplatanus* and *Sorbus chamaemespilus*. Nevertheless, the full floristic composition of

the association *Athyrio-Alnetum viridis* is considerably different from the composition of the association *Rhododendro hirsuti-Alnetum viridis* and Sørensen's coefficient of floristic similarity [$2c/(a+b)$], where a is the number of species in the association *Rhododendro hirsuti-Alnetum viridis*, b is the number of species in the association *Athyrio-Alnetum viridis* and c is the number of species, that are common to both syntaxa] is only about 20% – Sørensen (1948). The species that differentiate it from the association *Rhododendro hirsuti-Alnetum viridis* are *Athyrium distentifolium* (mainly due to its constancy and abundance), *Hypericum alpinum* (= *H. richeri*), *Laserpitium marginatum* (= *L. krapfii*), *Doronium columnae* and *Salix silesiaca*. The nomenclature type, *holotypus*, of the new association *Rhododendro hirsuti-Alnetum viridis*, is relevé No. 5 in Table 1. Relevés from the Southeastern Alps (the Julian Alps, the Karavanke Mountains) are slightly different from the relevés from other parts of the Eastern Alps, so they are treated as a special geographical variant with *Homogyne sylvestris*. The differential species of this geographical variant are also *Festuca nitida*, *Paederota lutea* and *Lamium orvala*.

Phytosociological Table 1 (see also column 2 in Table 4 and Figure 4), which contains the nomenclature type of the new association, comprises the green alder relevés that were made on steep shady slopes (the usual slope is 30° to 45°), mainly in gullies, on limestone and dolomite bedrock or on their talus slopes. Limestone is very rarely admixed with claystone. The soil is mainly initial, moist, with a more or less thick layer of moder or raw humus, which is the consequence of slow decomposition of organic matter. The soil type is rendzina. The elevation of the relevés is between 1330 m and 1815 m, the climate is montane, humid, with annual precipitation between 1800 mm (in the east) and 2500 mm (in the west) and mean annual temperature between 0 °C and 4 °C. Snow covers the ground for 150 to 200 days of the year. These relevés were partly made in the forest belt, mainly in the belt of subalpine larch forests from the association *Rhododendro-Laricetum*, in gullies with snow sliding every year, which prevents normal development of the forest. Green alder stands in these gullies are a long-term successional stage. Some of the relevés were made also above the timberline, at the elevation between 1750 m and 1815 m, in places where environmental factors still allow scrub growth. In such cases green alder stands represent the

final development stage of vegetation and due to their exposed positions progressive development towards subalpine larch or spruce forests is impossible. A relatively rich species composition of these green alder stands is dominated by species of subalpine scrub communities and tall herbs, as well as spruce forest species (see also Table 5, column 2). It comprises also some beech forest species (e.g. *Daphne mezereum*, *Cardamine enneaphyllos*, *Paris quadrifolia* and *Mercurialis perennis*). There are four distinct variants. The variant *typica* is represented by only one relevé that was made in Komar above the Zadnjica valley in Trenta, under the rock faces of Kanjavec. Relevés on steep shady slopes under Mt. Črna prst (the highest-lying recorded green alder stands) are classified into the variant with *Rhodiola rosea* and the green alder stands on talus slopes above the pasture Za Liscem and in the Stara Fužina Pasturelands (under Mizčna glava) into the variant with *Soldanella alpina*. The variant with *Hepatica nobilis* (differential species are also *Saxifraga cuneifolia*, *Aconitum tauricum* and *Helleborus niger*) characterises very steep dolomite gullies under Olševa above the Koprivna valley.

Table 2 comprises green alder stands whose common trait is that they usually grow as a pioneer stage on former agricultural land, pastures and hay meadows, still in the belt of beech, fir-beech or spruce forest. Geological bedrock is most frequently mixed, limestone or dolomite with addition of marlstone, claystone and chert, or entirely silicate (claystone, igneous rocks). These relevés separated from the relevés of "primary" green alder stands of the association *Rhododendro hirsuti-Alnetum viridis* (Figure 2), but synthetic comparison (Figures 3 and 4) showed more similarity with them than with green alder stands from other Alpine regions. Phytogeographical factor clearly played a decisive role here. Nevertheless, a major part of these stands is not classified into the new association *Rhododendro hirsuti-Alnetum viridis*. The only exceptions are relevés 17 to 24 in Table 2. These were made on northern peak slopes of Mt. Porezen, where the forest had been cleared for pastures a long time ago, and on the foothills of the southern Julian Alps (Kobla, Slatnik, Bizle above Rut). The elevation of these relevés is between 1320 m and 1600 m and the ecological conditions (i. e. steep slopes, predominant shady exposition, climate) are very similar to those listed in the description of the new association. Relevés 1 to 5 are

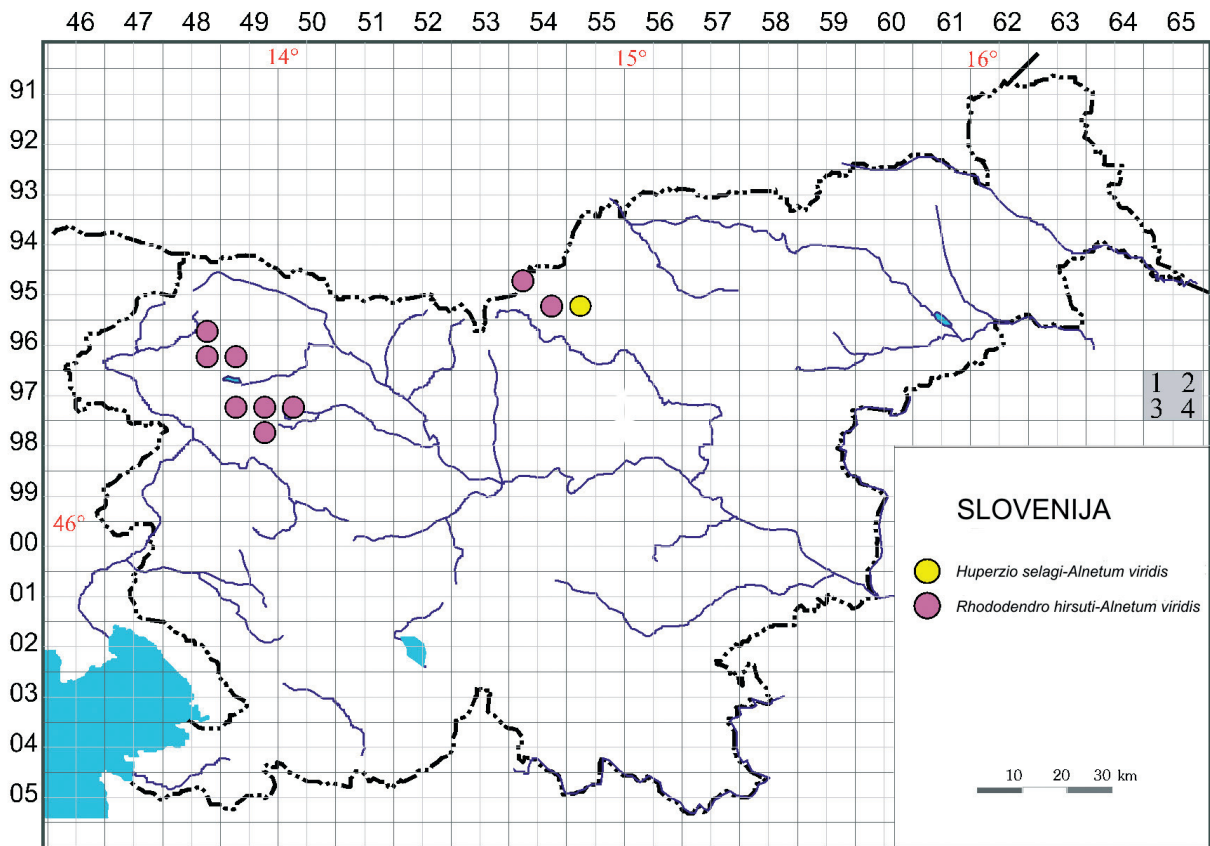


Figure 5: Approximate localities of stands of the associations *Rhododendro hirsuti-Alnetum viridis* and *Huperzio selagi-Alnetum viridis* in Slovenia.

Slika 5: Približna nahajališča sestojev asociacij *Rhododendro hirsuti-Alnetum viridis* in *Huperzio selagi-Alnetum viridis* v Sloveniji.



Scrub community with dominant *Alnus viridis* (*Rhododendro hirsuti-Alnetum viridis*), the northern slopes of Mt. Črna prst. Grmišče s prevladujočo zeleno jelšo (*Rhododendro hirsuti-Alnetum viridis*) na severnih pobočjih Črne prsti.

classified into the subassociation *Alnetum viridis typicum*. These are relevés from the western and eastern Karavanke Mts. and the Smrekovec Mts. They were made at the elevation ranging from 1370 m to 1720 m a.s.l., on shady aspects with lower slopes. The climate is montane, but less humid than in the Julian Alps. Character species of the association *Alnetum viridis* are well represented, which cannot be said for the differential species of the associations *Rhododendro hirsuti-Alnetum viridis* and *Rhododendro ferruginei-Alnetum viridis*. Of all the relevés compared, relevés No. 6 to 16 the most clearly stand out as pioneer stands on abandoned alpine pastures on potential beech sites. These relevés were made at the elevation between 1250 m and 1450 m on abandoned pastures under Kobilja glava and Jalovnik in the foothills of the Julian Alps; one relevé is from Otavnik near Porezen. These stands are relatively young and character species of the association *Alnetum viridis* only sporadically occur in their floristic

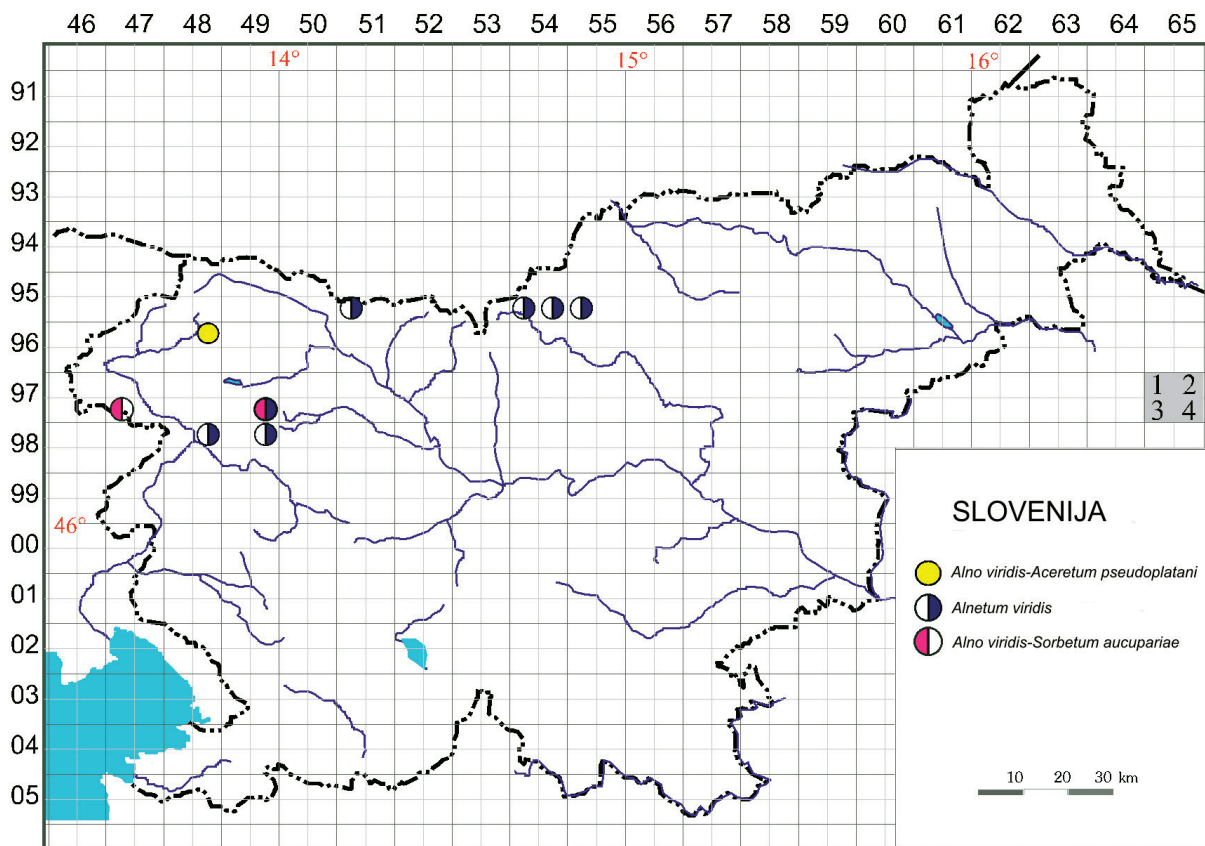


Figure 6: Approximate localities of stands of the associations *Alnetum viridis* s. lat., *Alno viridis-Sorbetum aucupariae* and *Alno viridis-Aceretum pseudoplatani* in Slovenia.

Slika 6: Približna nahajališča sestojev asociacij *Alnetum viridis* s. lat., *Alno viridis-Sorbetum aucupariae* and *Alno viridis-Aceretum pseudoplatani* v Sloveniji.



Stand of the association *Rhododendro hirsuti-Alnetum viridis* on the northern slopes of Mt. Olševa.

Sestoj asociacije *Rhododendro hirsuti-Alnetum viridis* na severnih pobočjih Olševe.

composition. For now, these relevés are treated within the macroassociation *Alnetum viridis* s. lat., but without a detailed syntaxonomic definition.

Table 3 comprises six relevés that were made in the Smrekovec Mts. in the eastern Savinja Alps, on very steep shady slopes under Mt. Komen (Kamen) at the elevation between 1640 m and 1670 m (Figure 5). Geological bedrock is composed of igneous rocks with predominating andesite; the soil type is ranker or shallow dystric Cambisol. The climate is montane, with annual precipitation of around 1800 mm and mean annual temperature of 0 °C to 2 °C. These relevés are different from all other relevés compared (compare Figures 2, 3 and 4). Their sites are quite extreme, steep rocks or gullies that cannot be populated by forest vegetation (in this case subalpine spruce forest from the association *Luzulo sylvaticae-Piceetum*). For now, green alder scrubs therefore remain the highest stage of vegetation development and a long-term successional stage. In gen-



Pioneer green alder scrub community (*Alnetum viridis* s. lat.) on formerly pastures on potential sites of altimontane beech forests, northern slopes of Mt. Kobilja glava in the southern Julian Alps.

Pionirsko grmišče zelene jelše (*Alnetum viridis* s. lat.) na nekdanjih pašnikih na potencialnih rastiščih altimontanskega bukovega gozda na severnih pobočjih Kobilje glave v južnih Julijskih Alpah.

eral, fewer species grow in these stands than in the stands of previously described syntaxa. Absent are especially character species of subalpine scrubs and tall herbs from classes *Betulo-Alnetea* and *Mulgedio-Aconitetea*, which are also character species of the macroassociation *Alnetum viridis* s. lat. More common, in addition to the green alder, are sporadically only *Viola biflora*, *Veratrum album* subsp. *album* and *Stellaria nemorum*. Species with the highest constancy and medium cover belong to the class of spruce forests *Vaccinio-Piceetea* (see also column 9 in Table 5). They include *Vaccinium myrtillus*, *V. vitis-idaea*, *Calamagrostis villosa*, *Picea abies*, *Avenella flexuosa*, *Phegopteris connectilis*, *Dryopteris dilatata*, *Luzula sylvatica*, *Lycopodium annotinum*, *Huperzia selago*, *Homogyne alpina* and *Thelypteris limbosperma*. Diagnostic value have also some species characteristic for silicate rocks or acid subalpine-alpine grasslands and spring areas, such as *Primula villosa*, *P. minima*, *Campanula alpina*, *Agrostis rupestris*, *Festuca varia* and *Saxifraga stellaris* subsp. *prolifera*. These stands com-

prise also some diagnostic species of the above mentioned or described associations, for example *Rhododendron hirsutum*, *Valeriana tripteris*, *Vaccinium myrtillus*, *Rubus idaeus* and *Dryopteris dilatata*; however, these species cannot be classified neither into the association *Rhododendro hirsuti-Alnetum viridis* (due to the absence of most of its diagnostic species and tall herb species), nor into the association *Rhododendro ferruginei-Alnetum viridis* (into which they should be classified based on the ecological conditions and geological bedrock), because they do not comprise the species *Rhododendron ferrugineum* nor a number of diagnostic species of the classes *Betulo-Alnetea* and *Mulgedio-Aconitetea*. The absence of the latter species does not allow for the classification of these stands into the syntaxon *Alnetum viridis typicum*. Because of their obvious floristic uniqueness they are classified into the new association *Huperzio selagi-Alnetum viridis* ass. nova hoc loco. Its nomenclature type, *holotypus*, is relevé No. 1 in Table 3. Diagnostic species of the new asso-

ciation are *Vaccinium vitis-idaea*, *Lycopodium annotinum*, *Huperzia selago*, *Thelypteris limbosperma*, *Festuca guestfalica*, *F. varia*, *Primula minima*, *P. villosa* and two mosses (the moss layer in this community is in fact relatively rich) – *Rhytidiadelphus loreus* and *Sphagnum russowii*. The listed species reflect the characteristics of subalpine sites on silicate rocks with distinctly acid soil. In addition to the typical variant we distinguish also the variant with *Vaccinium gaultherioides* (the differential species is also *Empetrum hermaphroditum*) in very steep andesite rocks. The stands of the association *Huperzio-Alnetum viridis* are yet another vegetation feature of the Smrekovec Mts., which are known for their unique flora and vegetation (Petkovšek 1945, T. Wraber in Lovrenčak et al. 1998, Martinčič 2008, Juvan et al. 2011).

3.3 DESCRIPTION OF SOME FOREST COMMUNITIES WITH GREEN ALDER IN THE SHRUB LAYER

3.3.1 *Alno viridis-Sorbetum aucupariae* ass. nova

Table 6 comprises ten relevés of pioneer forest stands whose tree layer is dominated by mountain ash (*Sorbus aucuparia*) and which developed in the belt of altimontane and subalpine beech forests (*Ranunculo platanifolii-Fagetum*, *Polysticho lonchitis-Fagetum*) in the southern Julian Alps and their foothills (Figure 6). Primary forest vegetation has been either cleared for hay meadows or pastures, or destroyed by snowslides (see relevé 4). Green alder was frequently the first to have established itself on steep, often stony or rocky shady slopes after agricultural land use was abandoned, but was replaced in the succession by the mountain ash that now builds the upper stand layer and reaches a tree height of about 10 metres and up to 30 cm in diameter at breast height. Progressive development into the beech forest is very long on these extreme sites, so it seems appropriate to treat these pioneer stands at the rank of association. Recently, phytosociologists have been incorporating similar pioneer forests on fresh sites in the montane belt whose tree layer is dominated by *Salix caprea*, *Populus tremula*, *Betula pendula* or *Sorbus aucuparia* into the alliance *Sambuco-Salicion capreae* (order *Sambucetalia racemosae* and class *Rhamno-Prunetea*) – Exner & Willner (2007). In Slovenia, mountain ash (*Sorbus*



Stand of the association *Huperzio selagi-Alnetum viridis* on northern slopes of Mt. Komen (Kamen) in the Smrekovec Mountains.

Sestoj asociacije *Huperzio selagi-Alnetum viridis* na severnih pobočjih Komna (Kamna) v Smrekovškem pogorju.

aucuparia) is found mainly admixed in beech, fir-beech, spruce and larch forests in submontane, montane and subalpine belt. It is distributed in most of the country (it is rare only in the Primorje region, in the Karst and Istria, as well as in south-eastern Slovenia and the Prekmurje region) – Figure 1. Distribution of both subspecies (subsp. *aucuparia* and subsp. *glabrata*), has not been so well researched. According to the data in the FloVegSi database, the subspecies *Sorbus aucuparia* subsp. *glabrata* grows in the Alps (the Julian and the Kamnik-Savinja Alps, the Karavanke Mts., Pohorje) and on the Trnovski gozd plateau. Our findings have shown that, at least in the Julian Alps, this is a very rare subspecies and that even in the subalpine communities, larch stands, dwarf pine and green alder stands, the typical form, *Sorbus aucuparia* subsp. *aucuparia*, prevails. Only the typical subspecies was determined also in the case of the described pioneer stage. M. Wraber (1960) mentions mountain ash as an important tree species in two montane communities on Pohorje, in maple forests *Sorbo aucupariae-Aceretum pseudoplatani* and in spruce forests *Sorbo aucupariae-Piceetum*. Its pioneer stands are also likely to be found here. Mountain ash and green alder stands are known also elsewhere in the Alps. ETH

Zürich students (Hari, Leisinger & Zysset 1993) pointed to the occurrence of a similar mountain ash community in Switzerland in 1993, but did not back that up with further publication. Steiger (1994: 96, 2010: 129) in his work on Swiss forests mentions the association *Alno viridis-Sorbetum aucupariae* prov., which indicates it has not yet been described according to the rules of the Code of Phytocoenological Nomenclature (Weber et al. 2000). This article aims to compensate for that. Since we do not have access to the published relevés of this community elsewhere in the Alps, we selected as its nomenclature type, *holotypus*, a relevé from our table, i.e. relevé No. 6 in Table 6. Diagnostic species of the new association are *Sorbus aucuparia*, *Salix appendiculata*, *Alnus viridis*, *Senecio cacaliaster* and *Veratrum album* subsp. *lobelianum*. The new association is classified into the alliance *Alnion viridis*, order *Alnetalia viridis* and class *Betulo-Alnetea*. Such classification is justified with the domination of the species of this class and tall herbs from the class *Mulgedio-Aconitetea*. There is no sound basis that would justify classification of the new association into the alliance *Sambuco-Salicion capreae* and class *Rhamno-Prunetea* on the grounds of its floristic composition. These stands are not common in the Julian Alps and their foothills. So far, they have been recorded on the northern slopes of Matajur, on Sanek above Stržišče in the Bača Valley and under Mts. Kobla and Črna gora in Bohinj (Figure 6), at the elevation between 1300 m and 1600 m, in montane and very humid climate, with mean annual precipitation of between 2200 mm and 2800 mm. The new association is divided into two subassociations. The subassociation *Alno viridis-Sorbetum aucupariae adenostyletosum glabrae* subass. nova hoc loco characterises steep, shady, stony limestone sites with rendzina or shallow brown calcareous soil with frequent snowslides. The nomenclature type, *holotypus*, of this subassociation is the nomenclature type of the new association (relevé No. 6 in Table 6). Differential species of the subassociation are *Adenostyles glabra*, *Asplenium viride*, *Cystopteris fragilis* and *Soldanella alpina*. The subassociation *Alno viridis-Sorbetum aucupariae luzuletosum sylvaticae* subass. nova hoc loco characterises pioneer stages on former hay meadows on mixed geological bedrock, limestone, marlstone, claystone and chert on slightly acid (dystric) soil. Its nomenclature type, *holotypus*, is relevé No. 1 in Table 6 and its differential species are *Luzula sylvatica* and *Sorbus chamaemespilus*.

3.3.2 *Alno viridis-Aceretum pseudoplatani* nom. prov.

In Table 7 we publish the relevé made in the cirque Komar under Kanjavec, above Zadnjica in the Trenta at the elevation of around 1430 m (Figure 6). Here, on a steep prominence between two gorges with frequent snowslides, grows a low open sycamore maple forest of coppice and sabre growth, reaching a tree height of 10 metres and diameters at breast height of up to 30 cm. The shrub layer that covers almost the same area as the tree layer is dominated by green alder (*Alnus viridis*) and large-leaved willow (*Salix appendiculata*). The herb layer comprises species of tall herbs, beech, spruce and basophilous pine forests. With its floristic composition this stand resembles above all the green alder forest from the association *Rhododendro hirsuti-Alnetum viridis* – in any respect more than it resembles montane sycamore maple communities from associations *Lamio orvalae-Aceretum* and *Aconito paniculati-Fagetum* (compare P. Košir 2005, Dakšobler 2007 and Zupančič 2012). We believe this is a long-term successional stage whose development into a higher stage – at this elevation in the Primorje part of the Julian Alps this means subalpine beech forest (*Polysticho lonchitis-Fagetum*) – is thwarted by natural conditions, a stony moist site and annual snowslides. As we must consider the highest stand layer of sycamore maple, this relevé is classified into, for the time being only provisional, new association *Alno viridis-Aceretum pseudoplatani* nom. prov. A valid description of this association will be possible if we can find similar stands elsewhere. For now, the provisional new association is classified into the alliance *Alnion viridis* and class *Betulo-Alnetea viridis*.

3.3.3 *Polysticho lonchitis-Fagetum*

Authors of recent phytosociological literature (Accetto 2002, Surina & Rakaj 2007, Willner 2007, Marinček & Čarni 2010, Zupančič 2012) have different views of this association; some of them do not see it as independent and classify it into more widely interpreted altimontane beech community of the eastern and southeastern Alps and the northern part of the Dinaric Mountains (*Saxifrago rotundifolii-Fagetum* Zukrigl 1989 or *Ranunculo platanifolii-Fagetum* Marinček et al. 1993). In our opinion, based on around 400 rel-



Stand of the association *Alno viridis-Sorbetum aucupariae* on northern slopes of Mt. Matajur.
Sestoj asociacije *Alno viridis-Sorbetum aucupariae* na severnih pobočjih Matajurja.

evés from the Julian Alps and the Trnovski gozd plateau, independence of this association is justified not only in terms of its sites and physiognomy – the elevation belt immediately along the existing timberline with low, usually clustered and coppice beech (polycormon tree form) – but also floristically, with a number of differential species, especially character species of subalpine scrub communities, tall herbs and grasslands. Such good differential species that rarely, or not at all, grow in other beech communities are *Rhododendron hirsutum*, *Sorbus chamaemespilus*, *Lonicera caerulea*, *Salix appendiculata*, *Pinus mugo*, *Clematis alpina*, *Senecio cacaliaster*, *Aster bellidifolium*, *Laserpitium peucedanoides*, *Festuca calva* and *Astrantia bavarica*, in our case also *Alnus viridis* and others. While it is true that some of the above-mentioned species may be diagnostic also for some other beech associations such as *Rhododendro hirsuti-Fagetum* or *Aconito paniculati-Fagetum*, the ecological conditions and entire species composition in these cases are considerably different. Our material on the association *Polysticho*

lonchitis-Fagetum still needs to be processed, but this article publishes 27 relevés of beech forests at the timberline in the Julian Alps (Table 8), most of which (possibly excluding relevés No. 26 and 27) can undoubtedly be classified into this association. These beech stands comprise also green alder, which indicates the specifics of their natural structure. These stands occur on extreme sites with an open tree layer, which is mainly the consequence of natural factors – steep slopes, erosion, snowslides. In subalpine beech forests the green alder was recorded at the elevation of 1360 m to 1580 m a.s.l., geological bedrock is limestone, only rarely admixed with dolomite or marlstone, the soil is rendzina. Steep to very steep shady slopes prevail. Such beech stands were found in the southwestern foothills of the Julian Alps, under the ridge of Stol, in Resia, in the Krn Mts., in the ridges of Bavški Grintavec and Loška stena, under the Tolmin-Bohinj ridge and under Porezen (the stands under Porezen are floristically closer to the association *Ranunculo platanifolii-Fagetum*).

3.3.4 *Rhodothamno-Laricetum*

Regardless of the prevailing calcareous bedrock, green alder is a relatively common species in the scrub layer of the eastern-Alpine larch community. This is due to mainly favourable light conditions under the open tree layer and to the fact that natural larch forests frequently grow on steep shady slopes with very moist soil where organic matter accumulates. From extensive material (more than 330 relevés) we selected 40 relevés where green alder's cover value in the shrub layer is 1 or more (Table 9). Such larch stands were recorded in the Julian Alps, the Kamnik-Savinja Alps and the Karavanke Mts. They were made at elevation of 1410 m to 1830 m a.s.l., geological bedrock is limestone or dolomite limestone, only exceptionally is limestone admixed with marlstone; soils are moder rendzinas. The aspect is almost always shady and the slope usually very steep. Relevé No. 40 stands out from the other relevés; it was made under Srednji vrh in the Karavanke Mts. where geological bedrock consists of claystone and the soil is brown, eutric. This relevé is not classified into the association *Rhodothamno-Laricetum*, but is temporarily treated as a syntaxon *Alno viridis-Laricetum deciduae* nom. prov. Supposedly, this is a successional stage on former non-forest land where the larch forest gradually replaces the pioneer green alder scrub (*Alnetum viridis*). At the moment, other stands cannot be treated as a special subassociation *Rhodothamno-Laricetum alnetosum viridis*, even though green alder clearly characterises special, cold and moist sites. This is due to similar reasons as in dwarf mountain-pine (*Pinus mugo*). These two species are more or less abundant in larch forests and relevés do not usually group only based on their presence or absence, but also according to other factors. Green alder was nevertheless identified as a diagnostic species of lower-level units, similarly to *Luzula nivea* and *Stellaria montana* which may indicate two different variants of the studied association.

3.3.5 *Rhododendro hirsuti-Pinetum mugo* (= *Rhodothamno-Pinetum mugo* Zupančič et Žagar in Zupančič 2013)

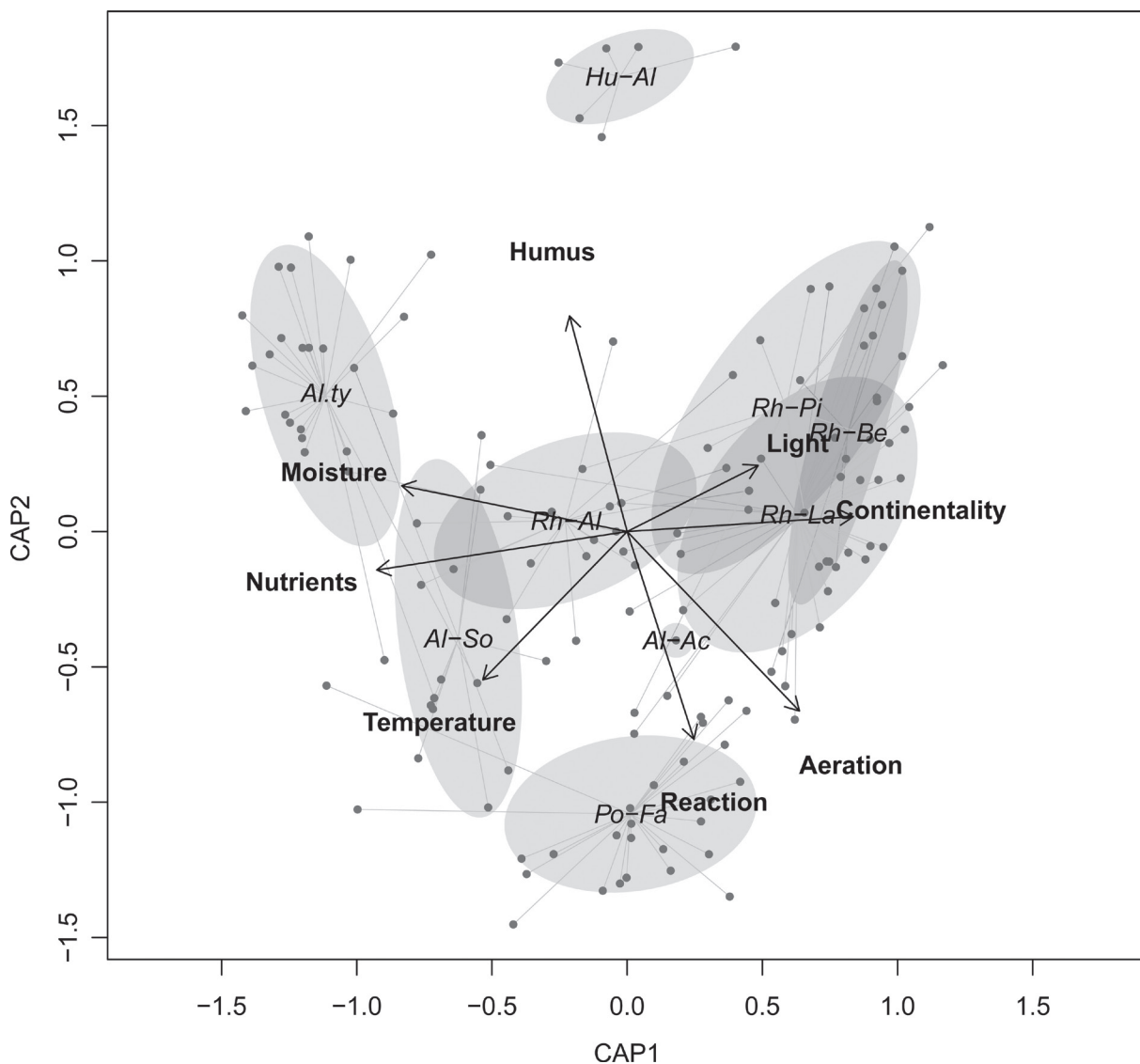
Green alder occurs relatively frequently also in Alpine dwarf mountain-pine stands. In the territory of Slovenia this applies not only to relevés published by Zupančič et al. (2006), where in the ana-

lytic table green alder demonstrates class of constancy 2 (frequency 32%), but also to our mainly still unpublished relevés (about 80). Among them we identified only those where green alder has a cover value 1 or more (Table 10). These relevés were made in the Julian Alps at elevation of 1360 m to 1770 m a.s.l., on limestone and dolomite bedrock or on talus slopes, usually on very steep shady slopes with persistent snow cover. The soils are moder rendzinas. For now, this form of Alpine dwarf mountain-pine stands is treated as a special variant *Rhododendro hirsuti-Pinetum mugo typicum* Zupančič, Žagar & Culiberg 2006 var. *Alnus viridis* = *Rhodothamno-Pinetum mugo* Zupančič et Žagar in Zupančič 2013 var. *Alnus viridis* (see also Zupančič 2013). It can be described as one of the most hygrophilous forms of Alpine dwarf mountain-pine stands in Slovenia. Here, the species *Alnus viridis*, *Salix appendiculata*, *S. glabra* and *S. waldsteiniana* indicate a certain similarity with subalpine willow communities (*Aceri-Salicetum appendiculatae*). A similar subalpine community in which green alder acts as a diagnostic species was described in the Julian Alps, i.e. the association *Rhododendro hirsuti-Betuletum carpaticae* (Dakskobler et al. 2012). Its sites are shady glacial cirques with annual snowslides that obstruct successional development into subalpine beech forest. The open tree layer is dominated by Carpathian birch (*Betula pubescens* subsp. *carpatica*), and the shrub layer by *Pinus mugo*, *Rhododendron hirsutum* and *Alnus viridis*.

3.4 COMPARISON OF COMMUNITIES WITH *ALNUS VIRIDIS* IN SLOVENIA ACCORDING TO LANDOLT'S INDICATOR VALUES

Results of the phytoindication analysis in the stands with green alder that was carried out using ecological indicator values (Landolt et al. 2010) are presented in Figures 7 and 8.

Calculated temperature values (T) indicate slightly more favourable temperature conditions in the stands of the syntaxa *Alno viridis-Sorbetum aucupariae*, *Alnetum viridis typicum* and *Polysticho lonchitis-Fagetum* in comparison with the stands of the syntaxa *Rhododendro hirsuti-Pinetum mugo* var. *Alnus viridis* and *Rhodothamno-Laricetum*. Continentality (K) is the least pronounced in the stands of the subassociation *Alnetum viridis typicum* and the most pronounced in the stands with dominant conifers (larch and dwarf pine stands). Similarly, light conditions (L) are more favourable in conifer



Al-Ac *Alno viridis*-*Aceretum pseudoplatani*
 Al-So *Alno viridis*-*Sorbetum acupariae*
 Alty. *Alnetum viridis typicum*
 Hu-Al *Huperzio selagi*-*Alnetum viridis*
 PoFa *Polysticho lonchitis*-*Fagetum*

RhAl *Rhododendro hirsuti*-*Alnetum viridis*
 RhBe *Rhododendro hirsuti*-*Betuletum carpaticae*
 Rh-La *Rhodothamno*-*Laricetum*
 Rh-Pi *Rhododendro hirsuti*-*Pinetum mugo* var. *Alnus viridis*

Figure 7: The ordination plot of the first and second CAP axes of vascular plant coverage in different syntaxa with *Alnus viridis*. All eight constrained axes explain 41,65% of total variation, first two explain 18,33% and 9,27% respectively. Arrows represent Landolt's indicator values.

Slika 7: Ordinacijski diagram prve in druge osi Kanonične analize glavnih koordinat (CAP) zastiranja praprotnic v semenih v različnih združbah z vrsto *Alnus viridis*. Kanonične osi (vseh osem skupaj) pojasnijo 41,65% skupne variabilnosti, narisani prvi dve osi pojasnita 18,33% oz. 9,29% variabilnosti. Puščice predstavljajo Landoltove indikacijske vrednosti.

stands. Moisture (M) is the highest in the stands of the syntaxa *Alnetum viridis typicum* and *Rhododendro hirsuti*-*Alnetum viridis* where green alder dominates. Calculated soil reaction values (R) indicate considerably higher soil acidity in the stands of

the association *Huperzio*-*Alnetum viridis* that occurs on silicate rocks and the sites of the subsociation *Alnetum viridis typicum* also demonstrate higher acidity than other communities. The highest mean values for the soil reaction indicator (R)

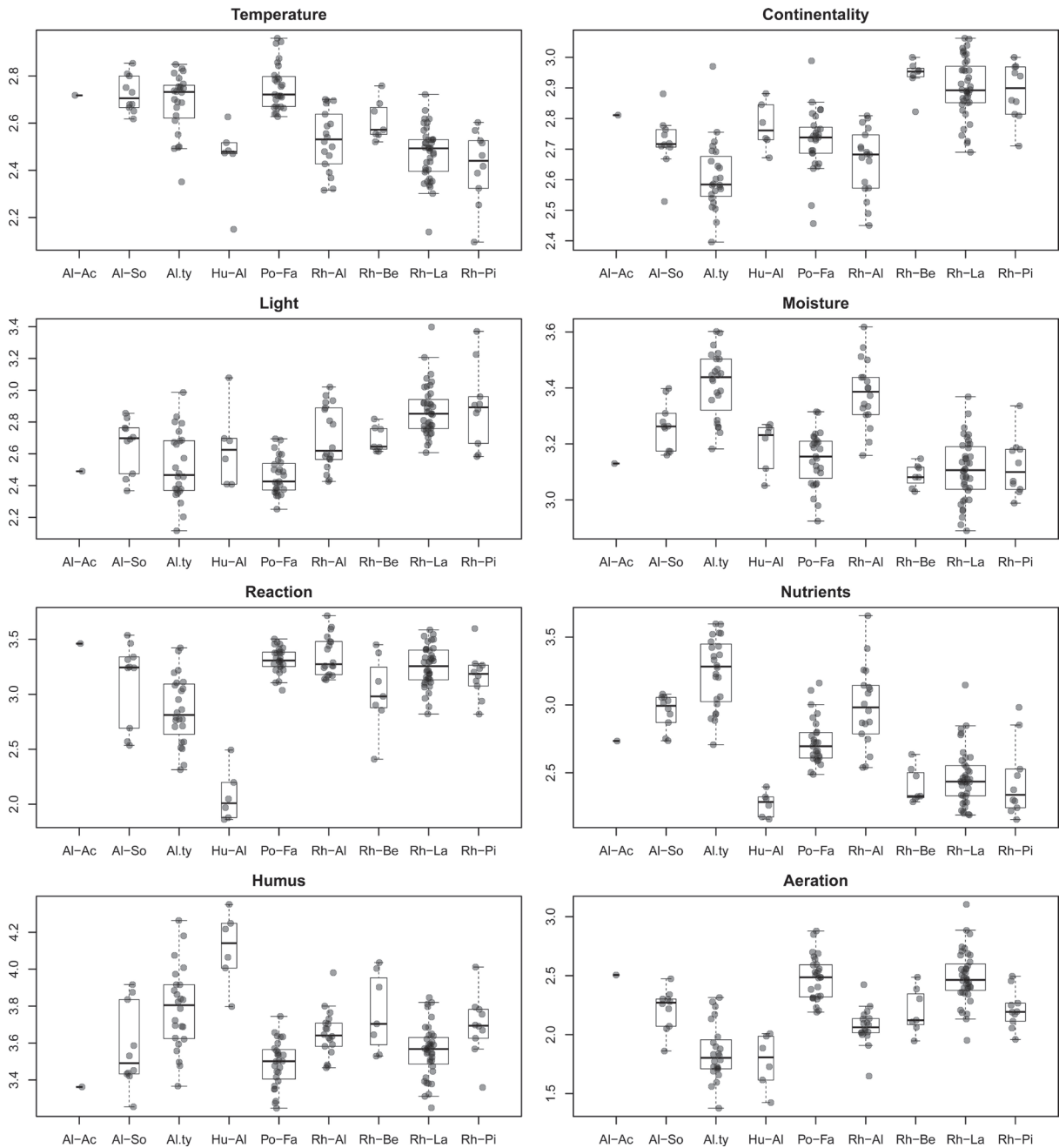


Figure 8: Comparison of ecological conditions in the communities with *Alnus viridis*, determined with Landolt's indicator values.
Slika 8: Primerjava ekoloških razmer v združbah z vrsto *Alnus viridis*, ugotovljenih s pomočjo Landoltovih fitoindikacijskih vrednosti.

were calculated in the Hu stands of the associations *Polysticho-Fagetum* and *Rhododendro hirsuti-Alnetum viridis*. Calculated nutrient values (N) indicate better nutrient supply on the sites of the syntaxa *Alnetum viridis typicum*, *Rhododendro hirsuti-Alnetum viridis* and *Alno viridis-Sorbetum aucupariae*, while the sites of the association *Huperzio-Alnetum viridis* and larch and dwarf pine communities are the

most nutrient-poor. Among the compared communities the sites of the syntaxa *Huperzio-Alnetum viridis* and *Alnetum viridis typicum* have the highest humus content in soils (H) and the poorest soil aeration (A). Phytindication demonstrates reverse conditions in terms of humus content and soil aeration in the stands of the associations *Polysticho-Fagetum* and *Rhodothamno-Laricetum*.

4. CONCLUSIONS

Green alder (*Alnus viridis* subsp. *viridis*) is an important species of our montane forests. As a pioneer species it has established itself in the predominantly limestone Slovenian Alps mainly on steep shady slopes, in gullies and hollows where snowslides occur every year and the snow cover lingers long into the spring. On such sites it forms long-term successional stages and it is unlikely to be replaced by the surrounding forest growth (most often subalpine larch or spruce forest) that occurs on slopes that are less exposed to avalanches. Such, more or less primary green alder stands on calcareous bedrock in the Eastern and Southeastern Alps are classified into the new association *Rhododendro hirsuti-Alnetum viridis*. It is differentiated from other communities described in the Alps (*Alnetum viridis* s. str., *Rhododendro ferruginei-Alnetum viridis*) by a higher number of mainly calciphilous species such as *Rhododendron hirsutum*, *Sorbus chamaemespilus*, *Polystichum lonchitis*, *Valeriana tripteris*, *Asplenium viride*, *Aconitum lycoctonum* s. lat., *Galeobdolon flavidum*, *Thalictrum aquilegifolium*, *Salix waldsteiniana*, *Adenostyles glabra*, *Cystopteris montana*, *Homogyne sylvestris*, *Acer pseudoplatanus*, *Primula elatior* and others. Floristically slightly different are the pioneer green alder stands on abandoned pastures and mountain pastures that were cleared mainly in the belt of altimontane and subalpine beech and very rarely also spruce forests from the associations *Ranunculo platanifolii-Fagetum*, *Polysticho lonchitis-Fagetum*, *Luzulo-Fagetum abietetosum* and *Luzulo sylvaticae-Piceetum*. Such stands, if they grow on limestone bedrock and on stony sites, are partly still classified into the association *Rhododendro hirsuti-Alnetum viridis* (several stands on the northern slopes of Porezen), and others into the syntaxon *Alnetum viridis typicum* (pioneer alder stands on silicate bedrock in the Karavanke Mts.) or merely into the wider macroassociation *Alnetum viridis* s. lat. (younger successional stages in the southern foothills of the Julian Alps). Floristically distinct is the green alder community in the shady andesite rocks under the peak of Komen in the Smrekovec Mts. (eastern Kamnik-Savinja Alps) that is classified into the new association *Huperzio selagi-Alnetum viridis* and represents vegetation that is unique in the silicate Alps. Here, the stands on similar sites are classified into the association *Rhododendro ferruginei-Alnetum viridis*. This classification was not possible in our case as *Rhododendron ferrugineum*

was not spotted under Komen (Kamen); likewise, some diagnostic species of the classes *Betulo-Alnetea viridis* and *Mulgedio-Aconitetea* do not grow in our stands. They are dominated by species of spruce forests from the class *Vaccinio-Piceetea*, including *Vaccinium vitis-idaea*, *Huperzia selago*, *Lycopodium annotinum* and *Thelypteris limbosperma*, some character species of silicate rocks or silicate subalpine grasslands (*Primula villosa*, *P. minima*) and some mosses (*Sphagnum russowii*, *Rhytidiadelphus loreus*). In the Julian Alps we found stands where green alder was partly replaced in succession by mountain ash. Similar stands are known elsewhere in the Alps, but have not yet been validly described as the new association *Alno viridis-Sorbetum aucupariae*, which is what we did in this article. A stand with dominant sycamore maple and green alder was provisionally described as the new association *Alno viridis-Aceretum pseudoplatani* nom. prov. The phytosociological table presented also the subalpine beech community (*Polysticho lonchitis-Fagetum*) where green alder grows due to the natural open tree layer and the subalpine larch community (*Rhodothamno-Laricetum*) where green alder in the shrub layer has a cover value of 1 or more. The larch relevé with green alder on claystone and eutric brown soil under Srednji vrh in the Karavanke Mts. is treated as a successional stage *Alno viridis-Laricetum deciduae* nom. prov. This species can be similarly abundant in a special form of eastern-Alpine dwarf mountain-pine community (*Rhododendro hirsuti-Pinetum mugo typicum* Zupančič, Žagar & Culiberg 2006 var. *Alnus viridis* = *Rhodothamno-Pinetum mugo* Zupančič et Žagar in Zupančič 2013 var. *Alnus viridis*) and in the community of dwarf mountain-pine, hairy alpenrose and Carpathian birch (*Rhododendro hirsuti-Betuletum carpaticae*).

Green alder stands and communities play a significant ecological and protective role in our Alps and their foothills. In last decades we have been observing their deterioration, mainly as a result of fungal diseases and pest damage. One of the agents frequently seen as responsible for the withering of green alder is *Cryptodiaporthe oxystoma* (Pisetta et al. 2012) that belongs to the fungal group *Ascomycota*, detected and determined in Slovenia (for example in the stands under Porezen and Kobilja glava) by G. Seljak and G. Podgornik (in litt.). For now, withering of alder has not been detected on a larger scale on other locations. Researchers attribute this alarming phenomenon to climate change and decreasing snow cover.

5. POVZETEK

Gozdne in grmiščne združbe z zeleno jelšo (*Alnus viridis*) v Sloveniji

Zelena jelša (*Alnus viridis* subsp. *viridis*) je pomembna vrsta naših gorskih gozdov. Kot pionirska vrsta se v pretežno apnenčastih slovenskih Alpah uveljavlja predvsem na strmih osojnih pobočjih, v žlebovih in kotanjah, kjer vsako leto polzijo snežni plazovi in se snežna odeja zadržuje dolgo v pomlad. Na takih rastiščih oblikuje dolgotrajne sukcesijske stadije, in je malo možnosti, da bi jo nadomestilo okoliško gozdno rastje (največkrat subalpinski macesnov ali smrekov gozd), ki uspeva na manj plazovitih pobočjih. Takšno bolj ali manj primarno zelenojelševje na karbonatni podlagi v vzhodnih in jugovzhodnih Alpah uvrščamo v novo asociacijo *Rhododendro hirsuti-Alnetum viridis*. Od drugih v Alpah opisanih združb (*Alnetum viridis* s. str., *Rhododendro ferruginei-Alnetum viridis*) jo razlikuje večje število večinoma kalcifilnih vrst, kot so *Rhododendron hirsutum*, *Sorbus chamaemespilus*, *Polystichum lonchitis*, *Valeriana tripteris*, *Asplenium viride*, *Aconitum lycoctonum* s. lat., *Galeobdolon flavidum*, *Thalictrum aquilegifolium*, *Salix waldeimiana*, *Adenostyles glabra*, *Cystopteris montana*, *Homogyne sylvestris*, *Acer pseudoplatanus*, *Primula elatior* in druge. Floristično nekoliko drugačni so pionirski sestoji zelene jelše na opuščeni pašnikih in planinah, ki so bili izkrceni v glavnem v pasu altimontanskih in subalpinskih bukovih in zelo redko tudi smrekovih gozdov iz asociacij *Ranunculo platanifolii-Fagetum*, *Polysticho lonchitis-Fagetum*, *Luzulo-Fagetum abietetosum*, *Luzulo sylvaticae-Piceetum*. Takšne sestoje, če uspevajo na apnenčasti podlagi in na kamnitih rastiščih, deloma še uvrščamo v asociacijo *Rhododendro hirsuti-Alnetum viridis* (nekateri sestoji na severnih pobočjih Porezna, pod Koblo in Slatnikom), druge pa v sintakson *Alnetum viridis typicum* (pionirski zelenojelševi sestoji na silikatni podlagi v Karavankah) ali zgolj v široko zajeto makroasociacijo *Alnetum viridis* s. lat. (mlajši sukcesijski stadiji v južnem prigorju Julijskih Alp). Floristično zelo posebno je zelenojelševje v osojnem andezitnem skalovju pod vrhom Komna v Smrekovškem pogorju (vzhodne Kamniško-Savinjske Alpe), ki ga uvrščamo v novo asociacijo *Huperzio selagi-Alnetum viridis* in je vegetacijska posebnost v silikatnih Alpah. V njih sestoje na podobnih rastiščih namreč uvrščajo v asociacijo *Rhododendro ferruginei-Alnetum viridis*. Takšna uvrstitev v našem prim-

eru ni bila mogoča, saj pod Komnom (Kamnom) vrste *Rhododendron ferrugineum* nismo opazili, prav tako v naših popisih ne uspevajo nekatere diagnostične vrste razredov *Betulo-Alnetea viridis* in *Mulgedio-Aconitetea*. V njih prevladujejo vrste smrekovih gozdov iz razreda *Vaccinio-Piceetea*, med njimi tudi vrste *Vaccinium vitis-idaea*, *Huperzia selago*, *Lycopodium annotinum* in *Thelypteris limbosperma*, nadalje nekatere značilnice silikatnega skalovja ali silikatnih subalpinskih travišč (*Primula villosa*, *P. minima*) ter nekateri mahovi (*Sphagnum russowii*, *Rhytidiadelphus loreus*). V Julijskih Alpah smo našli tudi sestoje, kjer je zeleno jelšo v sukcesiji deloma nadomestila jerebika. Podobne sestoje poznajo tudi drugod v Alpah, a do zdaj še niso bili veljavno opisani kot nova asociacija *Alno viridis-Sorbetum aucupariae*, zato smo to storili v tem članku. Sestoj s prevladujočima gorskim javorjem in zeleno jelšo pa uvrščamo v le provizorno opisano novo asociacijo *Alno viridis-Aceretum pseudoplatani*. S fitocenološko tabelo smo predstavili tudi subalpinsko bukovje (*Polysticho lonchitis-Fagetum*), v katerem zaradi naravnega vrzelastega drevesnega sklepa uspeva tudi zelena jelša, in subalpinsko macesnovje (*Rhodothamno-Laricetum*), v katerem ima zelena jelša v grmovni plasti oceno zastiranja 1 ali več. Popis macesnovja z zeleno jelšo na glinavcu in evtričnih rjavih tleh pod Srednjim vrhom v Karavankah vrednotimo kot sukcesijski stadij *Alno viridis-Laricetum deciduae* nom. prov. Podobno obilna je ta vrsta lahko v posebni obliki vzhodnoalpskega ruševja (*Rhododendro hirsuti-Pinetum mugo typicum* Zupančič, Žagar & Culiberg 2006 var. *Alnus viridis* = *Rhodothamno-Pinetum mugo* Zupančič et Žagar in Zupančič 2013 var. *Alnus viridis*) in v združbi rušja, dlakavega sleča in karpatske breze (*Rhododendro hirsuti-Betuletum carpaticae*).

Sestoji in združbe zelene jelše imajo v naših Alpah s prigorjem važno ekološko in varovalno vlogo. V zadnjih desetletjih tudi v Sloveniji opazamo njihovo propadanje, predvsem kot posledica glivičnih boleznih in napadov insektov. Med povzročitelji sušenja zelene jelše se pogosto omenja vrsto *Cryptodiaporthe oxystoma* (Pisetta et al. 2012), glivo iz skupine zaprtotrošnic (*Ascomycota*), ki sta jo pri nas (na primer v sestojih pod Poreznom in Kobiljo glavo) opazala in določala G. Seljak in G. Podgornik (in litt.). Za zdaj razen na teh dveh gorah znakov jelšinega sušenja v večjem obsegu na drugih lokacijah še nismo opazili. Ta zaskrbljujoč pojav raziskovalci povezujejo z podnebnimi spremembami in manjšo količino snežne odeje.

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Table 1 / Tabela 1: *Rhododendro hirsuti*-*Alnetum viridis* ass. nov.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
Number of relevé (Zaporedna številka popisa)	220754	202916	245424	212042	202925	202958	202951	244255	244256	244262	24435	244510	236620	244838	244839	244837	244840	244841	
Database number of relevé (Delovna številka popisa)																			
Elevation in m (Nadmorska višina v m)	1590	1720	1815	1570	1790	1815	1750	1490	1500	1510	1630	1620	1420	1560	1530	1525	1450	1335	
Aspect (Lega)	NW	W	N	E	N	N	N	NE	NE	N	N	NW	N	NE	NNE	N	N	NE	
Slope in degrees (Nagib v stopinjah)	35	35	35	30	45	40	35	30	30	30	30	40	30	30	45	45	40	15	
Parent material (Matična podlaga)	DA	A	AG	A	A	A	DA	Gr	Gr	Gr	Gr	Gr	Gr	Gr	D	D	D	Gr	
Soil (Tla)	Re	Re	Re	Re	Re	Re	Re	Re	Re	Re	Re	Ko	Re	Re	Re	Re	Re	Re	
Stoniness in % (Kamnitost v %)	20	20	20	20	10	10	10	10	30	20	10	10	40	10	10	10	10	10	
Cover of tree layer in % (Zastiranje drevesne plasti v %)	E3																2		
Cover of shrub layer in % (Zastiranje grmovne plasti v %):	E2	08	90	80	66	100	90	90	90	90	08	06	90	100	100	90	80	100	
Cover of herb layer in % (Zastiranje zeliščne plasti v %):	E1	80	40	70	70	69	50	90	90	80	80	90	70	80	70	80	90	80	
Cover of moss layer in % (Zastiranje mahovne plasti v %)	E0	5	20	10	5	20	10	20	10	10	10	5	10	20	10	20	10	10	
Number of species (Število vrst)	46	58	38	55	42	36	53	69	59	57	33	42	61	67	71	57	76	72	
Relevé area (Velikost popisne ploskve)	m ²	200	100	100	50	100	100	100	100	100	200	200	200	200	200	100	100	200	
Date of taking relevé (Datum popisa)	9/10/2008	7/31/2003	6/29/2012	8/9/2006	7/31/2003	8/13/2002	8/13/2002	8/8/2012	8/8/2012	8/8/2012	8/22/2012	8/24/2012	8/23/2010	9/18/2012	9/18/2012	9/18/2012	9/18/2012	9/18/2012	
Locality (Nahajališče)	Komar	Črna prst	Črna prst	Lisec	Črna prst	Črna prst	Črna prst	Mizčna gla- va - Poljane	Mizčna gla- va - Poljane	Mizčna gla- va - Poljane	Črna prst	Črna prst	Črna prst	Olševa	Olševa	Olševa	Olševa	Olševa	
Quadrant (Kvadrant)	9648/2	9749/4	9749/4	9749/4	9749/4	9749/4	9749/4	9648/4	9649/3	9648/4	9749/4	9749/4	9554/4	9554/1	9554/1	9554/1	9554/1	9554/1	
Coordinate GK Y (D=48)	408903	417807	417836	417658	417937	417946	418377	410225	410225	410057	418168	418164	483072	477440	477454	47727	477552	477511	
Coordinate GK X (D=48)	137048	121564	121314	121990	121378	121360	121449	130925	130937	131092	121480	121485	143202	145399	145348	145488	145519	145696	
Author of the relevé (Avtor popisa)	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID, AS	ID, AS	ID, AS	ID, AS	ID, AS	ID, AS, Pr. Fr.

Diagnostic species of the association (Diagnostične vrste asociacije)

MuA	<i>Aconitum lycoctonum</i> subsp. <i>ranunculifolium</i>	E1	2	1	1	1	1	1	1	1	2	3	1	1	1	2	+	+	+	1	+	1	1	18	100	
VP	<i>Valeriana tripteris</i>	E1	1	+	+	1	1	1	1	1	+	+	1	1	1	1	1	1	1	1	1	1	2	1	15	83
VP	<i>Polystichum lonchitis</i>	E1	+	+	+	+	+	+	1	1	+	+	1	1	1	+	+	+	+	+	+	+	+	+	15	83
AT	<i>Asplenium viride</i>	E1	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	14	78
FS	<i>Galeobdolon flavidum</i>	E1	1	+	1	+	+	+	1	1	+	+	1	1	1	+	+	+	+	+	+	+	+	1	12	67
MuA	<i>Thalictrum aquilegifolium</i>	E1	+	+	+	1	+	+	1	1	+	1	1	1	1	1	+	+	+	+	+	+	+	+	12	67
BA	<i>Sorbus chamaemespilus</i>	E2	+	+	+	+	+	1	1	1	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10	56
EP	<i>Rhododendron hirsutum</i>	E2a	1	+	+	+	3	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10	56
BA	<i>Salix waldesteiniana</i>	E2	+	+	+	+	3	1	2	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10	56
TR	<i>Adenostyles glabra</i>	E1	+	+	5	1	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	10	56
MuA	<i>Primula elatior</i>	E1	1	+	+	+	+	+	1	1	+	1	1	1	1	2	+	+	+	+	+	+	+	+	9	50
TR	<i>Cystopteris montana</i>	E1	+	+	+	2	+	+	1	2	+	+	+	+	+	+	1	1	1	1	1	1	1	1	9	50
TA	<i>Acer pseudoplatanus</i>	E2	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	6	33
TA	<i>Acer pseudoplatanus</i>	E1	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	3	17

Differential species of the geographical variant (Razlikovalnice geografske variante)

VP	<i>Homogyne sylvestris</i>	E1	+	+	+	1	1	+	+	+	+	+	+	+	+	+	1	1	1	+	2	2	2	11	61	
TR	<i>Festuca nitida</i>	E1	+	+	+	+	1	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	9	50
AT	<i>Paederota lutea</i>	E1	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	5	28

Differential species of lower units (Razlikovalnice nižjih enot)

TR	<i>Rhodiola rosea</i>	E1	+	3	+	+	2	+	1	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	6	33
JT	<i>Soldanella alpina</i>	E1	+	+	+	+	+	+	+	1	+	+	+	+	+	+	+	+	+	+	+	+	+	+	7	39
VP	<i>Saxifraga cuneifolia</i>	E1	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	6	33
QF	<i>Hepatica nobilis</i>	E1	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	6	33
MuA	<i>Aconitum tauricum</i>	E1	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	4	22
AF	<i>Helleborus niger</i>	E1	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	4	22

BA *Betulo carpaticae-Alnetea viridis*

BA	<i>Alnus viridis</i>	E2b	5	4	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	18	100	
	<i>Salix appendiculata</i>	E2b	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	1	2	9	50
	<i>Salix glabra</i>	E2a	1	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	6	33	
MuA	<i>Mulgedio-Aconitetea</i>																											
	<i>Viola biflora</i>	E1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	16	89	
	<i>Saxifraga rotundifolia</i>	E1	1	1	1	+	+	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	13	72	
	<i>Geum rivale</i>	E1	1	1	+	+	+	+	+	+	+	+	+	+	+	+	2	1	1	1	1	1	1	1	1	12	67	
	<i>Geranium sylvaticum</i>	E1	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	12	67	
	<i>Chaerophyllum hirsutum</i>	E1	1	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	1	12	67

Number of relevé (Zaporedna številka popisa)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Pr.	Fr.
<i>Adenosyles alliariae</i>	E1	.	+	.	.	1	1	2	4	4	4	3	2	.	.	+	.	r	+	12	67
<i>Veratrum album</i> s. lat.	E1	.	1	1	3	1	1	1	1	1	+	1	.	.	.	.	.	.	+	11	61
<i>Senecio cacaliaster</i>	E1	.	1	2	2	.	+	+	2	2	3	1	2	+	.	.	.	.	.	11	61
<i>Polygonatum verticillatum</i>	E1	.	1	+	+	.	2	1	.	1	.	.	.	.	+	+	+	1	1	11	61
<i>Doronicum austriacum</i>	E1	.	+	1	+	.	.	+	2	.	.	+	+	.	.	+	.	.	+	9	50
<i>Athyrium filix-femina</i>	E1	.	.	+	1	.	.	.	1	+	.	+	.	.	.	+	+	+	+	9	50
<i>Crepis paludosa</i>	E1	.	.	.	.	1	.	.	1	.	1	+	1	+	.	+	.	.	+	9	50
<i>Ranunculus platanifolius</i>	E1	.	1	+	+	.	.	.	.	.	.	.	1	.	.	+	+	.	.	7	39
<i>Hypericum maculatum</i>	E1	.	+	.	+	.	.	.	.	+	.	.	.	.	+	+	.	1	+	7	39
<i>Stellaria nemorum</i>	E1	.	.	.	.	.	.	.	+	2	1	.	.	1	1	+	.	.	+	7	39
<i>Heracleum sphondylium</i> subsp. <i>montanum</i>	E1	1	+	+	2	.	.	.	.	.	.	1	2	.	.	.	.	.	.	6	33
<i>Senecio ovatus</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	+	1	1	+	+	+	6	33
<i>Rumex arifolius</i>	E1	.	+	1	1	.	.	.	.	.	.	.	.	.	+	.	.	.	.	5	28
<i>Tephrosieris crispa</i>	E1	.	+	+	.	.	1	.	.	.	.	.	+	.	.	.	.	.	.	4	22
<i>Carduus personata</i>	E1	.	r	1	1	.	.	.	.	.	.	+	1	.	.	.	.	.	.	4	22
<i>Poa hybrida</i>	E1	.	.	+	1	.	.	+	.	.	.	+	.	.	.	.	.	.	.	4	22
<i>Silene dioica</i>	E1	.	.	.	+	.	.	.	+	.	.	+	.	.	.	.	.	.	.	4	22
<i>Cicerbita alpina</i>	E1	.	.	.	.	.	+	.	.	+	.	3	4	.	.	.	.	.	.	4	22
<i>Cirsium waldesteinii</i>	E1	.	.	.	.	.	.	.	.	.	.	.	4	.	.	.	.	.	r	4	22
<i>Myrrhis odorata</i>	E1	3	.	.	.	.	.	.	.	.	.	4	4	.	.	.	.	.	.	3	17
<i>Chaerophyllum villarsii</i>	E1	+	+	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	17
<i>Epilobium alpestre</i>	E1	.	+	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	17
<i>Alchemilla venosula</i> (<i>A. gracillima</i>)	E1	.	.	+	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	2	11
<i>Alchemilla xanthochlora</i>	E1	.	.	.	+	.	.	.	.	.	.	+	.	.	.	.	.	.	.	2	11
<i>Aconitum degenii</i> subsp. <i>paniculatum</i>	E1	.	.	.	.	.	.	.	1	+	+	.	.	.	.	.	.	.	.	3	17
<i>Senecio nemorensis</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	1	1	.	+	.	3	17
<i>Carduus carduelis</i>	E1	.	+	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	11
<i>Phyteuma ovatum</i>	E1	.	+	+	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	2	11
<i>Lathyrus occidentalis</i> var. <i>montanus</i>	E1	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	6
<i>Pleurospermum austriacum</i>	E1	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	6
<i>Crepis pyrenaica</i>	E1	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	6
<i>Silene vulgaris</i> subsp. <i>antelopum</i>	E1	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	6
<i>Sireptopus amplexifolius</i>	E1	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	6
<i>Allium victorialis</i>	E1	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	1	6
<i>Milium effusum</i>	E1	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	1	6

Number of relevé (Zaporedna številka popisa)		1	2	3	4	5	6	7	8	8	9	10	11	12	13	14	15	16	17	18	Pr.	Fr.	
	<i>Lonicera nigra</i>	E2a	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	+	1	3	17
	<i>Huperzia selago</i>	E1	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	2	11
	<i>Calamagrostis arundinacea</i>	E1	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	2	11
	<i>Lonicera caerulea</i>	E2a	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	2	11
	<i>Abies alba</i>	E2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	11
	<i>Abies alba</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	11
	<i>Pyrola rotundifolia</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	11
	<i>Luzula luzuloides</i> subsp. <i>rubella</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	6
	<i>Luzula luzulina</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	6
EP	Erico-Pinetea																						
	<i>Rubus saxatilis</i>	E1	1	+	+	+	.	+	1	+	1	.	.	.	.	+	+	+	1	2	14	78	
	<i>Calamagrostis varia</i>	E1	2	.	.	.	.	.	+	1	.	.	.	.	.	.	.	.	.	.	.	5	28
	<i>Cirsium erisithales</i>	E1	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	5	28
	<i>Carex ornithopoda</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	17
	<i>Aquilegia nigricans</i>	E1	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	11
	<i>Pinus mugo</i>	E2a	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	11
	<i>Erica carnea</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	11
	<i>Rhodolhamnus chamaecistus</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	6
	<i>Galium austriacum</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	6
AF	Aremonio-Fagion																						
	<i>Cardamine enneaphyllos</i>	E1	.	1	.	.	1	.	1	+	.	+	1	.	+	+	.	.	.	.	8	44	
	<i>Cyclamen purpurascens</i>	E1	+	.	.	.	.	.	.	.	.	.	.	.	.	+	+	+	+	+	5	28	
	<i>Knautia drymeia</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	+	+	+	4	22	
	<i>Cardamine trifolia</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	3	17	
	<i>Anemone trifolia</i>	E1	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	6
FS	Fagetalia sylvaticae																						
	<i>Paris quadrifolia</i>	E1	+	+	.	.	+	.	+	+	.	.	.	.	+	+	.	.	.	.	13	72	
	<i>Daphne mezereum</i>	E2a	+	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	1	9	50
	<i>Dryopteris filix-mas</i>	E1	.	+	+	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	9	50
	<i>Mercurialis perennis</i>	E1	1	.	.	.	.	.	.	.	.	.	.	.	1	2	1	1	1	1	7	39	
	<i>Lilium martagon</i>	E1	+	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	5	28
	<i>Poa nemoralis</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	5	28
	<i>Melica nutans</i>	E1	1	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	4	22	
	<i>Ranunculus lanuginosus</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	4	22
	<i>Lonicera alpigena</i>	E2a	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	1	4	22

		Number of relevé (Zaporedna številka popisa)																	Pr.	Fr.				
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18					
	<i>Campanula scheuchzeri</i>	E1	.	.	.	+	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	3	17	
	<i>Cardaminopsis halleri</i> subsp. <i>ovirensis</i>	E1	.	+	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	2	11
	<i>Poa alpina</i>	E1	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	2	11
	<i>Agrostis capillaris</i>	E1	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	6
	<i>Festuca nigrescens</i>	E1	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	1	6
	<i>Cerastium fontanum</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	6
MA	Molinio-Arrhenatheretea																							
	<i>Deschampsia cespitosa</i>	E1	.	+	.	.	.	.	.	.	.	.	.	+	.	+	.	.	.	.	.	.	5	28
	<i>Angelica sylvestris</i>	E1	.	.	.	1	.	.	.	.	1	1	.	.	.	.	.	.	.	.	.	.	3	17
	<i>Dactylis glomerata</i>	E1	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	11
	<i>Caltha palustris</i>	E1	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	1	6
SCF	Scheuchzerio-Caricetea fuscae																							
	<i>Parnassia palustris</i>	E1	.	.	.	.	+	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	5	28
TG	Trifolio-Gerantetea																							
	<i>Digitalis grandiflora</i>	E1	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	6
TR	Thlaspietea rotundifolii																							
	<i>Dryopteris villarii</i>	E1	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	17
	<i>Arabis alpina</i>	E1	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	2	11
	<i>Astrantia carniolica</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	6
	<i>Aquilegia einseleana</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	6
	<i>Gymnocarpium robertianum</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	6
AT	Asplenietea trichomanis																							
	<i>Cystopteris fragilis</i>	E1	.	+	.	.	.	.	+	1	.	.	+	.	.	.	.	.	.	.	.	.	6	33
	<i>Cystopteris regia</i>	E1	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	11
	<i>Heliosperma pusillum</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	6
	<i>Valeriana saxatilis</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	6
	<i>Moehringia muscosa</i>	E1	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	1	6
ML	Mosses and lichens (Mahovi in lisaji)																							
	<i>Ctenidium molluscum</i>	E0	+	1	+	.	.	+	+	+	2	+	+	+	+	+	.	.	.	.	.	14	78	
	<i>Rhytidadelphus triquetrus</i>	E0	.	.	.	.	2	1	.	1	.	.	.	+	1	1	3	1	+	+	+	11	61	
	<i>Tortella tortuosa</i>	E0	.	.	.	.	1	.	.	.	.	.	+	+	.	.	+	+	+	+	+	8	44	
	<i>Hylocomium splendens</i>	E0	.	.	.	.	2	+	.	.	.	.	+	+	.	1	+	.	.	.	.	6	33	
	<i>Pseudeskeella catenulata</i>	E0	.	+	1	.	.	.	.	.	+	1	+	.	.	.	.	.	.	.	.	.	5	28
	<i>Dicranum scoparium</i>	E0	.	.	.	.	.	.	.	.	.	.	.	+	.	+	.	.	.	.	.	.	5	28
	<i>Conocephalum conicum</i>	E0	.	.	.	.	.	.	+	+	+	.	.	.	.	+	.	.	.	.	.	.	5	28

Table 2 / Tabela 2: *Alnetum viridís typicum*, *Rhododendro hirsuti-Alnetum viridís*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Number of relevé (Zaporedna številka popisa)	1720	1590	1420	1410	1370	1430	1400	1400	1370	1400	1370	1395	1390	1450	1420	1250	1600	1470	1400	1500	1480	1320	1560	1500
Database number of relevé (Delovna številka popisa)																								
Elevation in m (Nadmorska višina v m)	NW	N	NE	NE	NW	S	NEE	AR	AR	AR	AR	NE	NW	E	NE	W	NW	N	N	SE	NE	SE	NE	NW
Aspect (Lega)			To	To	Gr	G	AR	AR	AR	AR	AR	NE	NW	E	NE	W	NW	N	N	SE	NE	SE	NE	NW
Slope in degrees (Nagib v stopinjah)	30	10	15	25	20	30	35	30	30	25	25	30	25	30	30	25	40	35	25	30	30	40	25	30
Parent material (Matična podlaga)	G	DL	To	To	Gr	G	AR	AR	AR	AR	AR	NE	NW	E	NE	W	NW	N	N	SE	NE	SE	NE	NW
Soil (Tla)	Ev	K	DY	DY	K	DY	Ev	Ev	Ev	Ev	Ev	Ev	Ev	Ev	Dy	Dy	K	K	Dy	K	Re	Re	Re	Re
Stoniness in % (Kamnitost v %)	0	0	0	0	10	0	5	0	1	1	1	1	1	0	0	0	5	10	0	5	20	10	40	5
Cover of tree layer in % (Zastiranje drevesne plasti v %)														10	30							20		5
Cover of shrub layer in % (Zastiranje grmovne plasti v %): E2	88	100	100	100	80	80	70	80	88	80	80	96	100	70	70	90	90	90	90	80	70	80	90	80
Cover of herb layer in % (Zastiranje zeliščne plasti v %): E1	60	80	60	60	70	60	70	60	88	80	80	80	80	80	70	70	70	70	60	70	80	60	70	80
Cover of moss layer in % (Zastiranje mahovne plasti v %): E0	0	5	10	5	20	5	5	30	18	22	20	18	33	38	29	23	34	27	34	19	69	41	66	38
Number of species (Število vrst)	24	49	34	46	51	25	27	30	18	22	20	18	33	38	29	23	34	27	34	19	69	41	66	38
Relevé area (Velikost popisne ploskve)	100	200	200	100	100	200	100	100	200	200	200	200	100	100	200	100	200	100	200	100	200	100	200	200
Date of taking relevé (Datum popisa)	8/6/2009	8/12/2010	9/12/2012	9/12/2012	9/12/2012	8/1/1973	6/15/2012	6/15/2012	6/15/2012	6/15/2012	6/15/2012	6/15/2012	5/27/2011	6/11/2003	6/23/1999	8/2/1973	8/1/1973	8/9/1973	8/9/1973	8/9/1973	8/24/2004	6/21/2006	6/5/2003	5/27/2011
Locality (Nahajališče)	Srednji vrh	Olševa	Bela peč	Bela peč	Bela peč	Porezen - Hum	Kobilja glava	Kobilja glava	Kobilja glava	Jalovnik	Kobilja glava	Kobilja glava	Črni vrh nad Batavo	Črna prst - Zovh	Jalovnik	Otavnik	Porezen	Porezen - Glava	Porezen - Jeseniška	Planina	Kobla	Rut - Bizle	Slatnik	Pohoški kup
Quadrant (Kvadrant)	GS	ID,AS	ID,AS	ID,AS	ID,AS	ID,AS	ID	ID	ID	ID	ID	ID	ID	ID	ID	GS	GS	GS	GS	GS	ID	ID	ID	ID
Coordinate GK Y (D-48)	439446	478560	484089	483920	483846	422689	407478	407466	407481	407695	407442	407403	422106	418800	407914	420021	9849/2	9849/2	9849/2	9849/2	9749/4	9749/3	9750/3	9849/2
Coordinate GK X (D-48)	9551/3	9554/3	9554/4	9554/4	9554/4	9849/2	9848/2	9848/2	9848/2	9848/2	9848/2	9848/2	9849/2	9749/4	9848/2	9849/2	9849/2	9849/2	9849/2	9849/2	9749/4	9749/3	9750/3	9849/2
Author of the relevé (Avtor popisa)																								
Pr. Fr.																								

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Pr.	Fr.	
<i>Viola biflora</i>	1	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	+	1	.	.	.	1	1	7	29	
<i>Chaerophyllum hirsutum</i>	E1	+	1	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	1	7	29	
<i>Alchemilla xanthochlora</i>	E1	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	1	1	+	+	.	.	.	.	6	25	
<i>Carduus personata</i>	E1	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	3	3	1	+	.	.	.	1	6	25	
<i>Crepis paludosa</i>	E1	.	+	.	+	.	.	.	.	.	.	.	.	.	.	.	1	.	+	.	.	.	.	.	6	25	
<i>Chaerophyllum villarsii</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	1	1	1	1	.	.	.	.	5	21	
<i>Ranunculus platanifolius</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	4	17
<i>Cicerbita alpina</i>	E1	+	.	.	1	.	.	.	.	.	.	.	.	+	.	.	+	.	.	.	.	.	.	.	.	4	17
<i>Athyrium distentifolium</i>	E1	4	+	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	3	13
<i>Streptopus amplexifolius</i>	E1	.	.	.	.	.	.	.	.	.	.	.	†	.	.	.	.	.	.	.	.	.	†	.	.	3	13
<i>Lamium maculatum</i>	E1	.	+	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	13
<i>Doronicum austriacum</i>	E1	.	.	.	2	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	3	13
<i>Scrophularia scopoli</i>	E1	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	2	8
<i>Heracleum sphondylium</i> subsp. <i>montanum</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	8
<i>Poa hybrida</i>	E1	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	8
<i>Silene dioica</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	8
<i>Geranium sylvaticum</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	8
<i>Phyteuma ovatum</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	+	.	.	.	.	2	8
<i>Pleurospermum austriacum</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
<i>Alchemilla monticola</i>	E1	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
<i>Aconitum tauricum</i>	E1	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
<i>Epilobium alpestre</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
<i>Mitium effusum</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
<i>Rumex alpinus</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
<i>Senecio nemorensis</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
<i>Anthriscus nitida</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
SSC Sambuco-Salicion capreae																											
<i>Rubus idaeus</i>	E2a	.	+	1	+	+	4	4	4	3	3	3	1	3	2	2	2	3	3	3	3	3	+	1	2	23	96
<i>Sorbus aucuparia</i>	E3b	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	4	17
<i>Sorbus aucuparia</i>	E2b	1	+	+	+	.	+	.	.	.	.	+	.	1	.	.	.	.	.	.	.	.	.	.	.	9	38
<i>Sorbus aucuparia</i>	E2a	.	.	+	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	2	8
<i>Sorbus aucuparia</i>	E1	.	+	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	3	13
<i>Urtica dioica</i>	E1	.	+	.	.	.	1	1	.	+	.	.	+	.	.	.	.	.	.	.	.	.	.	.	+	9	38
<i>Galeopsis spectiosa</i>	E1	.	.	.	.	.	+	+	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	5	21
<i>Salix caprea</i>	E3a	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
<i>Salix caprea</i>	E2b	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Pr.	Fr.	
<i>Stellaria montana</i>	+	+	.	+	5	21	
<i>Knautia drymeia</i>	.	+	+	.	+	+	.	.	.	4	17	
<i>Cardamine enneaphyllos</i>	.	+	+	2	.	4	17	
<i>Helleborus niger</i>	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4	
<i>Euphorbia carniolica</i>	+	1	4	
<i>Cyclamen purpurascens</i>	1	4	
FS																											
Fagetalia sylvaticae																											
<i>Paris quadrifolia</i>	.	+	+	+	.	.	.	+	+	1	1	.	+	.	+	.	+	+	+	1	13	54	
<i>Dryopteris filix-mas</i>	+	.	1	+	.	.	.	.	+	+	+	.	+	.	.	.	1	+	1	+	12	50	
<i>Epilobium montanum</i>	+	+	+	+	+	1	+	8	33
<i>Myosotis sylvatica</i>	.	+	.	.	+	.	.	1	.	.	.	.	+	.	.	.	+	+	.	.	.	.	1	+	7	29	
<i>Chrysosplenium alternifolium</i>	.	+	.	.	+	.	.	+	+	+	6	25
<i>Ranunculus lanuginosus</i>	.	+	1	.	1	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	+	6	25
<i>Daphne mezereum</i>	.	.	+	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	5	21
<i>Mercurialis perennis</i>	.	+	1	1	+	.	4	17
<i>Adoxa moschatellina</i>	.	+	+	3	13
<i>Polystichum aculeatum</i>	.	+	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	3	13
<i>Symphytum tuberosum</i>	.	+	+	3	13
<i>Scrophularia nodosa</i>	+	r	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	3	13
<i>Fagus sylvatica</i>	+	2	8
<i>Fagus sylvatica</i>	+	3	13
<i>Petasites albus</i>	.	.	+	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	8
<i>Carex sylvatica</i>	.	.	+	.	+	2	8
<i>Lilium martagon</i>	+	+	2	8
<i>Aruncus dioicus</i>	+	2	8
<i>Galium laevigatum</i>	+	2	8
<i>Lonicera alpigena</i>	2	8
<i>Phyteuma spicatum</i>	.	+	1	4
<i>Asarum europaeum</i> subsp. <i>europaeum</i>	1	4
<i>Polystichum x luerssenii</i>	+	1	4
<i>Cardamine impatiens</i>	1	4
<i>Leucogon vernum</i>	1	.	.	.	.	.	.	.	.	.	.	.	.	1	4
<i>Polystichum braunii</i>	+	1	4
<i>Brachypodium sylvaticum</i>	1	4
<i>Actaea spicata</i>	1	4
<i>Prenanthes purpurea</i>	1	4	

Number of relevé (Zaporedna številka popisa)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Pr.	Fr.		
MA	Molinio-Arrhenatheretea																												
	<i>Deschampsia cespitosa</i>	E1	.	+	1	+	.	3	2	2	+	3	2	+	.	.	.	1	+	.	1	1	.	.	.	15	63		
	<i>Angelica sylvestris</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	+	.	.	.	.	.	+	4	17
	<i>Caltha palustris</i>	E1	.	.	+	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	8
	<i>Galium mollugo</i>	E1	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	8
	<i>Astrantia major</i>	E1	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
EA	Epilobietea angustifolii																												
	<i>Chamaenerion angustifolium</i>	E1	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	2	8
MC	Montio-Cardaminetea																												
	<i>Cardamine flexuosa</i>	E1	.	.	.	.	.	.	1	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	8
TR	Thlaspietea rotundifolii																												
	<i>Arabis alpina</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	+	2	8
	<i>Festuca nitida</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
	<i>Ligusticum seguierei</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
	<i>Gymnocarpium robertianum</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
AT	Asplenietea trichomanis																												
	<i>Cystopteris fragilis</i>	E1	1	4
	<i>Cystopteris regia</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
O	Other species (Druge vrste)																												
	<i>Alchemilla</i> sp.	E1	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
ML	Mosses and lichens (Mahovi in lišaji)																												
	<i>Ctenidium molluscum</i>	E0	.	.	.	.	.	+	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	7	29
	<i>Polytrichum formosum</i>	E0	.	+	+	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	6	25
	<i>Tortella tortuosa</i>	E0	.	+	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	13
	* <i>Pellia endiviifolia</i>	E0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	8
	* <i>Cirriphyllum crassinervium</i>	E0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	8
	<i>Isoetecium alopecuroides</i>	E0	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	8
	<i>Atrichum undulatum</i>	E0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	8
	<i>Plagiochila porelloides</i>	E0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	8
	<i>Rhytidiadelphus triquetrus</i>	E0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	8
	<i>Mnium</i> sp.	E0	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
	<i>Plagiothecium undulatum</i>	E0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
	<i>Hookeria lucens</i>	E0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
	* <i>Cephalozia bicuspidata</i>	E0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
	* <i>Herzogitella seligeri</i>	E0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
	* <i>Brachythecium plumosum</i>	E0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4

Table 3 / Tabela 3: *Huperzia selagi-Alnetum viridis* ass. nov.

Number of relevé (Zaporedna štev. popisa)	1	2	3	4	5	6		
Database number of relevé (Delovna številka popisa)	244808	244812	244809	244811	244810	244813		
Elevation in m (Nadmorska višina v m)	1640	1650	1645	1640	1650	1670		
Aspect (Lega)	N	NE	NW	N	NE	NE		
Slope in degrees (Nagib v stopinjah)	35	40	35	45	35	50		
Parent material (Matična podlaga)	AN	AN	AN	AN	AN	AN		
Soil (Tla)	Dy	Ra	Dy	Ra	Dy	Ra		
Stoniness in % (Kamnitost v %)	5	5	5	40	5	40		
Cover of shrub layer in % (Zastiranje grmovne plasti v %):	E2 80	90	80	80	80	70		
Cover of herb layer in % (Zastiranje zeliščne plasti v %):	E1 80	90	80	80	80	70		
Cover of moss layer in % (Zastiranje mahovne plasti v %)	E0 30	20	30	10	10	10		
Number of species (Število vrst)	42	33	32	51	32	36		
Relevé area (Velikost popisne ploskve)	m ² 100	100	100	100	100	100		
Date of taking relevé (Datum popisa)	9/11/2012	9/11/2012	9/11/2012	9/11/2012	9/11/2012	9/11/2012		
Locality (Nahajališče)	Komen	Komen	Komen	Komen	Komen	Komen		
Quadrant (Kvadrant)	9555/3	9555/3	9555/3	9555/3	9555/3	9555/3		
Coordinate GK Y (D-48)	m 488470	488621	488904	488728	488831	488544		
Coordinate GK X (D-48)	m 141639	141563	141655	141557	141478	141608		
Author of the relevé (Avtor popisa)	ID, AS	ID, AS	ID, AS	ID, AS	ID, AS	ID, AS	Pr.	Fr.
Diagnostic species of the association (Diagnostične vrste asociacije)								
VP <i>Vaccinium vitis-idaea</i>	E1	+	+	+	+	2	6	100
ML <i>*Sphagnum russowii</i>	E0	2	1	2	+	.	5	83
VP <i>Lycopodium annotinum</i>	E1	1	1	1	1	.	5	83
VP <i>Huperzia selago</i>	E1	+	+	.	+	1	5	83
VP <i>Rhytidiadelphus loreus</i>	E0	1	+	1	1	.	4	66
JT <i>Festuca varia</i>	E1	+	+	.	.	+	4	67
QF <i>Festuca guestfalica</i>	E1	+	.	.	1	+	4	67
VP <i>Thelypteris limbosperma</i>	E1	+	1	1	.	.	3	50
AV <i>Primula villosa</i>	E1	r	.	.	.	r	2	33
JT <i>Primula minima</i>	E1	r	.	.	.	.	2	33
BA <i>Betulo carpaticae-Alnetea viridis</i>								
<i>Alnus viridis</i>	E2b	4	5	5	5	5	6	100
<i>Alnus viridis</i>	E2a	+	.	.	.	.	2	33
<i>Alnus viridis</i>	E1	.	.	.	.	+	1	17
MuA <i>Mulgedio-Aconitetea</i>								
<i>Athyrium filix-femina</i>	E1	+	+	.	+	+	4	67
<i>Veratrum album</i> subsp. <i>album</i>	E1	+	.	+	r	.	3	50
<i>Viola biflora</i>	E1	+	.	.	2	.	3	50
<i>Stellaria nemorum</i>	E1	.	.	+	1	.	2	33
<i>Polygonatum verticillatum</i>	E1	.	+	.	.	.	1	17
<i>Saxifraga rotundifolia</i>	E1	.	.	.	+	.	1	17
<i>Adenostyles alliariae</i>	E1	.	.	.	r	.	1	17
SSC <i>Sambuco-Salicion capreae</i>								
<i>Sorbus aucuparia</i>	E3a	.	.	.	.	+	1	17
<i>Sorbus aucuparia</i>	E2b	+	1	+	+	.	5	83
<i>Sorbus aucuparia</i>	E2a	.	+	.	+	+	3	50

Number of relevé (Zaporedna štev. popisa)		1	2	3	4	5	6	Pr.	Fr.
	<i>Sorbus aucuparia</i>	E1	+	.	.	+	.	+	3 50
	<i>Rubus idaeus</i>	E2a	.	+	.	+	1	.	3 50
VP	Vacinio-Piceetea								
	<i>Vaccinium myrtillus</i>	E1	4	3	2	1	3	3	6 100
	<i>Calamagrostis villosa</i>	E1	4	4	4	+	3	+	6 100
	<i>Avenella flexuosa</i>	E1	+	1	2	+	+	+	6 100
	<i>Phegopteris connectilis</i>	E1	2	2	2	1	1	.	5 83
	<i>Picea abies</i>	E3a	+	.	.	.	+	.	2 33
	<i>Picea abies</i>	E2	1	+	+	+	+	1	6 100
	<i>Picea abies</i>	E1	+	+	+	.	.	.	3 50
	<i>Dryopteris dilatata</i>	E1	2	3	3	3	1	.	5 83
	<i>Oxalis acetosella</i>	E1	1	1	2	2	+	.	5 83
	<i>Luzula sylvatica</i>	E1	1	+	4	+	.	.	4 67
	<i>Homogyne alpina</i>	E1	+	+	1	+	.	.	4 67
	<i>Solidago virgaurea</i>	E1	.	+	.	+	.	+	3 50
	<i>Luzula luzuloides</i> subsp. <i>luzuloides</i>	E1	.	.	+	+	1	.	3 50
	<i>Dryopteris expansa</i>	E1	+	+	.	.	.	.	2 33
	<i>Calamagrostis arundinacea</i>	E1	+	.	.	.	1	.	2 33
	<i>Gentiana asclepiadea</i>	E1	.	1	1	.	.	.	2 33
	<i>Valeriana tripteris</i>	E1	.	.	.	+	.	+	2 33
	<i>Clematis alpina</i>	E2a	.	.	.	.	r	+	2 33
	<i>Blechnum spicant</i>	E1	+	.	.	.	.	.	1 17
	<i>Abies alba</i>	E1	r	.	.	.	.	.	1 17
	<i>Larix decidua</i>	E2a	.	.	.	.	.	r	1 17
	<i>Larix decidua</i>	E1	.	.	.	.	.	r	1 17
EP	Erico-Pinetea								
	<i>Rhododendron hirsutum</i>	E2a	+	.	.	+	r	1	4 67
	<i>Pinus mugo</i>	E2	.	+	.	.	+	+	3 50
	<i>Erica carnea</i>	E1	.	.	.	.	+	+	2 33
FS	Fagetalia sylvaticae								
	<i>Dryopteris affinis</i>	E1	.	.	.	+	+	.	2 33
	<i>Lilium martagon</i>	E1	.	.	.	.	.	+	1 17
QF	Quercu-Fagetea								
	<i>Anemone nemorosa</i>	E1	1	+	+	+	.	+	5 83
	<i>Melampyrum pratense</i>	E1	r	.	.	.	+	.	2 33
	<i>Carex brizoides</i>	E1	.	.	.	.	+	.	1 17
ES	Elyno-Seslerietea								
	<i>Gentianella anisodonta</i>	E1	.	.	.	.	.	+	1 17
	<i>Aster bellidiastrum</i>	E1	.	.	.	.	.	r	1 17
LV	Loiseleurio-Vaccinietea								
	<i>Vaccinium gaultherioides</i>	E1	.	.	.	.	.	3	1 17
	<i>Empetrum hermaphroditum</i>	E1	.	.	.	.	.	+	1 17
CU	Calluno-Ulicetea								
	<i>Campanula barbata</i>	E1	r	.	.	r	.	r	3 50
	<i>Calluna vulgaris</i>	E1	.	.	.	.	+	+	2 33
	<i>Carex pilulifera</i>	E1	.	.	.	.	.	+	1 17
	<i>Festuca filiformis</i>	E1	.	.	.	.	.	+	1 17
EA	Epilobietea angustifolii								
	<i>Chamaenerion angustifolium</i>	E1	.	.	.	.	+	.	1 17
AT	Asplenietea trichomanis								
	<i>Cystopteris fragilis</i>	E1	.	.	.	+	.	.	1 17
	<i>Paederota lutea</i>	E1	.	.	.	+	.	.	1 17
	<i>Hieracium schmidtii</i>	E1	.	.	.	.	.	r	1 17

Number of relevé (Zaporedna štev. popisa)		1	2	3	4	5	6	Pr.	Fr.
JT	<i>Juncetea trifidi</i>								
	<i>Agrostis rupestris</i>	E1	+	.	.	+	.	2	33
	<i>Pulsatilla alpina</i> subsp. <i>alba</i>	E1	.	.	.	.	1	1	17
	<i>Campanula alpina</i>	E1	.	.	.	.	+	1	17
MA	<i>Molinio-Arrhenatheretea</i>								
	<i>Deschampsia cespitosa</i>	E1	+	+	.	1	.	3	50
MC	<i>Montio-Cardaminetea</i>								
	<i>Saxifraga stellaris</i> subsp. <i>prolifera</i>	E1	.	.	+	+	.	2	33
	<i>Cardamine amara</i>	E1	.	.	.	r	.	1	17
TR	<i>Thlaspietea rotundifolii</i>								
	<i>Campanula cochleariifolia</i>	E1	.	.	.	1	+	2	33
	<i>Hieracium bifidum</i>	E1	.	.	.	+	.	1	17
	<i>Cardamine resedifolia</i>	E1	.	.	.	r	.	1	17
ML	Moses and lichens (Mahovi in lišaji)								
	<i>Polytrichum formosum</i>	E0	+	+	2	1	+	5	83
	<i>Dicranum scoparium</i>	E0	+	+	1	.	+	5	83
	<i>Rhytidiadelphus triquetrus</i>	E0	2	.	1	1	.	4	67
	* <i>Diplophyllum albicans</i>	E0	+	+	.	+	.	3	50
	* <i>Pogonatum unigerum</i>	E0	+	.	+	+	.	3	50
	<i>Tortella tortuosa</i>	E0	.	+	+	.	+	3	50
	* <i>Sphagnum subnitens</i>	E0	+	.	.	+	.	2	33
	<i>Cetraria islandica</i>	E0	.	+	.	.	r	2	33
	<i>Hylocomium splendens</i>	E0	.	.	.	+	.	2	33
	* <i>Grimmia</i> sp.	E0	+	.	.	.	.	1	17
	* <i>Cephalozia lacinulata</i>	E0	+	.	.	.	.	1	17
	* <i>Calypogeia azurea</i>	E0	+	.	.	.	.	1	17
	* <i>Nardia scalaris</i>	E0	.	+	.	.	.	1	17
	* <i>Amphidium mougeotii</i>	E0	.	+	.	.	.	1	17
	<i>Plagiothecium undulatum</i>	E0	.	.	1	.	.	1	17
	* <i>Hypnum cupressiforme</i> var. <i>cupressiforme</i>	E0	.	.	+	.	.	1	17
	* <i>Calypogeia integristipula</i>	E0	.	.	+	.	.	1	17
	* <i>Tortella densa</i>	E0	.	.	+	.	.	1	17
	* <i>Brachythecium plumosum</i>	E0	.	.	+	.	.	1	17
	* <i>Polytrichum juniperinum</i>	E0	.	.	.	+	.	1	17
	* <i>Racomitrium lanuginosum</i>	E0	.	.	.	+	.	1	17
	* <i>Polytrichum alpinum</i>	E0	.	.	.	+	.	1	17
	* <i>Rhizomnium punctatum</i>	E0	.	.	.	+	.	1	17
	* <i>Brachytehecium rutabulum</i>	E0	.	.	.	+	.	1	17
	<i>Rhizocarpon geographicum</i>	E0	.	.	.	.	1	1	17

* det. Andrej Martinčič

AN Andesite – andezit

Ra Ranker – ranker

Dy Dystric brown soil – distrična rjava tla

ID Igor Daksobler

AS Andrej Seliškar

Table 4: Synoptic table of the macroassociation *Alnetum viridis* s. lat.
Tabela 4: Sintezna tabela makroasociacije *Alnetum viridis* s. lat.

Successive number (Zaporedna številka)	1	2	3	4	5	6	7	8	9
Number of relevés (Število popisov)	4	18	54	24	107	23	24	53	6
Sign for the syntaxa (Oznaka sintaksonov)	RhAv-K	RhAv-SI	Avac-A	Avty-SI	Avty-A	Av-CH	Avrf-A	RfAv-Alps	HsAv-SI
Author (Avtor)	Aich	ID	Kar	ID	Kar	BB	Kar	Po	ID
Diagnostic species of the association <i>Rhododendro hirsuti-Alnetum viridis</i>									
Diagnostične vrste asociacije <i>Rhododendro hirsuti-Alnetum viridis</i>									
MuA <i>Primula elatior</i>	E1	75	50	35	4	3	9	.	.
VP <i>Homogyne sylvestris</i>	E1	50	61	.	.	.	.	.	.
TA <i>Acer pseudoplatanus</i>	E2	50	33	37	38	6	4	4	.
TA <i>Acer pseudoplatanus</i>	E1	.	17	.	29	.	.	.	.
MuA <i>Aconitum lycoctonum</i> s. lat.	E1	25	100	43	21	8	26	.	.
VP <i>Polystichum lonchitis</i>	E1	25	83	50	13	7	26	2	.
EP <i>Rhododendron hirsutum</i>	E2a	25	56	39	17	.	.	.	67
VP <i>Valeriana tripteris</i>	E1	.	83	37	13	8	4	.	33
AT <i>Asplenium viride</i>	E1	.	78	32	8	1	.	.	.
FS <i>Galeobdolon flavidum</i> (G. luteum agg.)	E1	.	67	44	25	3	.	.	.
MuA <i>Thalictrum aquilegifolium</i>	E1	.	67	33	4	3	4	.	.
BA <i>Salix waldsteiniana</i>	E2	.	56	13	21	1	.	.	.
BA <i>Sorbus chamaemespilus</i>	E2	.	56	13	8	.	.	6	.
TR <i>Adenostyles glabra</i>	E1	.	56	11	25	.	.	.	.
TR <i>Cystopteris montana</i>	E1	.	50	.	.	.	9	.	.
Diagnostic species of the association <i>Rhododendro ferruginei-Alnetum viridis</i>									
Diagnostične vrste asociacije <i>Rhododendro ferruginei-Alnetum viridis</i>									
VP <i>Dryopteris dilatata</i>	E1	100	61	44	88	40	65	54	81
VP <i>Vaccinium myrtillus</i>	E1	75	61	59	38	40	39	92	72
SSC <i>Rubus idaeus</i>	E2a	50	22	46	96	48	26	21	64
VP <i>Rhododendron ferrugineum</i>	E1	.	.	2	.	22	22	92	79
JT <i>Potentilla aurea</i>	E1	.	.	13	.	15	17	67	.
JT <i>Anthoxanthum odoratum</i> agg.	E1	.	6	11	.	12	.	54	17
Diagnostic species of the association <i>Huperzio-Alnetum viridis</i>									
Diagnostične vrste asociacije <i>Huperzio-Alnetum viridis</i>									
VP <i>Vaccinium vitis-idaea</i>	E1	.	33	11	.	7	17	42	9
VP <i>Huperzia selago</i>	E1	.	11	.	4	.	4	.	2
VP <i>Lycopodium annotinum</i>	E1	.	33	13	.	.	.	13	.
VP <i>Sphagnum russowii</i>	E0	.	.	.	.	.	.	.	.
VP <i>Rhytidiadelphus loreus</i>	E0	.	11	.	.	.	.	.	.
VP <i>Thelypteris limbosperma</i>	E1	.	.	11	25	18	.	8	8
JT <i>Festuca varia</i>	E1	.	.	.	.	.	.	.	2
QF <i>Festuca guestfalica</i>	E1	.	.	.	.	.	.	.	.
JT <i>Primula minima</i>	E1	.	.	.	.	.	.	.	.
AV <i>Primula villosa</i>	E1	.	.	.	.	.	.	.	.
BA <i>Betulo carpaticae-Alnetea viridis</i>									
<i>Alnus viridis</i>	E2b	100	100	100	100	100	100	100	100
<i>Ribes alpinum</i>	E2a	50	.	.	8	.	.	.	.
<i>Salix appendiculata</i>	E2b	25	50	28	29	18	22	4	8
<i>Salix hastata</i>	E2	25	.	6	.	7	.	.	.
<i>Ribes petraeum</i>	E1	.	.	2	.	1	22	4	.
MuA <i>Mulgedio-Aconitetea</i>									
<i>Viola biflora</i>	E1	100	89	89	29	66	87	50	28
<i>Saxifraga rotundifolia</i>	E1	100	72	78	38	56	65	25	15

Successive number (Zaporedna številka)		1	2	3	4	5	6	7	8	9
<i>Chaerophyllum hirsutum</i>	E1	100	67	70	29	36	52	13	8	.
<i>Adenostyles alliariae</i>	E1	100	67	70	50	56	96	33	25	17
<i>Stellaria nemorum</i> s.str.	E1	100	39	48	63	57	74	21	34	33
<i>Cicerbita alpina</i>	E1	100	22	43	17	20	74	.	4	.
<i>Silene dioica</i>	E1	100	22	26	8	8	26	.	.	.
<i>Aconitum degenii</i> subsp. <i>paniculatum</i>	E1	100	17	15	.	.	35	.	.	.
<i>Senecio nemorensis</i>	E1	100	17	.	4	.	35	.	40	.
<i>Lamium maculatum</i>	E1	100	.	.	13	.	.	.	.	.
<i>Polygonatum verticillatum</i>	E1	75	61	33	75	7	9	17	8	17
<i>Doronicum austriacum</i>	E1	75	50	17	13	14	.	8	15	.
<i>Streptopus amplexifolius</i>	E1	75	6	.	13	.	13	.	2	.
<i>Cirsium carniolicum</i>	E1	75	6	.	.	.	.	.	.	.
<i>Rumex arifolius</i>	E1	50	28	28	42	56	65	46	30	.
<i>Geranium sylvaticum</i>	E1	25	67	65	8	50	61	4	6	.
<i>Veratrum album</i> s. lat.	E1	25	61	61	83	62	65	71	36	50
<i>Ranunculus platanifolius</i>	E1	25	39	13	17	13	39	8	8	.
<i>Hypericum maculatum</i>	E1	25	39	59	38	32	13	29	4	.
<i>Senecio ovatus</i>	E1	25	33	67	58	51	.	63	.	.
<i>Carduus personata</i>	E1	25	22	13	25	3	9	4	.	.
<i>Lathyrus occidentalis</i> var. <i>montanus</i>	E1	25	6	.	.	.	.	.	.	.
<i>Pleurospermum austriacum</i>	E1	25	6	.	4	.	.	.	.	.
<i>Allium victorialis</i>	E1	25	6	2	.	1	.	.	2	.
<i>Milium effusum</i>	E1	25	6	6	4	5	22	.	4	.
<i>Athyrium distentifolium</i>	E1	25	.	28	13	67	26	42	45	.
<i>Agropyron caninum</i>	E1	25	.	.	.	.	4	.	2	.
<i>Geum rivale</i>	E1	.	67	43	50	6	17	4	8	.
<i>Thalictrum aquilegifolium</i>	E1	.	67	33	4	3	4	.	2	.
<i>Senecio cacaliaster</i>	E1	.	61	4	46	.	.	.	.	.
<i>Athyrium filix-femina</i>	E1	.	50	48	96	12	9	29	43	67
<i>Crepis paludosa</i>	E1	.	50	22	25	6	13	4	.	.
<i>Heracleum sphondylium</i> subsp. <i>montanum</i> (inc. <i>H. pollinianum</i>)	E1	.	33	17	8	5	4	.	6	.
<i>Salix glabra</i>	E2a	.	33	6	4	.	.	.	.	.
<i>Tephrosia crispa</i>	E1	.	22	4	.	.	.	.	.	.
<i>Poa hybrida</i> (inc. <i>P. chaixii</i>)	E1	.	22	19	8	1	13	.	2	.
<i>Aconitum tauricum</i> (inc. <i>A. napellus</i> agg.)	E1	.	22	32	4	30	52	38	4	.
<i>Cirsium waldsteinii</i>	E1	.	22	.	.	.	.	.	.	.
<i>Myrrhis odorata</i>	E1	.	17	.	.	.	.	.	.	.
<i>Chaerophyllum villarsii</i>	E1	.	17	11	21	14	.	8	.	.
<i>Epilobium alpestre</i>	E1	.	17	22	4	10	35	4	.	.
<i>Phyteuma ovatum</i>	E1	.	11	.	4	.	26	.	2	.
<i>Alchemilla xanthochlora</i>	E1	.	11	.	25	.	.	.	.	.
<i>Alchemilla venosula</i> (<i>A. gracillima</i>)	E1	.	11	.	.	.	.	.	.	.
<i>Carduus carduelis</i>	E1	.	11	.	.	.	.	.	.	.
<i>Crepis pyrenaica</i>	E1	.	6	4	.	1	.	.	.	.
<i>Silene vulgaris</i> subsp. <i>antelopum</i>	E1	.	6	15	.	19	4	.	17	.
<i>Pedicularis recutita</i>	E1	.	6	.	.	.	13	38	.	.
<i>Circaea alpina</i>	E1	.	6	.	.	.	.	.	.	.
<i>Knautia dipsacifolia</i>	E1	.	.	33	.	7	9	4	.	.
<i>Peucedanum ostruthium</i>	E1	.	.	24	.	63	87	58	28	.
<i>Centaurea montana</i>	E1	.	.	6	.	.	.	.	.	.
<i>Schrophularia scopolii</i>	E1	.	.	.	8	.	.	.	.	.
<i>Alchemilla monticola</i>	E1	.	.	.	4	.	.	.	.	.
<i>Rumex alpinus</i>	E1	.	.	.	4	.	.	.	6	.

Successive number (Zaporedna številka)		1	2	3	4	5	6	7	8	9
<i>Anthriscus nitidus</i>	E1	.	.	.	4	.	.	.	.	.
<i>Cirsium helenioides</i>	E1	.	.	.	.	3	4	4	.	.
<i>Achillea macrophylla</i>	E1	.	.	.	.	.	70	.	4	.
<i>Cerinth glabra</i>	E1	.	.	.	.	.	4	.	.	.
<i>Chaerophyllum aureum</i>	E1	.	.	.	.	.	4	.	.	.
<i>Senecio alpinus</i>	E1	.	.	.	.	.	4	.	.	.
<i>Cirsium spinosissimum</i>	E1	.	.	.	.	.	.	.	8	.
<i>Salix helvetica</i>	E1	.	.	.	.	.	.	.	6	.
SSC <i>Sambuco-Salicion capreae</i>										
<i>Sorbus aucuparia</i>	E2b	75	39	56	50	28	39	33	34	100
<i>Sorbus aucuparia</i>	E2a	.	6	.	8	.	.	.	.	50
<i>Sorbus aucuparia</i>	E1	.	22	.	13	.	.	.	.	50
<i>Urtica dioica</i>	E1	25	17	15	38	20	17	.	6	.
<i>Fragaria vesca</i>	E1	.	6	19	.	13	4	4	4	.
<i>Galeopsis speciosa</i>	E1	.	6	.	21	.	.	.	13	.
<i>Sambucus racemosa</i>	E1	.	.	7	.	1	.	.	.	.
<i>Salix caprea</i>	E3a	.	.	.	4	.	.	.	.	.
<i>Salix caprea</i>	E2b	.	.	.	4	.	.	.	.	.
RP <i>Viburnum opulus</i>	E2a	.	.	.	4	.	.	.	.	.
RP <i>Rosa canina</i>	E2a	.	.	.	4	.	.	.	.	.
VP <i>Vaccinio-Piceetea</i>										
<i>Calamagrostis villosa</i>	E1	100	50	19	13	43	52	75	38	100
<i>Luzula sylvatica</i>	E1	75	61	46	33	22	22	4	21	67
<i>Aposeris foetida</i>	E1	50	44	37	25	13	.	.	.	.
<i>Homogyne alpina</i>	E1	50	28	41	4	33	43	79	38	67
<i>Lonicera nigra</i>	E2a	50	17	13	.	1	13	.	.	.
<i>Solidago virgaurea</i> s. lat.	E1	25	50	43	4	59	52	63	28	50
<i>Phegopteris connectilis</i>	E1	25	50	15	58	10	4	13	47	83
<i>Picea abies</i>	E3	.	.	.	17	.	.	.	.	.
<i>Picea abies</i>	E2b	25	56	35	29	26	9	46	11	100
<i>Picea abies</i>	E1	.	22	.	4	.	.	.	.	50
<i>Gentiana asclepiadea</i>	E1	25	44	24	79	4	.	4	.	33
<i>Clematis alpina</i>	E2a	25	44	11	.	1	4	.	2	33
<i>Luzula luzuloides</i> subsp. <i>luzuloides</i>	E1	25	22	6	50	25	.	13	21	50
<i>Veronica urticifolia</i>	E1	25	17	17	13	4	9	.	4	.
<i>Larix decidua</i>	E3	.	6	.	.	.	.	.	.	.
<i>Larix decidua</i>	E2	.	50	30	.	9	.	25	11	17
<i>Oxalis acetosella</i>	E1	.	56	54	63	42	56	33	43	83
<i>Rosa pendulina</i>	E2a	.	44	11	17	3	9	.	2	.
<i>Gymnocarpium dryopteris</i>	E1	.	44	11	8	13	.	4	11	.
<i>Saxifraga cuneifolia</i>	E1	.	33	.	8	.	.	.	2	.
<i>Dryopteris expansa</i>	E1	.	22	.	21	.	.	.	.	33
<i>Maianthemum bifolium</i>	E1	.	17	4	33	2	.	8	13	.
<i>Calamagrostis arundinacea</i>	E1	.	11	.	42	.	.	.	2	33
<i>Lonicera caerulea</i>	E2a	.	11	11	.	4	39	13	9	.
<i>Abies alba</i>	E2	.	11	.	.	.	.	.	2	.
<i>Abies alba</i>	E1	.	11	.	.	.	.	.	.	17
<i>Pyrola rotundifolia</i>	E1	.	11	.	.	.	.	.	.	.
<i>Luzula luzuloides</i> subsp. <i>rubella</i>	E1	.	6	.	17	.	.	.	.	.
<i>Luzula luzulina</i>	E1	.	6	.	4	.	.	.	.	.
<i>Hieracium murorum</i>	E1	.	.	17	.	13	4	21	9	.
<i>Avenella flexuosa</i>	E1	.	.	9	4	32	.	71	42	100
<i>Pinus cembra</i>	E2	.	.	6	.	3	.	29	6	.
<i>Luzula pilosa</i>	E1	.	.	.	13	.	.	.	2	.
<i>Circaea alpina</i>	E1	.	.	.	8	.	.	.	.	.

Successive number (Zaporedna številka)		1	2	3	4	5	6	7	8	9	
	<i>Blechnum spicant</i>	E1	.	.	.	8	.	.	.	2	17
	<i>Melampyrum sylvaticum</i>	E1	.	.	.	4	.	.	.	.	.
	<i>Linnaea borealis</i>	E1	.	.	.	.	.	4	.	.	.
	<i>Festuca flavescens</i>	E1	.	.	.	.	.	.	15	.	.
EP	Erico-Pinetea										
	<i>Aquilegia nigricans</i>	E1	25	11	.	.	.	.	.	.	.
	<i>Pinus mugo</i>	E2a	25	11	17	.	9	.	.	4	50
	<i>Rubus saxatilis</i>	E1	.	78	20	8	2	4	.	2	.
	<i>Calamagrostis varia</i>	E1	.	28	13	.	1	.	.	4	.
	<i>Cirsium erisithales</i>	E1	.	28	.	8	.	.	.	2	.
	<i>Carex ornithopoda</i>	E1	.	17	.	.	.	.	.	.	.
	<i>Erica carnea</i>	E1	.	11	.	.	.	.	.	.	33
	<i>Rhodothamnus chamaecistus</i>	E1	.	6	.	.	.	.	.	.	.
	<i>Galium austriacum</i>	E1	.	6	.	.	.	.	.	.	.
	<i>Juniperus alpina</i>	E1	.	.	6	.	3	.	25	8	.
	<i>Aquilegia atrata</i>	E1	.	.	6	.	.	.	.	.	.
	<i>Molinia caerulea</i> agg.	E1	.	.	.	.	4	.	4	2	.
	<i>Aquilegia alpina</i>	E1	.	.	.	.	.	4	.	.	.
AF	Aremonio-Fagion										
	<i>Lamium orvala</i>	E1	50	.	.	.	.	.	.	.	.
	<i>Cardamine enneaphyllos</i>	E1	25	44	26	17	.	.	.	.	.
	<i>Cyclamen purpurascens</i>	E1	25	28	.	4	.	.	.	.	.
	<i>Helleborus niger</i>	E1	25	22	.	4	.	.	.	.	.
	<i>Knautia drymeia</i>	E1	25	22	.	17	.	.	.	.	.
	<i>Cardamine trifolia</i>	E1	.	17	.	33	.	.	.	2	.
	<i>Anemone trifolia</i>	E1	.	6	.	.	.	.	.	.	.
	<i>Stellaria montana</i>	E1	.	.	.	21	.	.	.	.	.
	<i>Euphorbia carniolica</i>	E1	.	.	.	4	.	.	.	.	.
FS	Fagetalia sylvaticae										
	<i>Daphne mezereum</i>	E2a	100	50	28	21	.	4	4	2	.
	<i>Paris quadrifolia</i>	E1	100	72	43	54	5	17	.	.	.
	<i>Dryopteris filix-mas</i>	E1	100	50	41	50	28	9	13	.	.
	<i>Mercurialis perennis</i>	E1	100	39	17	17	.	.	.	.	.
	<i>Ranunculus lanuginosus</i>	E1	100	22	.	25	.	.	.	.	.
	<i>Lilium martagon</i>	E1	75	28	9	8	3	.	.	.	17
	<i>Symphytum tuberosum</i>	E1	75	22	.	13	.	.	.	.	.
	<i>Chrysosplenium alternifolium</i>	E1	75	17	30	25	9	13	4	.	.
	<i>Polystichum aculeatum</i>	E1	75	11	.	13	.	.	.	.	.
	<i>Myosotis sylvatica</i>	E1	75	11	33	29	21	56	17	8	.
	<i>Poa nemoralis</i>	E1	50	28	17	4	10	48	.	9	.
	<i>Lonicera alpigena</i>	E2a	50	22	15	8	1	13	.	2	.
	<i>Epilobium montanum</i>	E1	50	.	19	33	25	4	.	4	.
	<i>Melica nutans</i>	E1	25	22	7	.	.	.	.	4	.
	<i>Adoxa moschatellina</i>	E1	25	6	.	13	.	.	.	.	.
	<i>Actaea spicata</i>	E1	25	6	7	4	1	.	.	.	.
	<i>Galeobdolon flavidum</i>	E1	.	67	44	25	3	.	.	4	.
	<i>Fagus sylvatica</i>	E2	.	11	2	13	1	.	.	.	.
	<i>Petasites albus</i>	E1	.	6	6	8	17	.	.	.	.
	<i>Lysimachia nemorum</i>	E1	.	.	26	.	19	.	.	.	.
	<i>Phyteuma spicatum</i>	E1	.	.	20	4	6	.	.	.	.
	<i>Prenanthes purpurea</i>	E1	.	.	17	4	8	.	.	6	.
	<i>Aruncus dioicus</i>	E1	.	.	4	8	1	.	.	.	.
	<i>Scrophularia nodosa</i>	E1	.	.	.	13	.	.	.	2	.
	<i>Galium laevigatum</i>	E1	.	.	.	8	.	.	.	.	.

Successive number (Zaporedna številka)		1	2	3	4	5	6	7	8	9
<i>Carex sylvatica</i>	E1	.	.	.	8	.	.	.	.	.
<i>Cardamine impatiens</i>	E1	.	.	.	4	.	.	.	.	.
<i>Corydalis solida</i>	E1	.	.	.	4	.	.	.	.	.
<i>Prunus avium</i>	E3	.	.	.	4	.	.	.	.	.
<i>Leucojum vernum</i>	E1	.	.	.	4	.	.	.	.	.
<i>Asarum europaeum</i>	E1	.	.	.	4	.	.	.	.	.
<i>Polystichum braunii</i>	E1	.	.	.	4	1	.	.	.	.
<i>Polystichum x luerssenii</i>	E1	.	.	.	4	.	.	.	.	.
<i>Brachypodium sylvaticum</i>	E1	.	.	.	4	.	.	.	.	.
<i>Impatiens noli-tangere</i>	E1	.	.	.	.	2	.	.	.	.
<i>Dryopteris affinis</i>	E1	.	.	.	.	.	4	.	.	33
<i>Luzula nivea</i>	E1	.	.	.	.	.	9	.	6	.
<i>Equisetum sylvaticum</i>	E1	.	.	.	.	.	4	.	.	.
<i>Geranium robertianum</i>	E1	.	.	.	.	.	.	.	2	.
<i>Petasites albus</i>	E1	.	.	.	.	.	.	.	2	.
QP <i>Quercetalia pubescentis</i>										
<i>Sorbus aria</i>	E3	.	.	.	17	.	.	.	.	.
<i>Sorbus aria</i>	E2	.	.	.	8	.	.	.	.	.
<i>Convallaria majalis</i>	E1	.	.	.	4	.	.	.	2	.
<i>Hypericum montanum</i>	E1	.	.	.	.	.	.	.	4	.
QF <i>Quercus-Fagetea</i>										
<i>Anemone nemorosa</i>	E1	25	22	.	63	.	.	.	.	83
<i>Hepatica nobilis</i>	E1	.	33	.	.	.	.	.	.	.
<i>Alnus incana</i>	E1	.	.	2	.	.	.	.	.	.
<i>Rubus caesius</i>	E1	.	.	75	.	.	.	.	.	.
<i>Stellaria holostea</i>	E1	.	.	.	13	.	.	.	.	.
<i>Hepatica nobilis</i>	E1	.	.	.	8	.	.	.	.	.
<i>Ranunculus auricomus</i> agg.	E1	.	.	.	8	.	.	.	.	.
<i>Aegopodium podagraria</i>	E1	.	.	.	4	.	.	.	.	.
<i>Festuca heterophylla</i>	E1	.	.	.	4	.	.	.	2	.
<i>Cruciata glabra</i>	E1	.	.	.	4	.	.	.	.	.
<i>Viola riviniana</i>	E1	.	.	.	4	.	.	.	.	.
<i>Listera ovata</i>	E1	.	.	.	.	1	.	.	.	.
<i>Orchis mascula</i>	E1	.	.	.	.	.	4	.	.	.
<i>Dactylorhiza fuchsii</i>	E1	.	.	.	.	.	.	.	2	.
<i>Melampyrum pratense</i>	E1	.	.	.	.	.	.	.	.	33
<i>Carex brizoides</i>	E1	.	.	.	.	.	.	.	.	17
TG <i>Trifolio-Geranietea</i>										
<i>Digitalis grandiflora</i>	E1	50	6	.	.	.	.	.	.	.
<i>Laserpitium latifolium</i>	E1	.	.	.	4	.	.	.	.	.
<i>Hypericum perforatum</i>	E1	.	.	.	.	.	.	.	4	.
ES <i>Elyno-Seslerietea</i>										
<i>Sesleria caerulea</i> subsp. <i>calcaria</i>	E1	.	33	6	4	.	.	.	.	.
<i>Carex ferruginea</i>	E1	.	22	24	4	8	9	8	.	.
<i>Alchemilla vulgaris</i> s.str.	E1	.	22	.	.	.	22	.	8	.
<i>Astrantia bavarica</i>	E1	.	17	.	.	.	.	.	.	.
<i>Laserpitium peucedanoides</i>	E1	.	11	.	.	.	.	.	.	.
<i>Campanula witasekiana</i>	E1	.	11	.	.	.	.	.	.	.
<i>Galium anisophyllum</i>	E1	.	11	4	.	.	.	4	4	.
<i>Heliosperma alpestre</i>	E1	.	11	.	.	.	.	.	.	.
<i>Scabiosa lucida</i> subsp. <i>stricta</i>	E1	.	6	6	.	1	.	.	.	.
<i>Betonica alopecuroides</i>	E1	.	6	4	8	.	.	.	.	.
<i>Festuca calva</i>	E1	.	6	.	4	.	.	.	.	.
<i>Leucanthemum adustum</i>	E1	.	6	.	.	.	4	.	.	.

Successive number (Zaporedna številka)		1	2	3	4	5	6	7	8	9
<i>Koeleria eriostachya</i>	E1	.	6	.	.	.	.	.	.	.
<i>Phleum hirsutum</i>	E1	.	6	.	.	.	.	.	.	.
<i>Pulsatilla alpina</i> subsp. <i>austroalpina</i>	E1	.	6	.	.	.	.	.	.	.
<i>Bartsia alpina</i>	E1	.	6	.	.	.	.	.	.	.
<i>Carex sempervirens</i>	E1	.	6	.	.	.	.	.	.	.
<i>Carex firma</i>	E1	.	6	.	.	.	.	.	.	.
<i>Ranunculus montanus</i> agg.	E1	.	.	24	.	7	4	4	2	.
<i>Aster bellidiastrum</i>	E1	.	.	20	.	7	4	4	.	17
<i>Cardus defloratus</i>	E1	.	.	7	.	3	.	.	.	.
<i>Polygonum viviparum</i>	E1	.	.	6	.	1	.	4	4	.
<i>Phyteuma orbiculare</i>	E1	.	.	4	.	.	.	.	.	.
<i>Luzula glabrata</i>	E1	.	.	4	.	.	.	.	.	.
<i>Thesium alpinum</i>	E1	.	.	4	.	1	.	4	.	.
<i>Heracleum austriacum</i>	E1	.	.	2	.	.	.	.	.	.
<i>Acinos alpinus</i>	E1	.	.	2	.	.	.	.	.	.
<i>Ligusticum mutellina</i>	E1	.	.	2	.	8	17	8	6	.
<i>Thymus pareticoides</i>	E1	.	.	2	.	.	.	13	2	.
<i>Bromopsis transsilvanica</i>	E1	.	.	.	4	.	.	.	.	.
<i>Carduus crassifolius</i>	E1	.	.	.	4	.	.	.	.	.
<i>Alchemilla alpina</i>	E1	.	.	.	.	.	4	.	4	.
<i>Alchemilla fissa</i>	E1	.	.	.	.	.	4	.	.	.
<i>Festuca pulchella</i>	E1	.	.	.	.	.	9	.	.	.
<i>Myosotis alpestris</i>	E1	.	.	.	.	.	4	.	.	.
<i>Gentiana lutea</i>	E1	.	.	.	.	.	.	.	2	.
<i>Gentianella anisodonta</i>	E1	.	.	.	.	.	.	.	.	17
CU Calluno-Ulicetea										
<i>Coeloglossum viride</i>	E1	.	11	.	.	.	.	.	.	.
<i>Potentilla erecta</i>	E1	.	.	19	.	15	4	17	11	.
<i>Luzula multiflora</i>	E1	.	.	9	.	.	.	21	.	.
<i>Geum montanum</i>	E1	.	.	9	.	8	.	29	13	.
<i>Phleum alpinum</i> agg.	E1	.	.	9	.	7	13	21	11	.
<i>Galium pumilum</i>	E1	.	.	6	.	2	.	4	.	.
<i>Nardus stricta</i>	E1	.	.	6	.	3	.	25	2	.
<i>Phyteuma zahlbruckneri</i>	E1	.	.	.	4	.	.	.	2	.
<i>Alchemilla flabellata</i>	E1	.	.	.	4	.	.	.	.	.
<i>Calluna vulgaris</i>	E1	.	.	.	.	3	.	21	.	33
<i>Gentiana purpurea</i>	E1	.	.	.	.	.	13	.	6	.
<i>Phyteuma betonicifolium</i>	E1	.	.	.	.	.	4	.	.	.
<i>Carex pilulifera</i>	E1	.	.	.	.	.	.	.	2	17
<i>Arnica montana</i>	E1	.	.	.	.	.	.	.	4	.
<i>Campanula barbata</i>	E1	.	.	.	.	.	.	.	2	50
<i>Omalothea sylvatica</i>	E1	.	.	.	.	.	.	.	4	.
<i>Festuca filiformis</i>	E1	.	.	.	.	.	.	.	.	17
JT Juncetea trifidi										
<i>Soldanella alpina</i>	E1	.	39	32	.	8	9	29	.	.
<i>Gentiana pannonica</i>	E1	.	17	20	.	1	.	21	.	.
<i>Agrostis schraderiana</i> (<i>A. agrostiflora</i>)	E1	.	.	.	.	.	9	.	25	.
<i>Gentiana punctata</i>	E1	.	.	.	.	.	.	.	8	.
<i>Agrostis rupestris</i>	E1	.	.	.	.	.	.	.	4	33
<i>Juncus trifidus</i>	E1	.	.	.	.	.	.	.	4	.
<i>Leontodon helveticus</i>	E1	.	.	.	.	.	.	.	4	.
<i>Soldanella pusilla</i>	E1	.	.	.	.	.	.	.	4	.
<i>Avenula vesicolor</i>	E1	.	.	.	.	.	.	.	2	.
<i>Luzula alpinopilosa</i>	E1	.	.	.	.	.	.	.	2	.

Successive number (Zaporedna številka)		1	2	3	4	5	6	7	8	9	
	<i>Erigeron alpinus</i>	E1	.	.	.	.	.	.	2	.	
	<i>Campanula alpina</i>	E1	.	.	.	.	.	.	.	17	
	<i>Pulsatilla alpina</i> subsp. <i>alba</i>	E1	.	.	.	.	.	.	.	17	
LV	<i>Loiseleurio-Vaccinietea</i>										
	<i>Astrantia minor</i>	E1	.	.	.	.	4	.	13	.	
	<i>Vaccinium uliginosum</i>	E1	.	.	.	.	.	.	13	.	
	<i>Vaccinium gaultherioides</i>	E1	.	.	.	.	.	.	.	17	
	<i>Empetrum hermaphroditum</i>	E1	.	.	.	.	.	.	.	17	
PaT	<i>Poo alpinae-Trisetalia</i>										
	<i>Agrostis capillaris</i>	E1	4	6	.	.	.	.	8	.	
	<i>Trollius europaeus</i>	E1	.	33	7	13	1	13	2	.	
	<i>Campanula scheuchzeri</i>	E1	.	17	39	.	14	.	29	9	
	<i>Cardaminopsis halleri</i> s. lat.	E1	.	11	.	29	.	.	2	.	
	<i>Poa alpina</i>	E1	.	11	20	8	10	4	17	2	
	<i>Festuca nigrescens</i> / <i>Festuca rubra</i> agg.	E1	.	6	9	8	6	.	33	15	
	<i>Cerastium fontanum</i>	E1	.	6	.	.	.	.	.	.
	<i>Astrantia major</i>	E1	.	.	13	.	.	.	.	.
	<i>Ranunculus nemorosus</i>	E1	.	.	19	.	10	.	4	.	
	<i>Crocus albiflorus</i>	E1	.	.	.	8	.	.	.	.
	<i>Polygonum bistorta</i>	E1	.	.	.	.	9	.	.	.	
MA	<i>Molinio-Arrhenatheretea</i>										
	<i>Deschampsia cespitosa</i>	E1	.	28	46	63	45	35	63	28	50
	<i>Angelica sylvestris</i>	E1	.	17	2	17	5	9	4	.	.
	<i>Dactylis glomerata</i>	E1	.	11	13	.	6	4	.	.	.
	<i>Caltha palustris</i>	E1	.	6	9	8	6	9	17	.	.
	<i>Prunella vulgaris</i>	E1	.	.	25	.	.	.	.	.	.
	<i>Veronica chamaedrys</i>	E1	.	.	11	.	13	.	.	2	.
	<i>Lotus corniculatus</i>	E1	.	.	9	.	4	.	4	.	.
	<i>Agrostis stolonifera</i>	E1	.	.	7	.	21	.	4	2	.
	<i>Leontodon hispidus</i>	E1	.	.	7	.	2	.	17	.	.
	<i>Dactylorhiza maculata</i>	E1	.	.	6	.	3	.	4	.	.
	<i>Ranunculus repens</i>	E1	.	.	6	.	17	.	8	.	.
	<i>Valeriana officinalis</i>	E1	.	.	4	.	3	.	.	.	.
	<i>Trifolium pratense</i>	E1	.	.	4	.	6	.	8	.	.
	<i>Achillea millefolium</i>	E1	.	.	2	.	13	.	4	4	.
	<i>Galium mollugo</i>	E1	.	.	.	8	.	.	.	.	.
	<i>Astrantia major</i>	E1	.	.	.	4	.	.	.	.	.
	<i>Agrostis gigantea</i> (<i>A. alba</i>)	E1	.	.	.	.	.	4	.	.	.
	<i>Ranunculus aconitifolius</i>	E1	.	.	.	.	.	.	.	8	.
	<i>Cirsium eriophorum</i>	E1	.	.	.	.	.	.	.	2	.
SCf	<i>Scheuchzerio-Caricetea fuscae</i>										
	<i>Parnassia palustris</i>	E1	.	28	20	.	5	.	.	.	.
	<i>Tofieldia calyculata</i>	E1	.	.	4	.	1	.	.	.	.
FB	<i>Festuco-Brometea</i>										
	<i>Briza media</i>	E1	.	.	4	.	1	.	.	.	.
EA	<i>Epilobietea angustifolii</i>										
	<i>Tussilago farfara</i>	E1	.	.	7	.	12	13	17	.	.
	<i>Chamaenerion angustifolium</i>	E1	.	.	.	8	.	4	.	8	17
	<i>Calamagrostis epigejos</i>	E1	.	.	.	.	.	.	.	2	.
TR	<i>Thlaspietea rotundifolii</i>										
	<i>Valeriana montana</i>	E1	75	.	22	.	4	.	.	.	.
	<i>Festuca nitida</i>	E1	.	50	.	4	.	.	.	.	.
	<i>Rhodiola rosea</i>	E1	.	33	.	.	.	.	.	8	.
	<i>Dryopteris villarii</i>	E1	.	17	.	.	.	.	.	.	.

Successive number (Zaporedna številka)		1	2	3	4	5	6	7	8	9
<i>Arabis alpina</i>	E1	.	11	17	8	4	4	.	.	.
<i>Astrantia carniolica</i>	E1	.	6	.	.	.	.	.	.	.
<i>Aquilegia einseleana</i>	E1	.	6	.	.	.	.	.	.	.
<i>Gymnocarpium robertianum</i>	E1	.	6	15	4	.	.	.	.	.
<i>Biscutela laevigata</i>	E1	.	.	2	.	.	.	.	.	.
<i>Rumex scutatus</i>	E1	.	.	2	.	4	4	4	4	.
<i>Ligusticum seguieri</i>	E1	.	.	.	4	.	.	.	.	.
<i>Geranium macrorrhizum</i>	E1	.	.	.	.	.	.	.	2	.
<i>Cardamine resedifolia</i>	E1	.	.	.	.	.	.	.	2	17
<i>Campanula cochleariifolia</i>	E1	.	.	.	.	.	.	.	.	33
<i>Hieracium bifidum</i>	E1	.	.	.	.	.	.	.	.	17
AT Asplenieta trichomanis										
<i>Cystopteris fragilis</i>	E1	.	33	.	4	.	9	.	2	17
<i>Paederota lutea</i>	E1	.	28	.	.	.	.	.	.	17
<i>Cystopteris regia</i>	E1	.	11	.	4	.	.	.	.	.
<i>Heliosperma pusillum</i>	E1	.	6	.	.	.	.	.	.	.
<i>Valeriana saxatilis</i>	E1	.	6	.	.	.	.	.	.	.
<i>Moehringia muscosa</i>	E1	.	6	.	.	.	.	.	.	.
<i>Asplenium ruta-muraria</i>	E1	.	.	.	.	.	.	.	2	.
<i>Hieracium schmidtii</i>	E1	.	.	.	.	.	.	.	.	17
MC Montio-Cardaminetea										
<i>Saxifraga stellaris</i> s. lat.	E1	.	.	4	.	8	9	21	2	33
<i>Cardamine flexuosa</i>	E1	.	.	.	4	.	.	.	.	.
<i>Cardamine amara</i>	E1	.	.	.	.	29	4	13	2	17
O Other species (Druge vrste)										
<i>Alchemilla</i> sp.	E1	.	.	46	4	34	.	33	4	.
<i>Salix eleagnos</i>	E1	.	.	2	.	.	4	.	.	.
<i>Mentha longifolia</i>	E1	.	.	2	.	4	4	.	.	.
<i>Betula pubescens</i>	E2	.	.	2	.	2	4	.	.	.
<i>Betula pendula</i>	E2	.	.	4	.	7	.	4	.	.
<i>Galeopsis tetrahit</i>	E1	.	.	2	.	3	4	.	.	.
<i>Petasites hybridus</i>	E1	.	.	.	.	.	4	.	2	.
<i>Salix myrsinifolia</i>	E2	.	.	.	.	.	9	.	.	.
ML Mosses and lichens (Mahovi in lišaji)										
<i>Ctenidium molluscum</i>	E0	.	78	19	29	1	.	4	.	.
<i>Rhytidiadelphus triquetrus</i>	E0	.	61	15	8	6	.	13	.	67
<i>Tortella tortuosa</i>	E0	.	44	.	13	.	.	.	.	50
<i>Hylocomium splendens</i>	E0	.	33	9	.	.	.	.	.	.
<i>Pseudoleskeella catenulata</i>	E0	.	28	.	.	.	.	.	.	.
<i>Dicranum scoparium</i>	E0	.	28	17	.	12	4	13	.	83
<i>Conocephalum conicum</i>	E0	.	28	.	.	.	9	.	.	.
<i>Polytrichum formosum</i>	E0	.	22	15	25	16	4	25	.	83
<i>Fissidens dubius</i>	E0	.	22	.	4	.	.	.	.	.
<i>Eurhynchium angustirete</i>	E0	.	22	.	.	.	.	.	.	.
<i>Peltigera leucophlebia</i>	E0	.	16,7	.	.	.	.	.	.	.
<i>Plagiochila porelloides</i>	E0	.	17	.	8	.	.	.	.	.
<i>Marchantia polymorpha</i>	E0	.	11	.	4	.	9	.	.	.
<i>Plagiochila asplenioides</i>	E0	.	11	9	4	8	9	.	.	.
<i>Rhizomnium punctatum</i>	E0	.	6	7	.	23	9	4	.	17
<i>Mnium</i> sp.	E0	.	6	.	4	.	34	.	.	.
<i>Anomodon</i> sp.	E0	.	6	.	.	.	.	.	.	.
<i>Orthothecium rufescens</i>	E0	.	6	.	.	.	.	.	.	.
<i>Peltigera canina</i>	E0	.	6	.	4	.	.	.	.	.
<i>Hylocomium splendens</i>	E0	.	6	9	.	8	.	21	.	33

Successive number (Zaporedna številka)		1	2	3	4	5	6	7	8	9
<i>Sphagnum subnites</i>	E0	.	6	.	.	.	.	.	.	33
<i>Plagiomnium rostratum</i>	E0	.	6	.	4	.	.	.	.	.
<i>Drepanocladus uncinatus</i>	E0	.	.	7	.	7	.	.	.	.
<i>Pleurozium schrberi</i>	E0	.	.	6	.	4	4	21	.	.
<i>Atrichum undulatum</i>	E0	.	.	.	8	.	.	.	.	.
<i>Isoetecium alopecuroides</i>	E0	.	.	.	8	.	.	.	.	.
<i>Plagiothecium undulatum</i>	E0	.	.	.	4	.	.	.	.	17
<i>Brachythecium plumosum</i>	E0	.	.	.	4	.	.	.	.	17
<i>Homalothecium lutescens</i>	E0	.	.	.	4	.	.	.	.	.
<i>Pellia endiviifolia</i>	E0	.	.	.	8	.	.	.	.	.
<i>Cirriphyllum crassinervum</i>	E0	.	.	.	8	.	.	.	.	.
<i>Conocephalum conicum</i>	E0	.	.	.	4	.	.	.	.	.
<i>Hookeria lucens</i>	E0	.	.	.	4	.	.	.	.	.
<i>Fissidens taxifolius</i>	E0	.	.	.	4	.	.	.	.	.
<i>Atrichum angustatum</i>	E0	.	.	.	4	.	.	.	.	.
<i>Cephalozia bicuspidata</i>	E0	.	.	.	4	.	.	.	.	.
<i>Herzogiella seligeri</i>	E0	.	.	.	4	.	.	.	.	.
<i>Plagithecium nemorale</i>	E0	.	.	.	4	.	.	.	.	.
<i>Calypogeia azurea</i>	E0	.	.	.	4	.	.	.	.	.
<i>Chiloscyphus polyanthos</i>	E0	.	.	.	4	.	.	.	.	.
<i>Riccardia palmata</i>	E0	.	.	.	4	.	.	.	.	.
<i>Campylium stellatum</i>	E0	.	.	.	4	.	.	.	.	.
<i>Polytrichum commune</i>	E0	.	.	.	.	10	.	25	.	.
<i>Climacium dendroides</i>	E0	.	.	.	.	1	.	.	.	.
<i>Polytrichum alpinum</i>	E0	.	.	.	.	.	17	.	.	17
<i>Brachythecium seledrosum</i>	E0	.	.	.	.	.	17	.	.	.
<i>Plagiothecium denticulatum</i>	E0	.	.	.	.	.	17	.	.	.
<i>Brachythecium reflexum</i>	E0	.	.	.	.	.	13	.	.	.
<i>Brachythecium starkei</i>	E0	.	.	.	.	.	9	.	.	.
<i>Diplophyllum albicans</i>	E0	.	.	.	.	.	.	.	.	50
<i>Pogonatum unigerum</i>	E0	.	.	.	.	.	.	.	.	50
<i>Polytrichum juniperinum</i>	E0	.	.	.	.	.	.	.	.	17
<i>Dicranum polysetum</i>	E0	.	.	.	.	.	.	.	.	33
<i>Cetraria islandica</i>	E0	.	.	.	.	.	.	.	.	33
<i>Rhizocarpon geographicum</i>	E0	.	.	.	.	.	.	.	.	17
<i>Cephalozia lacinulata</i>	E0	.	.	.	.	.	.	.	.	17
<i>Calypogeia azurea</i>	E0	.	.	.	.	.	.	.	.	17
<i>Nardia scalaris</i>	E0	.	.	.	.	.	.	.	.	17
<i>Amphidium mougeotii</i>	E0	.	.	.	.	.	.	.	.	17
<i>Hypnum cupressiforme</i> var. <i>cupressiforme</i>	E0	.	.	.	.	.	.	.	.	17
<i>Calypogeia integristipula</i>	E0	.	.	.	.	.	.	.	.	17
<i>Tortella densa</i>	E0	.	.	.	.	.	.	.	.	17
<i>Racomitrium lanuginosum</i>	E0	.	.	.	.	.	.	.	.	17
<i>Brachythecium rutabulum</i>	E0	.	.	.	.	.	.	.	.	17

- 1 *Rhododendro hirsuti-Alnetum viridis* ass. nova hoc loco, Aichinger (1933), the Karavanke range, Austria
- 2 *Rhododendro hirsuti-Alnetum viridis* ass. nova, hoc loco, the Julian Alps, the Karavanke range, Slovenia, limestone, dolomite
- 3 *Rhododendro hirsuti-Alnetum viridis* ass. nova hoc loco = *Alnetum viridis aceretosum pseudoplatani* prov., Karner (2007), Austria
- 4 *Rhododendro hirsuti-Alnetum viridis*, *Alnetum viridis* s. lat. Slovenia
- 5 *Alnetum viridis typicum*, Karner (2007), Austria
- 6 *Alnetum viridis*, Braun-Blanquet (1973), Switzerland
- 7 *Alnetum viridis rhododendretosum ferruginei* prov., Karner (2007), Austria
- 8 *Rhododendro ferruginei-Alnetum viridis* Boscutti, Poldini & Buccheri 2013, Alps
- 9 *Huperzio selagi-Alnetum viridis* ass. nova hoc loco, Kamen, the Savinja Alps, Slovenia

Table 5: Phytosociological groups in the communities with dominant *Alnus viridis* in the Alps (relative frequencies)
Tabela 5: Fitocenološke skupine v združbah s prevladujočo vrsto *Alnus viridis* v Alpah (relativne frekvence)

Successive number (Zaporedna številka)	1	2	3	4	5	6	7	8	9
Number of relevés (Število popisov)	4	18	54	24	107	23	24	53	6
Sign for the syntaxa (Oznaka sintaksonov)	RhAv-K	RhAv-SI	Avac-A	Avty-SI	Avty-A	Av-CH	Avrf-A	RfAv-Alps	HsAv-SI
<i>Betulo-Alnetea viridis</i>	4.6	4.6	4.3	4.7	5.5	5.4	4.4	6.6	3.7
<i>Mulgedio-Aconitetea</i>	40	29	34	29	37	48	25	26	6.1
<i>Sambuco-Salicion capreae</i>	3.4	2.1	3.8	6.8	4.8	3.2	2.4	7	6.1
<i>Vaccinio-Piceetea</i>	17	23	18	22	22	19	33	37	39
<i>Erico-Pinetea</i>	1.7	4.4	2.7	1	0.8	0.3	1.2	1.3	3.7
<i>Aremonio-Fagion</i>	3.4	2.5	0.7	2.9	0	0	0	0.1	0
<i>Fagetalia sylvaticae</i>	26	11	12	16	7.4	6.9	1.5	3.2	1.2
<i>Quercetalia pubescentis, Querco-Fagetea</i>	0.6	1	2	4	0	0.1	0	0.6	4.9
<i>Elyno-Seslerietea</i>	0	3.4	3.2	0.8	1.6	3	2	1.9	0.8
<i>Calluno-Ulicetea</i>	0	0.2	1.5	0.2	1.7	1.3	5.6	3.3	2.9
<i>Juncetea trifidi, Loiseleurio-Vaccinietea</i>	0	1.1	2.0	0	1.6	1.5	7.0	5.8	4.9
<i>Poo alpinae-Trisetalia</i>	0.1	1.6	2.8	1.9	1.8	1	3.4	2.2	0
<i>Molinio-Arrhenatheretea</i>	0	1.1	4	2.9	6.3	2.3	5.4	2.7	0
<i>Trifolio-Geranietea, Epilobietea angustifolii</i>	1.1	0.1	0.2	0.4	0.5	0.6	0.7	0.8	0.4
<i>Thlaspietea rotundifolii</i>	1.7	4.1	1.8	1.3	0.5	0.6	0.2	0.9	2
<i>Asplenetea trichomanis</i>	0	2.9	0.8	0.5	0	0.3	0	0.2	1.2
<i>Montio-Cardaminetea, Scheuchzerio-Caricetea</i>	0	0.5	0.7	0.1	1.9	0.5	1.4	0.2	1.2
Other species (Druge vrste)	0	0	1.6	0.4	2.2	1.1	1.5	0.3	1.6
Mosses and lichens (Mahovi in lišaji)	0	8.3	3	5.6	4.2	5.8	5.1	0	20
Total (Skupaj)	100	100	100	100	100	100	100	100	100

Table 6: *Alno viridis-Sorbetum aucupariae* ass. nov.
Tabela 6: *Alno viridis-Sorbetum aucupariae* ass. nov.

Number of relevé (Zaporedna številka popisa)	1	2	3	4	5	6	7	8	9	10		
Database number of relevé (Delovna številka popisa)	238347	238348	244175	244534	245438	245441	245442	245439	245444	245446		
Elevation in m (Nadmorska višina v m)	1360	1400	1468	1290	1495	1520	1530	1510	1530	1560		
Aspect (Lega)	NE	NE	NE	N	NE	N	N	N	N	N		
Slope in degrees (Nagib v stopinjah)	30	30	10	20	30	30	25	25	30	30		
Parent material (Matična podlaga)	R	ALR	AGR	GR	AL	AL	AL	AL	AL	AL		
Soil (Tla)	Dy	Dy	Dy	Re	K	Re	Re	K	Re	K		
Stoniness in % (Kamnitost v %)	0	0	10	20	30	35	40	25	30	20		
Cover of tree layer in % (Zastiranje drevesne plasti v %)	E3	80	70	100	80	70	70	70	80	70		
Cover of shrub layer in % (Zastiranje grmovne plasti v %):	E2	30	30	20	50	40	50	50	40	40		
Cover of herb layer in % (Zastiranje zeliščne plasti v %):	E1	90	90	70	70	80	90	90	80	90		
Cover of moss layer in % (Zastiranje mahovne plasti v %)	E0	5	5	5	20	5	5	5	5	5		
Number of species (Število vrst)	39	33	25	84	81	64	62	72	41	47		
Relevé area (Velikost popisne ploskve)	m ²	400	200	100	200	200	200	200	200	200		
Date of taking relevé (Datum popisa)	7/8/2010	7/8/2010	8/5/2012	8/24/2012	6/26/2012	6/26/2012	6/26/2012	6/26/2012	6/26/2012	6/26/2012		
Locality (Nahajališče)		Stržišče - Sanek	Stržišče - Sanek	Kobla-Krevle	Snežna konta- pl. za Lissem	Matajur	Matajur	Matajur	Matajur	Matajur		
Quadrant (Kvadrant)		9749/4	9749/4	9749/4	9749/4	9747/3	9747/3	9747/3	9747/3	9747/3		
Coordinate GK Y (D-48)	m	416879	416770	420030	418577	387645	387281	387216	387476	387122		
Coordinate GK X (D-48)	m	120538	120519	121992	122583	119888	119880	119864	119892	119841		
Author of the relevé (Avtor popisa)	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	Pr	Fr
Diagnostic species of the association (Diagnostične vrste asociacije)												
SSC <i>Sorbus aucuparia</i>	E3	5	4	5	4	4	4	4	4	4	10	100
SSC <i>Sorbus aucuparia</i>	E2b	.	.	1	.	.	1	.	1	.	3	30
SSC <i>Sorbus aucuparia</i>	E2a	+	+	+	1	+	+	.	.	+	7	70
SSC <i>Sorbus aucuparia</i>	E1	+	.	.	+	.	.	+	.	.	3	30
MuA <i>Veratrum album</i> subsp. <i>lobelianum</i>	E1	2	2	+	1	1	1	+	1	+	10	100
BA <i>Alnus viridis</i>	E2b	1	1	1	.	2	1	1	1	1	9	90
BA <i>Alnus viridis</i>	E1	+	+	.	.	.	.	.	.	.	2	20
MuA <i>Senecio cacaliaster</i>	E1	+	+	.	+	1	1	1	+	1	9	90
BA <i>Salix appendiculata</i>	E2b	.	.	+	3	2	3	3	1	2	8	80
BA <i>Salix appendiculata</i>	E2a	.	.	+	.	+	1	1	+	.	5	50
Differential species of lower units (Razlikovalne vrste nižjih enot)												
VP <i>Luzula sylvatica</i>	E1	3	2	2	.	.	.	+	.	.	4	40
BA <i>Sorbus chamaemespilus</i>	E2b	1	.	.	.	.	.	.	.	.	1	10
BA <i>Sorbus chamaemespilus</i>	E2a	1	+	+	.	.	.	.	.	.	3	30
TR <i>Adenostyles glabra</i>	E1	.	.	.	1	2	2	2	+	2	7	70
AT <i>Asplenium viride</i>	E1	.	.	.	+	+	+	+	+	+	7	70
AT <i>Cystopteris fragilis</i>	E1	.	.	.	.	+	1	+	1	+	6	60
JT <i>Soldanella alpina</i>	E1	.	.	.	.	1	+	+	+	.	5	50

Number of relevé (Zaporedna številka popisa)		1	2	3	4	5	6	7	8	9	10	Pr.	Fr.
BA	<i>Betulo carpaticae-Alnetea viridis</i>												
	<i>Salix waldsteiniana</i>	E2a	.	.	1	.	.	.	.	.	+	2	20
MuA	<i>Mulgedio-Aconitetea</i>												
	<i>Athyrium filix-femina</i>	E1	1	2	3	+	2	3	3	3	4	10	100
	<i>Polygonatum verticillatum</i>	E1	+	+	1	+	1	+	+	1	.	+	9 90
	<i>Ranunculus platanifolius</i>	E1	+	.	.	1	.	1	1	1	+	+	7 70
	<i>Geum rivale</i>	E1	.	.	.	1	1	1	1	2	2	2	7 70
	<i>Saxifraga rotundifolia</i>	E1	.	.	+	1	.	+	.	1	1	+	6 60
	<i>Thalictrum aquilegifolium</i>	E1	.	.	.	1	1	1	+	2	+	+	7 70
	<i>Aconitum lycoctonum</i> subsp. <i>ranunculifolium</i>	E1	.	.	.	1	1	1	1	+	+	.	6 60
	<i>Geranium sylvaticum</i>	E1	.	.	.	.	+	+	+	1	1	+	6 60
	<i>Rumex arifolius</i>	E1	.	.	2	+	+	+	.	1	.	.	5 50
	<i>Alchemilla xanthochlora</i>	E1	.	.	.	+	+	+	+	+	.	.	5 50
	<i>Chaerophyllum hirsutum</i>	E1	.	.	.	+	1	+	+	1	.	.	5 50
	<i>Viola biflora</i>	E1	.	.	.	1	.	.	+	+	+	+	5 50
	<i>Adenostyles alliariae</i>	E1	.	.	+	1	.	.	.	1	.	1	4 40
	<i>Hypericum maculatum</i>	E1	.	.	.	+	1	+	.	+	.	.	4 40
	<i>Pleurospermum austriacum</i>	E1	.	.	.	.	.	+	+	.	1	+	4 40
	<i>Heracleum sphondylium</i> subsp. <i>montanum</i>	E1	.	.	.	+	.	.	.	+	+	.	3 30
	<i>Phyteuma ovatum</i>	E1	.	.	.	.	1	.	+	.	.	+	3 30
	<i>Myrrhis odorata</i>	E1	.	.	.	.	.	2	3	+	.	.	3 30
	<i>Streptopus amplexifolius</i>	E1	.	.	1	+	.	.	.	.	.	.	2 20
	<i>Athyrium distentifolium</i>	E1	.	.	+	+	.	.	.	.	.	.	2 20
	<i>Stellaria nemorum</i> s.str.	E1	.	.	2	.	+	.	.	.	.	.	2 20
	<i>Doronicum austriacum</i>	E1	.	.	.	+	.	.	+	.	.	.	2 20
	<i>Lathyrus occidentalis</i> var. <i>montanus</i>	E1	.	.	.	.	.	.	+	.	+	.	2 20
	<i>Allium victorialis</i>	E1	.	+	.	.	.	.	.	.	.	.	1 10
	<i>Milium effusum</i>	E1	.	.	1	.	.	.	.	.	.	.	1 10
	<i>Aconitum degenii</i> subsp. <i>paniculatum</i>	E1	.	.	.	+	.	.	.	.	.	.	1 10
	<i>Agropyron caninum</i>	E1	.	.	.	+	.	.	.	.	.	.	1 10
	<i>Crepis paludosa</i>	E1	.	.	.	+	.	.	.	.	.	.	1 10
	<i>Poa hybrida</i>	E1	.	.	.	+	.	.	.	.	.	.	1 10
	<i>Senecio ovatus</i>	E1	.	.	.	1	.	.	.	.	.	.	1 10
	<i>Senecio rivularis</i>	E1	.	.	.	+	.	.	.	.	.	.	1 10
	<i>Silene dioica</i>	E1	.	.	.	+	.	.	.	.	.	.	1 10
	<i>Chaerophyllum aureum</i>	E1	.	.	.	.	+	.	.	.	.	.	1 10
	<i>Tanacetum corymbosum</i> subsp. <i>clusii</i>	E1	.	.	.	.	.	+	.	.	.	.	1 10
SSC	<i>Sambuco-Salicion capreae</i>												
	<i>Rubus idaeus</i>	E2a	+	1	3	1	2	2	1	3	2	2	10 100
	<i>Fragaria vesca</i>	E1	.	.	.	.	+	.	+	+	.	.	3 30
	<i>Urtica dioica</i>	E1	.	.	.	+	.	.	.	+	.	.	2 20
	<i>Salix caprea</i>	E3	.	r	.	.	.	.	.	.	.	.	1 10
	<i>Salix caprea</i>	E2b	.	+	.	.	.	.	.	.	.	.	1 10
VP	<i>Vaccinio-Piceetea</i>												
	<i>Calamagrostis arundinacea</i>	E1	4	3	+	+	2	2	3	1	4	3	10 100
	<i>Gentiana asclepiadea</i>	E1	1	2	.	1	1	1	+	1	.	+	8 80
	<i>Oxalis acetosella</i>	E1	+	.	2	1	+	1	.	1	1	1	8 80
	<i>Rosa pendulina</i>	E2a	+	+	.	+	+	.	+	+	1	+	8 80
	<i>Dryopteris dilatata</i>	E1	3	2	2	1	.	.	.	+	+	+	7 70
	<i>Solidago virgaurea</i>	E1	.	.	+	1	+	+	+	+	+	.	7 70
	<i>Valeriana tripteris</i>	E1	.	.	.	1	2	+	1	1	+	.	6 60
	<i>Maianthemum bifolium</i>	E1	1	1	.	+	+	.	.	.	.	.	4 40
	<i>Vaccinium myrtillus</i>	E1	1	2	.	+	.	.	.	+	.	.	4 40
	<i>Phegopteris connectilis</i>	E1	1	1	.	+	.	+	.	.	.	.	4 40

Number of relevé (Zaporedna številka popisa)		1	2	3	4	5	6	7	8	9	10	Pr.	Fr.
	<i>Polystichum lonchitis</i>	E1	.	.	.	r	.	+	.	+	+	4	40
	<i>Luzula luzuloides</i> subsp. <i>luzuloides</i>	E1	1	2	.	+	.	.	.	.	.	3	30
	<i>Picea abies</i>	E3	1	+	.	.	.	.	.	.	.	2	20
	<i>Picea abies</i>	E2b	+	+	.	+	.	.	.	.	.	3	30
	<i>Picea abies</i>	E2a	.	+	.	+	.	.	.	.	.	2	20
	<i>Picea abies</i>	E1	.	+	.	.	.	.	.	.	.	1	10
	<i>Blechnum spicant</i>	E1	+	+	.	.	.	.	.	.	.	2	20
	<i>Veronica urticifolia</i>	E1	.	+	.	+	.	.	.	.	.	2	20
	<i>Dryopteris expansa</i>	E1	.	.	.	+	.	.	.	+	.	2	20
	<i>Thelypteris limbosperma</i>	E1	+	.	.	.	.	.	.	.	.	1	10
	<i>Luzula luzuloides</i> subsp. <i>rubella</i>	E1	.	+	.	.	.	.	.	.	.	1	10
	<i>Luzula luzulina</i>	E1	.	.	+	.	.	.	.	.	.	1	10
	<i>Abies alba</i>	E1	.	.	.	+	.	.	.	.	.	1	10
	<i>Homogyne alpina</i>	E1	.	.	.	+	.	.	.	.	.	1	10
	<i>Lonicera caerulea</i>	E2a	.	.	.	+	.	.	.	.	.	1	10
	<i>Pyrola minor</i>	E1	.	.	.	+	.	.	.	.	.	1	10
	<i>Saxifraga cuneifolia</i>	E1	.	.	.	+	.	.	.	.	.	1	10
	<i>Gymnocarpium dryopteris</i>	E1	.	.	.	1	.	.	.	.	.	1	10
	<i>Homogyne sylvestris</i>	E1	.	.	.	.	.	.	+	.	.	1	10
EP	Erico-Pinetea												
	<i>Rubus saxatilis</i>	E1	.	+	.	1	+	+	+	.	+	1	7 70
	<i>Cirsium erisithales</i>	E1	.	.	.	.	1	+	+	.	.	3	30
	<i>Rhododendron hirsutum</i>	E2a	.	.	.	+	+	.	.	.	.	2	20
	<i>Carex ornithopoda</i>	E1	.	.	.	.	+	.	.	+	.	2	20
	<i>Molinia caerulea</i> subsp. <i>arundinacea</i>	E1	.	.	.	.	+	+	.	.	.	2	20
	<i>Pinus mugo</i>	E2a	.	r	.	.	.	.	.	.	.	1	10
	<i>Aquilegia nigricans</i>	E1	.	.	.	.	.	.	1	.	.	1	10
AF	Aremonio-Fagion												
	<i>Cardamine trifolia</i>	E1	+	.	.	.	.	.	.	.	.	1	10
	<i>Knautia drymeia</i>	E1	.	.	.	+	.	.	.	.	.	1	10
	<i>Rhamnus fallax</i>	E2b	.	.	.	+	.	.	.	.	.	1	10
	<i>Dentaria enneaphyllos</i>	E1	.	.	.	.	+	.	.	.	.	1	10
TA	Tilio-Acerion												
	<i>Acer pseudoplatanus</i>	E3	r	.	+	1	.	.	.	+	+	+	6 60
	<i>Acer pseudoplatanus</i>	E2	.	.	.	.	.	.	.	+	.	1	10
	<i>Acer pseudoplatanus</i>	E1	+	+	.	+	.	+	.	.	.	5	50
	<i>Polystichum braunii</i>	E1	r	.	.	.	.	.	.	.	.	1	10
	<i>Hesperis candida</i>	E1	.	.	.	+	.	.	.	.	.	1	10
	<i>Lunaria rediviva</i>	E1	.	.	.	+	.	.	.	.	.	1	10
	<i>Adoxa moschatellina</i>	E1	.	.	.	.	.	.	.	+	.	1	10
FS	Fagetalia sylvaticae												
	<i>Paris quadrifolia</i>	E1	r	+	.	1	1	1	+	1	1	+	9 90
	<i>Dryopteris filix-mas</i>	E1	r	.	.	+	2	2	2	2	2	8	80
	<i>Galium laevigatum</i>	E1	+	.	.	1	2	1	1	1	.	6	60
	<i>Lilium martagon</i>	E1	r	.	.	.	1	1	+	1	.	+	6 60
	<i>Symphytum tuberosum</i>	E1	.	.	.	.	1	+	+	+	.	4	40
	<i>Polystichum aculeatum</i>	E1	.	.	.	.	+	+	+	.	+	4	40
	<i>Fagus sylvatica</i>	E3	+	.	.	.	.	.	.	.	.	1	10
	<i>Fagus sylvatica</i>	E2b	.	+	.	.	.	.	.	.	.	1	10
	<i>Fagus sylvatica</i>	E2a	+	+	.	.	.	.	.	.	.	2	20
	<i>Fagus sylvatica</i>	E1	+	+	.	.	.	+	.	.	.	3	30
	<i>Laburnum alpinum</i>	E3	r	.	.	+	r	.	.	.	.	3	30
	<i>Laburnum alpinum</i>	E2a	.	.	.	.	+	.	.	.	.	1	10
	<i>Laburnum alpinum</i>	E1	.	.	.	+	.	.	.	.	.	1	10

Number of relevé (Zaporedna številka popisa)		1	2	3	4	5	6	7	8	9	10	Pr.	Fr.
	<i>Actaea spicata</i>	E1	.	.	.	+	+	+	.	.	.	3	30
	<i>Lathyrus vernus</i> subsp. <i>vernus</i>	E1	.	.	.	+	+	+	.	.	.	3	30
	<i>Prenanthes purpurea</i>	E1	2	1	.	.	.	.	.	.	.	2	20
	<i>Scrophularia nodosa</i>	E1	r	.	.	+	.	.	.	.	.	2	20
	<i>Daphne mezereum</i>	E2a	.	.	.	+	+	.	.	.	.	2	20
	<i>Phyllitis scolopendrium</i>	E1	.	.	.	+	.	+	.	.	.	2	20
	<i>Aruncus dioicus</i>	E1	.	.	.	.	.	+	1	.	.	2	20
	<i>Epilobium montanum</i>	E1	.	.	.	.	.	+	1	.	.	2	20
	<i>Myosotis sylvatica</i>	E1	.	.	+	.	.	.	.	.	.	1	10
	<i>Mercurialis perennis</i>	E1	.	.	.	+	.	.	.	.	.	1	10
	<i>Galeobdolon flavidum</i>	E1	.	.	.	.	1	.	.	.	.	1	10
	<i>Carex sylvatica</i>	E1	.	.	.	.	+	.	.	.	.	1	10
	<i>Lonicera alpigena</i>	E2a	.	.	.	.	+	.	.	.	.	1	10
	<i>Ranunculus lanuginosus</i>	E1	.	.	.	.	.	+	.	.	.	1	10
	<i>Campanula trachelium</i>	E1	.	.	.	.	.	+	.	.	.	1	10
	<i>Lathyrus vernus</i> subsp. <i>flaccidus</i>	E1	.	.	.	.	.	.	+	.	.	1	10
	<i>Luzula nivea</i>	E1	.	.	.	.	.	.	+	.	.	1	10
QF	Quercu-Fagetea												
	<i>Anemone nemorosa</i>	E1	1	1	.	.	1	1	1	1	+	+	8 80
QP	<i>Sorbus aria</i>	E2b	+	+	.	.	+	.	.	.	.	3	30
	<i>Scilla bifolia</i>	E1	.	.	.	.	+	+	.	+	.	3	30
	<i>Dactylorhiza fuchsii</i>	E1	.	.	.	.	1	+	+	.	.	3	30
EC	<i>Helleborus odoratus</i>	E1	.	.	.	.	.	.	.	r	r	2	20
ES	Elyno-Seslerietea												
	<i>Sesleria caerulea</i> subsp. <i>calcaria</i>	E1	.	.	.	.	+	.	+	+	.	+	4 40
	<i>Festuca calva</i>	E1	.	.	.	.	+	.	.	r	.	r	3 30
	<i>Campanula witasekiana</i>	E1	.	.	.	+	.	.	.	+	.	2	20
	<i>Hieracium pilosum</i>	E1	.	.	.	.	+	.	.	+	.	2	20
	<i>Carex ferruginea</i>	E1	.	.	.	.	.	.	.	.	+	+	2 20
	<i>Heliosperma alpestre</i>	E1	.	.	.	+	.	.	.	.	.	1	10
	<i>Aster bellidiastrum</i>	E1	.	.	.	.	+	.	.	.	.	1	10
	<i>Carex sempervirens</i>	E1	.	.	.	.	r	.	.	.	.	1	10
FB	<i>Koeleria pyramidata</i>	E1	.	.	.	.	r	.	.	.	.	1	10
	<i>Betonica alopecuroides</i>	E1	.	.	.	.	.	+	.	.	.	1	10
CU	Calluno-Ulicetea												
	<i>Carex pilulifera</i>	E1	+	+	.	.	.	.	.	.	.	2	20
PaT	Poo alpinae-Trisetalia												
	<i>Poa alpina</i>	E1	.	.	.	+	+	.	.	+	.	3	30
	<i>Trollius europaeus</i>	E1	.	.	.	.	+	+	.	+	.	3	30
	<i>Pimpinella major</i> subsp. <i>rubra</i>	E1	.	.	.	.	+	.	+	.	.	2	20
MA	Molinio-Arrhenetheretea												
	<i>Deschampsia cespitosa</i>	E1	.	.	1	.	1	+	+	1	+	2	7 70
	<i>Angelica sylvestris</i>	E1	.	.	.	+	2	2	1	1	1	+	7 70
	<i>Taraxacum officinale</i>	E1	.	.	.	.	.	.	.	r	.	1	10
TR	Thlaspietea rotundifolii												
	<i>Molopospermum peloponnesiacum</i> subsp. <i>bauhinii</i>	E1	.	.	.	.	1	3	+	1	+	5	50
	<i>Alchemilla alpigena</i>	E1	.	.	.	.	+	.	+	+	.	4	40
	<i>Rhodiola rosea</i>	E1	.	.	.	.	.	.	+	r	+	4	40
	<i>Festuca nitida</i>	E1	.	.	.	+	+	.	.	+	.	3	30
	<i>Dryopteris villarii</i>	E1	.	.	.	+	.	.	.	r	.	2	20
	<i>Arabis alpina</i>	E1	.	.	.	+	.	.	.	.	.	1	10
	<i>Cystopteris montana</i>	E1	.	.	.	+	.	.	.	.	.	1	10
	<i>Hieracium bifidum</i>	E1	.	.	.	.	+	.	.	.	.	1	10
AT	Asplenetea trichomanis												
	<i>Paederota lutea</i>	E1	.	.	.	.	+	.	+	+	.	+	4 40

Number of relevé (Zaporedna številka popisa)		1	2	3	4	5	6	7	8	9	10	Pr.	Fr.	
	<i>Campanula carnica</i>	E1	.	.	.	+	+	.	.	.	.	2	20	
	<i>Asplenium trichomanes</i>	E1	.	.	.	+	+	.	.	.	.	2	20	
	<i>Sedum maximum</i>	E1	.	.	.	+	.	.	.	.	.	1	10	
	<i>Festuca stenantha</i>	E1	.	.	.	.	+	.	.	.	.	1	10	
	<i>Primula auricula</i>	E1	.	.	.	.	+	.	.	.	.	1	10	
	<i>Asplenium ruta-muraria</i>	E1	.	.	.	.	+	.	.	.	.	1	10	
	<i>Cerastium subtriflorum</i>	E1	.	.	.	.	.	.	+	.	.	1	10	
	<i>Saxifraga crustata</i>	E1	.	.	.	.	.	.	r	.	.	1	10	
O	Other species (Druge vrste)													
	<i>Alchemilla</i> sp.	E1	.	.	.	.	.	.	+	.	.	1	10	
ML	Mosses and lichens (Mahovi in lišaji)													
	<i>Rhytidiadelphus triquetrus</i>	E0	+	.	.	1	+	+	+	.	+	7	70	
	<i>Ctenidium molluscum</i>	E0	.	.	.	1	1	+	+	1	1	+	7	70
	<i>Polytrichum formosum</i>	E0	1	1	.	+	.	.	.	+	.	+	5	50
	<i>Tortella tortuosa</i>	E0	.	.	.	.	+	+	.	.	.	+	3	30
	<i>Isoetecium alopecuroides</i>	E0	.	.	.	+	.	.	.	.	+	.	2	20
	<i>Schistidium apocarpum</i>	E0	.	.	.	.	+	.	+	.	.	.	2	20
	<i>Mnium thomsonii</i>	E0	.	.	.	.	.	+	+	.	.	.	2	20
	<i>Eurhynchium striatum</i>	E0	+	.	.	.	.	.	.	.	.	.	1	10
	<i>Pseudoleskeella catenulata</i>	E0	.	.	1	.	.	.	.	.	.	.	1	10
	<i>Hylocomium splendens</i>	E0	.	.	.	+	.	.	.	.	.	.	1	10
	<i>Rhytidiadelphus loreus</i>	E0	.	.	.	+	.	.	.	.	.	.	1	10
	<i>Cladonia pyxidata</i>	E0	.	.	.	+	.	.	.	.	.	.	1	10
	<i>Dicranum scoparium</i>	E0	.	.	.	.	+	.	.	.	.	.	1	10
	<i>Marchantia polymorpha</i>	E0	.	.	.	.	.	+	.	.	.	.	1	10
	<i>Peltigera canina</i>	E0	.	.	.	.	.	.	+	.	.	.	1	10
	<i>Atrichum undulatum</i>	E0	.	.	.	.	.	.	.	.	.	+	1	10

- A Limestone – apnenec
 G Claystone – glinavec
 R Chert – roženec
 L Marl – laporovec
 Re Rendzina – rendzina
 Dy Dystric brown soil – distrična rjava tla
 K Brown calcareous soil – rjava pokarbonatna tla
 ID Igor Dakskobler

Maximum tree diameter: 15–30 cm

Maximum tree height: 6–12 m

Table 7 / Tabela 7: *Alno viridis-Aceretum pseudoplatani* nom. prov.

	Number of relevé (Zaporedna številka popisa)		1
	Database number of relevé (Delovna številka popisa)		220753
	Elevation in m (Nadmorska višina v m)		1430
	Aspect (Lega)		W
	Slope in degrees (Nagib v stopinjah)		30
	Parent material (Matična podlaga)		DA
	Soil (Tla)		Re
	Stoniness in % (Kamnitost v %)		20
	Cover of tree layer in % (Zastiranje drevesne plasti v %)	R3	60
	Cover of shrub layer in % (Zastiranje grmovne plasti v %):	E2	60
	Cover of herb layer in % (Zastiranje zeliščne plasti v %):	E1	90
	Cover of moss layer in % (Zastiranje mahovne plasti v %)	E0	5
	Number of species (Število vrst)		61
	Relevé area (Velikost popisne ploskve)	m ²	400
	Date of taking relevé (Datum popisa)		9/10/2008
	Locality (Nahajališče)		Komar
	Quadrant (Kvadrant)		9648/2
	Coordinate GK Y (D-48)	m	408799
	Coordinate GK X (D-48)	m	137226
	Author of the relevé (Avtor popisa)		ID
TA	<i>Tilio-Acerion</i>		
	<i>Acer pseudoplatanus</i>	E3b	4
	<i>Acer pseudoplatanus</i>	E2b	+
	<i>Acer pseudoplatanus</i>	E2a	+
	<i>Acer pseudoplatanus</i>	E1	1
	<i>Thalictrum aquilegifolium</i>	E1	+
BA	<i>Betulo carpaticae-Alnetea viridis</i>		
	<i>Alnus viridis</i>	E2b	3
	<i>Salix appendiculata</i>	E3b	+
	<i>Salix appendiculata</i>	E2b	1
MuA	<i>Mulgedio-Aconitetea</i>		
	<i>Aconitum lycoctonum</i> subsp. <i>ranunculifolium</i>	E1	1
	<i>Polygonatum verticillatum</i>	E1	1
	<i>Senecio cacaliaster</i>	E1	1
	<i>Athyrium filix-femina</i>	E1	+
	<i>Chaerophyllum villarsii</i>	E1	+
	<i>Aconitum degenii</i> subsp. <i>paniculatum</i>	E1	r
AF	<i>Aremonio-Fagion</i>		
	<i>Cyclamen purpurascens</i>	E1	1
	<i>Anemone trifolia</i>	E1	+
FS	<i>Fagetalia sylvaticae</i>		
	<i>Actaea spicata</i>	E1	1
	<i>Daphne mezereum</i>	E2a	1
	<i>Galium laevigatum</i>	E1	1
	<i>Lonicera alpigena</i>	E2a	1
	<i>Melica nutans</i>	E1	1
	<i>Mercurialis perennis</i>	E1	1
	<i>Phyteuma spicatum</i>	E1	1
	<i>Prenanthes purpurea</i>	E1	1
	<i>Laburnum alpinum</i>	E3b	+
	<i>Laburnum alpinum</i>	E2a	+
	<i>Paris quadrifolia</i>	E1	+
	<i>Dryopteris filix-mas</i>	E1	+
	<i>Galeobdolon flavidum</i>	E1	+

	Number of relevé (Zaporedna številka popisa)		1
QP	<i>Quercetalia pubescentis</i>		
	<i>Sorbus aria</i>	E3b	r
EP	<i>Erico-Pinetea</i>		
	<i>Calamagrostis varia</i>	E1	3
	<i>Erica carnea</i>	E1	1
	<i>Aquilegia nigricans</i>	E1	1
	<i>Pinus mugo</i>	E2b	1
	<i>Rubus saxatilis</i>	E1	1
	<i>Bupthalmum salicifolium</i>	E1	r
	<i>Carex ornithopoda</i>	E1	+
	<i>Peucedanum austriacum</i> subsp. <i>rablense</i>	E1	+
VP	<i>Vaccinio-Piceetea</i>		
	<i>Lycopodium annotinum</i>	E1	1
	<i>Polystichum lonchitis</i>	E1	1
	<i>Rosa pendulina</i>	E2a	1
	<i>Aposeris foetida</i>	E1	1
	<i>Clematis alpina</i>	E2a	+
	<i>Larix decidua</i>	E2b	+
	<i>Larix decidua</i>	E2a	r
	<i>Lonicera nigra</i>	E2a	+
	<i>Picea abies</i>	E3b	+
	<i>Picea abies</i>	E2b	+
	<i>Picea abies</i>	E2a	r
	<i>Vaccinium myrtillus</i>	E1	+
	<i>Valeriana tripteris</i>	E1	+
	<i>Dryopteris dilatata</i>	E1	+
	<i>Gymnocarpium dryopteris</i>	E1	+
	<i>Huperzia selago</i>	E1	+
	<i>Abies alba</i>	E2b	r
SSC	<i>Sambuco-Salicion capreae</i>		
	<i>Sorbus aucuparia</i>	E2b	+
	<i>Sorbus aucuparia</i>	E1	+
ES	<i>Elyno-Seslerietea</i>		
	<i>Betonica alopecuros</i>	E1	+
	<i>Scabiosa lucida</i> subsp. <i>stricta</i>	E1	+
	<i>Arabis ciliata</i>	E1	+
FB	<i>Festuco-Brometea</i>		
	<i>Gentianella ciliata</i>	E1	r
AT	<i>Asplenetea trichomanis</i>		
	<i>Moehringia muscosa</i>	E1	+
	<i>Asplenium viride</i>	E1	+
TR	<i>Thlaspietea rotundifolii</i>		
	<i>Gymnocarpium robertianum</i>	E1	+
	<i>Valeriana montana</i>	E1	+
ML	Mosses (Mahovi)		
	<i>Ctenidium molluscum</i>	E0	1
	<i>Polytrichum formosum</i>	E0	+
	<i>Rhytidiadelphus triquetrus</i>	E0	+
	<i>Tortella tortuosa</i>	E0	+
	<i>Rhodobryum roseum</i> ?	E0	+

A Limestone – apneenc
D Dolomite – dolomit
Re Rendzina – rendzina
ID Igor Dakskobler

Diagnostic species of the association (Diagnostične vrste asociacije)		Pr.	Fr.
BA	<i>Alnus viridis</i>	27	100
VP	<i>Polystichum lonchitis</i>	23	85
VP	<i>Clematis alpina</i>	21	78
BcA	<i>Sorbus chamaemespilus</i>	17	63
BcA	<i>Sorbus chamaemespilus</i>	2	7
EP	<i>Rhododendron hirsutum</i>	15	56
MuA	<i>Aconitum lycoctonum</i> subsp. <i>ranunculifolium</i>	14	52
BA	<i>Salix appendiculata</i>	1	4
BA	<i>Salix appendiculata</i>	14	52
BA	<i>Salix appendiculata</i>	4	15
ES	<i>Aster bellidiastrum</i>	12	44
MuA	<i>Senecio cacaliaster</i>	10	37
VP	<i>Lonicera caerulea</i>	8	30
ES	<i>Astrantia bavarica</i>	8	30
EP	<i>Pinus mugo</i>	6	22
ES	<i>Laserpitium peucedanoides</i>	5	19
ES	<i>Festuca calva</i>	5	19
AF	Aremonio-Fagion		
	<i>Cardamine trifolia</i>	18	67
	<i>Dentaria enneaphyllos</i>	17	63
	<i>Anemone trifolia</i>	15	56
	<i>Cyclamen purpurascens</i>	6	22
	<i>Knautia drymeia</i>	5	19
	<i>Rhamnus fallax</i>	3	11
EC	<i>Primula vulgaris</i>	2	7
EC	<i>Helleborus odoratus</i>	2	7
	<i>Helleborus niger</i>	1	4
TA	<i>Lamium orvala</i>	1	4
	Tilio-Acerion		
	<i>Acer pseudoplatanus</i>	8	30
	<i>Acer pseudoplatanus</i>	4	15
	<i>Acer pseudoplatanus</i>	4	15
	<i>Acer pseudoplatanus</i>	6	22
	<i>Acer pseudoplatanus</i>	13	48
	<i>Polystichum aculeatum</i>	11	41
	<i>Aruncus dioicus</i>	6	22
	<i>Adoxa moschatellina</i>	4	15
	<i>Chrysosplenium alternifolium</i>	3	11
	<i>Polystichum x illyricum</i>	1	4

Number of relevé (Zaporedna številka popisa)		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	Pr.	Fr.	
	<i>Corydalis solida</i>	E1	1	1	4	
	<i>Stellaria montana</i>	E1	+	1	4	
	<i>Polystichum braunii</i>	E1	+	1	4	
	<i>Polystichum x huerssenii</i>	E1	+	1	4	
	<i>Leucojum vernum</i>	E1	1	4	
FS	Fagetales sylvaticae																														
	<i>Fagus sylvatica</i>	E3b	4	5	4	4	5	5	5	5	5	5	4	5	5	3	4	5	4	4	4	4	5	4	4	4	5	27	100		
	<i>Fagus sylvatica</i>	E3a	1	1	1	.	.	.	.	.	1	1	.	.	1	1	.	.	+	1	1	1	.	.	.	.	.	13	48
	<i>Fagus sylvatica</i>	E2b	1	1	1	2	+	+	+	+	+	+	+	+	1	2	+	+	+	+	+	1	1	1	1	1	23	85			
	<i>Fagus sylvatica</i>	E2a	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	+	+	+	+	.	.	.	.	.	.	7	26
	<i>Fagus sylvatica</i>	E1	.	.	1	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	9	33
	<i>Dryopteris filix-mas</i>	E1	+	+	.	+	+	+	+	+	+	+	+	+	1	1	1	+	+	+	+	+	1	1	1	1	23	85			
	<i>Lonicera alpigena</i>	E2	2	+	.	+	+	+	+	+	+	+	1	+	+	1	1	1	.	.	.	+	+	+	+	+	.	22	78		
	<i>Lonicera alpigena</i>	E1	2	7	
	<i>Galium laevigatum</i>	E1	1	1	+	.	.	.	.	.	.	.	.	.	.	1	+	.	.	.	.	.	.	.	.	.	.	17	63
	<i>Lilium martagon</i>	E1	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	17	63
	<i>Daphne mezereum</i>	E2a	+	.	1	1	+	+	+	+	+	+	.	.	+	+	+	+	+	+	+	.	.	.	.	.	16	59	
	<i>Galeobdolon flavidum</i>	E1	+	+	.	.	.	.	.	.	.	.	.	.	1	1	1	.	.	.	.	.	.	.	.	.	.	15	56
	<i>Luzula nivea</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	1	1	+	+	+	.	.	.	.	.	14	52
	<i>Paris quadrifolia</i>	E1	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	14	52
	<i>Actaea spicata</i>	E1	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	13	48
	<i>Mercurialis perennis</i>	E1	+	.	.	.	.	.	.	.	.	.	.	.	1	1	+	.	.	.	.	.	.	.	.	.	.	13	48
	<i>Epilobium montanum</i>	E1	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	12	44
	<i>Prenanthes purpurea</i>	E1	1	1	1	+	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	12	44
	<i>Melica nutans</i>	E1	+	+	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	11	41
	<i>Poa nemoralis</i>	E1	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	10	37
	<i>Lathyrus vernus</i> subsp. <i>vernus</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	8	30
	<i>Symphytum tuberosum</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	8	30
	<i>Corydalis cava</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4	15
	<i>Mycelis muralis</i>	E1	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4	15
	<i>Myosotis sylvatica</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4	15
	<i>Ranunculus lanuginosus</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	11
	<i>Scrophularia nodosa</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	11
	<i>Dentaria bulbifera</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	7
	<i>Laburnum alpinum</i>	E3a	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	7
	<i>Laburnum alpinum</i>	E2a	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
	<i>Laburnum alpinum</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	7
	<i>Campanula trachelium</i>	E1	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
	<i>Festuca altissima</i>	E1	1	4	

Number of relevé (Zaporedna številka popisa)		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	Pr.	Fr.			
EP	<i>Picea abies</i>	E3a	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	5	19
	<i>Picea abies</i>	E2b	+	.	.	.	+	.	.	.	.	.	.	.	+	.	.	.	.	.	+	.	.	.	.	.	.	.	.	7	26
	<i>Picea abies</i>	E2a	.	.	.	+	.	.	.	.	.	r	+	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	6	22
	<i>Picea abies</i>	E1	+	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	8	30
	<i>Luzula luzuloides</i>	E1	.	+	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	6	22
	<i>Homogyne alpina</i>	E1	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	5	19
	<i>Larix decidua</i>	E3b	.	.	1	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	5	19
	<i>Larix decidua</i>	E3a	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	7
	<i>Larix decidua</i>	E2b	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
	<i>Larix decidua</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
	<i>Vaccinium vitis-idaea</i>	E1	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	5	19
	<i>Abies alba</i>	E3b	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	11
	<i>Abies alba</i>	E3a	r	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	7
	<i>Abies alba</i>	E2b	.	r	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	4	15
	<i>Abies alba</i>	E2a	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	7
	<i>Abies alba</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
	<i>Lycopodium annotinum</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4	15
	<i>Melampyrum sylvaticum</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	11
	<i>Luzula luzulina</i>	E1	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	7
	<i>Dryopteris expansa</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	7
	<i>Goodyera repens</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
	<i>Thelypteris limbosperma</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
	BC	<i>Erico-Pinetea</i>	E1	1	+	1	1	+	1	1	+	21	78	
		<i>Rubus saxatilis</i>	E1	+	+	+	17	63	
		<i>Cirsium erisihales</i>	E1	+	5	19	
		<i>Rhodothamnus chamaecistus</i>	E1	+	5	19	
		<i>Erica carnea</i>	E1	+	5	19	
		<i>Calamagrostis varia</i>	E1	3	11	
		<i>Aquilegia nigricans</i>	E1	3	11	
		<i>Carex ornithopoda</i>	E1	3	11	
		<i>Peucedanum austriacum</i> subsp. <i>rablense</i>	E1	2	7	
		<i>Juniperus sibirica</i>	E2a	r	2	7
		<i>Bupththalmum salicifolium</i>	E1	2	7
<i>Chamaecytisus hirsutus</i> subsp. <i>ciliatus</i>		E1	1	4	
<i>Genista radiata</i>		E1	1	4	
<i>Betulo carpaticae-Alnetea viridis</i>		E2a	4	15	
<i>Ribes alpinum</i>		E2a	3	11	
<i>Salix waldesteiniana</i>		E2a	2	7	

	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	Pr.	Fr.	
Number of relevé (Zaporedna številka popisa)	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	Pr.	Fr.	
<i>Aconitum angustifolium</i>	E1	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	2	7
<i>Lathyrus occidentalis</i> var. <i>montanus</i>	E1	.	.	.	.	.	+	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	2	7
<i>Peucedanum ostruthium</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	2	7
<i>Tanacetum corymbosum</i> subsp. <i>clusii</i>	E1	.	.	.	.	.	.	.	r	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	7
<i>Silene vulgaris</i> subsp. <i>antelopum</i>	E1	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
<i>Primula elatior</i>	E1	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
<i>Carduus personata</i>	E1	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
<i>Streptopus amplexifolius</i>	E1	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
<i>Poa chaixii</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	1	4
<i>Anthriscus nitida</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
<i>Chaerophyllum aureum</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
TG Trifolio-Geranietea																														
<i>Grafia golaka</i>	E1	.	.	.	.	.	+	.	.	.	.	.	.	.	.	+	.	.	.	.	.	r	.	.	.	.	.	3	11
<i>Iris graminea</i>	E1	.	.	.	.	.	+	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	7
<i>Achillea distans</i>	E0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	1	4
<i>Clinopodium vulgare</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
<i>Origanum vulgare</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
ES Elyno-Seslerietea																														
<i>Betonica alopecurus</i>	E1	+	.	.	.	1	+	.	.	+	.	+	.	.	.	r	.	.	.	+	.	.	.	.	.	.	.	8	30
<i>Sesleria caerulea</i> subsp. <i>calcaria</i>	E1	.	.	+	.	.	+	+	.	+	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	8	30
<i>Carex ferruginea</i>	E1	.	.	+	.	.	+	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	3	11
<i>Heliosperma alpestre</i>	E1	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	3	11
<i>Campanula witasekiana</i>	E1	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	3	11
<i>Pimpinella alpina</i>	E1	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	11
<i>Pulsatilla alpina</i> subsp. <i>australpina</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	7
<i>Cerastium strictum</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	7
<i>Hieracium villosum</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	2	7
<i>Phyteuma orbiculare</i>	E1	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	2	7
<i>Parnassia palustris</i>	E1	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	2	7
<i>Hieracium pilosum</i>	E1	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
<i>Leucanthemum adustum</i>	E1	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
<i>Soldanella alpina</i>	E1	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
<i>Pinguicula alpina</i>	E1	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
<i>Carex sempervirens</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	1	4
<i>Ranunculus carinthiacus</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	1	4
<i>Juncus monanthos</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	1	4
<i>Scabiosa lucida</i> subsp. <i>stricta</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	1	4
<i>Carduus crassifolius</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
<i>Carex mucronata</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4

	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	Pr.	Fr.			
Number of relevé (Zaporedna številka popisa)	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	Pr.	Fr.			
<i>Saxifraga crustata</i>	E1	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	3	11
<i>Saxifraga hostii</i>	E1	r	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	7
<i>Primula auricula</i>	E1	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	7
<i>Festuca stenantha</i>	E1	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	2	7
<i>Moehringia muscosa</i>	E1	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
O Other species (Druge vrste)																																
<i>Festuca</i> sp.	E1	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	2	7
<i>Orobanche</i> sp.	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
<i>Carex</i> sp.	E1	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
<i>Hieracium</i> sp.	E1	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
<i>Knautia</i> sp.	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	1	4
ML Mosses and lichens (Mahovi in lišaji)																																
<i>Ctenidium molluscum</i>	E0	2	1	+	1	1	1	1	1	1	1	+	1	1	1	+	2	1	1	+	1	+	+	+	1	+	.	26	96			
<i>Tortella tortuosa</i>	E0	1	1	1	1	1	1	1	1	1	1	1	+	+	+	+	.	.	+	+	+	+	+	+	+	+	.	25	93			
<i>Fissidens dubius</i>	E0	+	1	+	1	.	+	+	+	+	1	1	+	+	1	+	.	+	+	.	.	.	.	.	.	.	.	22	81
<i>Paraleucobryum sauteri</i>	E0	1	+	+	+	+	1	+	+	1	.	.	.	.	1	+	.	.	.	.	.	.	.	.	.	.	.	17	63
<i>Polytrichum formosum</i>	E0	.	+	+	+	1	+	+	+	1	1	+	+	.	.	.	.	+	1	+	.	.	.	.	.	.	.	17	63
<i>Peltigera canina</i>	E0	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	15	56
<i>Mnium thomsonii</i>	E0	.	.	.	.	.	.	.	1	+	+	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	14	52
<i>Plagiochila porrelloides</i>	E0	.	.	.	.	.	.	.	.	+	+	+	+	+	.	.	.	.	.	.	.	1	.	.	.	.	.	12	44
<i>Isoetecium alopecuroides</i>	E0	2	1	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	11	41
<i>Dicranum scoparium</i>	E0	.	+	.	.	.	+	+	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	9	33
<i>Conocephalum conicum</i>	E0	.	.	.	.	.	.	+	+	+	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	8	30
<i>Schistidium apocarpum</i>	E0	+	.	+	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	8	30
<i>Peltigera leucophlebia</i>	E0	.	+	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	8	30
<i>Rhizomnium punctatum</i>	E0	.	.	.	.	.	.	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	7	26
<i>Plagiommium undulatum</i>	E0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	5	19
<i>Pseudoskeella catenulata</i>	E0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	+	.	.	.	.	.	.	5	19
<i>Hylacomium splendens</i>	E0	.	.	.	.	.	.	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4	15
<i>Rhytidadelphus triquetrus</i>	E0	.	.	.	.	.	.	1	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4	15
<i>Cladonia pyxidata</i>	E0	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4	15
<i>Cladonia</i> sp.	E0	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4	15
<i>Plagiothecium denticulatum</i>	E0	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	11
<i>Bartramia hallertiana</i>	E0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	7
<i>Bryum capillare</i>	E0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	7
<i>Eurhynchium striatum</i>	E0	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	7
<i>Homalothecium philippeanum</i>	E0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	7
<i>Isoetecium myosuroides</i>	E0	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	7
<i>Arrichium undulatum</i>	E0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4

Table 9: Subalpine larch stands (*Rhodothamno-Laricetum*) with *Alnus viridis*

Number of relevé (Zaporedna številka popisa)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Database number of relevé (Delovna številka popisa)	209104	244319	241754	244261	209312	209160	230334	209294	209335	209340	209329	209331	209342	209310	244922	
Elevation in m (Nadmorska višina v m)	1520	1560	1530	1540	1530	1450	1600	1620	1550	1480	1530	1590	1560	1650	1660	
Aspect (Lega)	N	N	N	NE	NE	N	N	NW	N	NE	NE	NE	N	N	NE	
Slope in degrees (Nagib v stopinjah)	45	40	50	50	35	40	45	35	50	40	45	35	45	40	35	
Parent material (Matična podlaga)	A	A	A	DA	DA	A	A	A	A	A	A	A	A	A	D	
Soil (Tla)	Re	Re	Re	Re	Re	Re	Re	Re	Re	Re	Re	Re	Re	Re	Re	
Stoniness in % (Kamnitost v %)	40	20	30	40	10	40	20	30	60	50	50	80	40	20	10	
Cover in % (Zastiranje v %):																
Upper tree layer (Zgornja drevesna plast)	E3b	60	60	50	50	60	60	70	60	60	60	60	50	20	30	
Lower tree layer (Spodnja drevesna plasti)	E3a	10	20		10		20	5	10	10	20	10				
Shrub layer (Grmovna plast)	E2	30	30	20	20	60	20	40	30	40	50	30	50	80	90	
Herb layer (Zeliščna plast)	E1	70	80	70	70	60	60	80	60	60	60	60	30	40	70	
Moss layer (Mahovna plast)	E0	10	20	10	10	10	10	20	10	20	30	20	60	20	20	
Number of species (Število vrst)	92	70	65	74	94	73	94	89	94	80	122	91	74	58	50	
Relevé area (Velikost popisne ploskve)	m ²	200	400	400	400	200	400	400	400	200	400	200	200	200	200	
Date of taking relevé (Datum popisa)	8/13/2001	8/8/2012	8/26/2011	8/8/2012	6/27/2000	8/23/2004	7/24/2009	8/24/2000	8/29/2000	9/17/2002	8/3/1999	6/15/2001	7/30/1997	9/7/2000	9/7/2012	
Locality (Nahajališče)	Črna gora	Mizčna glava	Mali Stog	Mizčna glava	Loška stena	Kanja	Vrtaška planina	Bavšica	Lepena	Krnsko jezero	Gozdec	Polovnik	Rezija	Svinjak	Solna glava - Suha Pišnica	
Quadrant (Kvadrant)	9749/4	9648/4	9649/3	9648/4	9647/2	9647/1	9549/1	9647/2	9647/4	9748/1	9646/4	9747/1	9646/4	9647/2	9548/4	
Coordinate GK Y (D-48)	m	418923	409992	412446	410127	394117	390130	416163	396339	395389	398539	383350	389164	378293	393563	
Coordinate GK X (D-48)	m	122532	131035	133139	131004	139959	137328	146533	136284	129498	127150	132877	129340	132412	135036	
Author of the relevé (Avtor popisa)	ID	ID	ID	ID	ID	ID	ID,AR	ID	ID	ID	ID	ID	ID	ID	ID	
Character and differential species of the association (Značilnice in razlikovalnice asociacije)																
VP <i>Larix decidua</i>	E3b	4	4	4	3	3	4	4	4	3	3	4	4	3	2	3
VP <i>Larix decidua</i>	E3a	1	2	+	1	.	+	+	1	1	1	1	1	.	.	.
VP <i>Larix decidua</i>	E2b	1	1	1	1	1	+	1	1	+	.	.	1	.	.	+
VP <i>Larix decidua</i>	E2a	.	+	1	+	1	.	+	.	.	.	+	+	.	+	.
VP <i>Larix decidua</i>	E1	+	.	+	.	.	+	+	.	.	.	+
EP <i>Rhododendron hirsutum</i>	E2a	3	2	2	1	3	1	+	+	1	.	1	2	2	3	4
EP <i>Rhodothamnus chamaecistus</i>	E1	1	1	3	2	1	1	+	+	1	+	+	2	1	+	1
AT <i>Valeriana saxatilis</i>	E1	+	+	+	1	+	+	.	.	+	.	+	+	1	1	.
AT <i>Primula auricula</i>	E1	.	.	+	+	.	+	+	+	+	.	.
AT <i>Carex brachystachys</i>	E1	.	.	.	r	+	.	+	.	.

Tabela 9: Subalpinski macesnov gozd (*Rhodothamno-Laricetum*) z zeleno jelšo

16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40			
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40			
240862	240894	230318	230337	236402	236780	240897	240878	244835	240893	236534	244245	236719	245511	236458	236461	236474	236475	236476	236494	241554	241555	241407	209067	230350			
1500	1700	1760	1770	1580	1730	1770	1420	1530	1610	1770	1760	1280	1770	1700	1630	1770	1830	1810	1670	1620	1650	1410	1410	1700			
N	N	NW	NE	NE	SW	NE	N	N	N	NE	SW	N	NW	NE	NE	N	N	N	N	N	N	NW	NE	NE			
40	45	30	45	50	35	40	35	40	45	35	30	20	35	35	40	45	45	45	40	45	40	40	50	35			
DA	D	DA	DA	DA	DA	D	DA	D	D	DA	A	DA	DA	D	D	DA	DA	DA	AL	D	D	A	G	G			
Re	Re	Re	Re	Re	Re	Re	Re	Re	Re	Re	Re	Re	Re	Re	Re	Re	Re	Re	Re	Re	Re	Re	K	Ev			
5	10	10	10	5	20	10	30	10	20	20	20	50	20	5	5	10	15	20	5	20	20	30	20	0			
50	60	40	50	50	50	50	50	70	60	40	60	20	40	60	60	40	40	50	60	40	40	70	50	50			
10	10	10		2	5	5	10	10	10	10	10		10	5	5	5	5	5	5	5	5	20	10				
60	70	60	60	70	60	90	60	50	60	40	60	60	70	30	30	50	50	20	20	60	50	40	80	50			
80	80	90	80	80	70	80	70	70	80	80	80	50	80	90	90	80	80	70	90	80	80	70	80	90			
40	20	15	10	1	10	10	30	40	10	5	10	20	10	5	5	5	5	10	5	40	20	20	20	5			
44	62	70	75	78	74	56	75	54	53	87	78	79	48	95	115	90	88	75	66	67	82	78	83	57			
200	400	400	400	400	400	400	400	400	400	400	400	200	200	400	400	400	400	400	400	400	400	400	200	400			
9/28/2011	10/4/2011	7/22/2009	7/24/2009	7/12/2010	9/14/2010	10/4/2011	9/27/2011	9/18/2012	10/4/2011	8/2/2010	8/1/2012	7/6/2010	6/19/2012	8/18/2010	8/18/2010	8/12/2010	8/12/2010	8/12/2010	8/16/2010	9/13/2011	9/13/2011	9/25/2011	7/23/2002	8/6/2009			
Srednji Kotel	Votlo Sleme	Macesnovec	Vrtaski vrh	Ravenska kočna	Požgana Mlinarica	Votlo Sleme	Za Akom	Olševa	Votlo Sleme	Sleme	Razorje	Mirmik	Krma - Brda	Mala Peca	Mala Peca	Olševa	Olševa	Olševa	Veliki Javornik	Uršlja gora	Uršlja gora	Dolič - Krn- sko pogorje	Šoštar	Srednji vrh			
9548/2	9549/1	9549/3	9549/1	9653/1	9549/3	9549/1	9549/1	9554/1	9549/1	9548/3	9649/3	9749/1	9649/2	9554/2	9554/2	9554/1	9554/3	9554/3	9652/1	9555/2	9555/2	9647/4	9749/4	9551/3			
5146526	5147082	5140385	5146445	5136822	5141001	5146928	5146920	5145506	5147185	5145223	5133914	5125174	5138627	5149856	5149947	5145120	5145077	5145072	5137136	5149128	5149109	5129699	5121106	5143429	439474		
ID	ID	ID,AR	ID,AR	ID,AS	ID,AS	ID	ID	ID,AS	ID	ID	ID	ID	ID	ID,AS	ID,AS	ID,AS	ID,AS	ID,AS	ID,AS	ID,AS	ID,AS	ID	ID	ID,AR			
3	4	3	4	3	3	3	3	4	4	3	4	2	3	4	4	3	3	3	4	3	3	4	3	3	40	100	
1	1	+	+	.	1	1	1	1	1	1	1	.	2	+	+	+	+	+	+	+	.	.	+	+	31	78	
.	1	1	+	+	1	1	+	+	1	2	1	.	2	+	+	.	.	.	.	.	.	1	r	.	29	73
1	1	+	+	.	+	1	+	+	1	2	.	1	2	.	.	.	.	.	.	+	+	.	.	.	22	55
.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	+	.	.	.	.	.	.	.	.	9	23
3	3	4	3	4	4	3	2	4	3	3	2	4	3	+	+	+	+	+	+	+	+	+	+	+	38	95	
+	+	+	+	+	+	+	1	+	r	1	1	1	2	.	.	.	.	.	.	.	.	+	+	+	32	80
.	.	.	.	.	.	.	.	.	.	+	.	1	+	.	.	.	.	.	.	.	.	.	.	.	17	43
.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	8	20
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4	10
Pr.	Fr.																										

Number of relevé (Zaporedna številka popisa)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
Geographical differential species (Geografske razlikovalne vrste)																		
VP	<i>Homogyne sylvestris</i>	E1	1	.	1	+	+	+	+	.	.	r	.	+	.	.		
AT	<i>Paederota lutea</i>	E1	+	+	.	1	.	1	1	1	1	+	1	+	1	+		
AF	<i>Anemone trifolia</i>	E1	.	.	.	.	.	+	+	+	+	.	+	1	+	+	
ES	<i>Laserpitium peucedanoides</i>	E1	1	.	+	1	.	.	.	.	+	+	+	.	+	+
TR	<i>Astrantia carniolica</i>	E1	.	+	1	+	+	.	.	.	.	.	.	.	.	.
AT	<i>Campanula carnica</i>	E1	.	.	.	.	.	.	.	.	+	.	.	.	.	.
Differential species of lower units (Razlikovalne vrste nižjih enot)																		
BA	<i>Alnus viridis</i>	E2b	1	1	1	1	1	1	1	1	2	1	1	1	2	1	3	
BA	<i>Alnus viridis</i>	E2a	.	+	.	.	.	.	.	+	.	.	.	.	+	.	+
FS	<i>Luzula nivea</i>	E1	.	.	.	.	.	+	1	+	1	1	.	1	.	+	
MuA	<i>Stellaria nemorum</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
VP	Vaccinio-Piceetea																	
	<i>Vaccinium myrtillus</i>	E1	1	3	1	+	1	3	2	1	2	2	+	1	+	2	2	
	<i>Luzula sylvatica</i>	E1	1	1	1	+	1	1	1	1	1	1	+	+	.	+	1	
	<i>Vaccinium vitis-idaea</i>	E1	+	2	1	+	+	+	1	+	+	+	+	+	+	1	3	
	<i>Valeriana tripteris</i>	E1	1	1	+	.	+	1	1	1	1	1	+	.	1	1	+	
	<i>Polystichum lonchitis</i>	E1	+	1	+	1	+	+	+	+	+	1	+	+	.	+	.	
	<i>Oxalis acetosella</i>	E1	+	+	+	1	+	+	1	.	+	1	+	1	1	.	+	
	<i>Calamagrostis villosa</i>	E1	.	.	1	.	1	1	1	1	1	2	+	.	1	1	1	
	<i>Clematis alpina</i>	E1	+	1	+	+	+	1	2	1	1	1	1	1	1	1	r	
	<i>Dryopteris dilatata</i>	E1	+	+	.	.	.	+	+	+	+	+	r	.	.	+	.	
	<i>Rosa pendulina</i>	E2a	+	+	+	1	+	+	+	+	+	+	+	+	+	1	1	+
	<i>Homogyne alpina</i>	E1	+	+	.	.	+	1	1	+	+	+	.	+	+	1	+	
	<i>Picea abies</i>	E3b	r	r	.	.	.	+	.	.	+	+	+	+	.	.	.	
	<i>Picea abies</i>	E3a	.	+	+	+	.	.	+	.	.	.	.	+	r	.	.
	<i>Picea abies</i>	E2b	+	+	.	+	+	.	2	r	.	+	+	+	.	.	.	
	<i>Picea abies</i>	E2a	+	+	+	+	.	.	1	.	.	.	+	+	.	r	+	
	<i>Picea abies</i>	E1	.	+	+	.	+	+	.	.	.	+	+	.	.	.	.
	<i>Lycopodium annotinum</i>	E1	+	1	1	+	+	+	1	+	.	.	+	1	+	2	4	
	<i>Phegopteris connectilis</i>	E1	+	1	1	+	.	1	1	1	.	+	+	+	+	+	.	
	<i>Solidago virgaurea</i>	E1	1	1	+	1	+	+	+	1	+	1	+	+	+	+	.	
	<i>Gymnocarpium dryopteris</i>	E1	1	1	+	+	1	.	1	+	+	+	.	.	+	+	+	
	<i>Saxifraga cuneifolia</i>	E1	+	+	.	+	+	+	1	1	1	2	+	.	+	.	.	
	<i>Huperzia selago</i>	E1	+	+	+	+	+	+	.	+	+	+	+	+	+	.	.	
	<i>Melampyrum sylvaticum</i>	E1	+	+	+	1	+	.	+	.	.	+	+	.	.	.	.
	<i>Aposeris foetida</i>	E1	+	.	.	.	1	.	+	.	+	.	+	.	.	.	.
	<i>Hieracium murorum</i>	E1	.	+	.	.	+	+	+	+	+	+	+	+	.	.	.	
	<i>Lonicera caerulea</i>	E2a	.	+	.	.	.	.	.	+	+	r	+	+	r	+	1
	<i>Luzula luzuloides</i> subsp. <i>luzuloides</i>	E1	+	.	.	.	.	+	+	.	.	.	.	.	.	.	.
	<i>Veronica urticifolia</i>	E1	1	1	.	1	+	+	.	+	+	+	.	.	+	.	.	
	<i>Maianthemum bifolium</i>	E1	1	.	.	+	.	+	1	1	.	+	+	+	1	.	.	
	<i>Gentiana asclepiadea</i>	E1	+	+	+	+	+	+	.	.	+	.	+	+	.	.	.	
	<i>Lonicera nigra</i>	E2a	.	.	.	.	.	.	+	+	+	.	.	.	+	.	r
	<i>Dryopteris expansa</i>	E1	.	.	.	.	+	.	.	1	+	.	+	+	.	.	.
	<i>Calamagrostis arundinacea</i>	E1	2	3	.	.	.	.	+	.	.	.	+	+	.	.	.
	<i>Abies alba</i>	E3	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Abies alba</i>	E2b	.	.	.	.	.	.	.	.	.	r	.	+	.	.	.
	<i>Abies alba</i>	E2a	.	.	.	.	+	.	.	.	.	.	.	+	.	.	.
	<i>Abies alba</i>	E1	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.
	<i>Pyrola rotundifolia</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+

16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	Pr.	Fr.	
1	.	+	.	1	+	.	.	1	1	.	.	.	.	+	1	1	1	+	.	1	1	.	+	.	23	58
.	+	+	1	+	+	.	+	1	+	+	1	+	.	+	+	+	+	1	1	+	.	+	1	.	33	83	
1	1	.	+	.	1	1	1	.	1	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	17	43
+	.	+	.	+	+	.	+	.	.	+	+	+	.	16	40
.	.	.	.	+	5	13
.	+	.	2	5
3	3	2	2	2	1	1	2	1	2	1	1	1	1	1	1	3	3	1	2	4	3	2	4	3	40	100	
.	.	+	+	.	.	.	+	+	8	20
.	+	.	.	8	20
.	1	+	1	1	1	1	1	1	+	.	.	2	9	23
3	3	3	1	1	2	2	3	3	.	3	3	3	1	1	1	3	2	1	1	+	1	2	.	+	38	95	
1	1	1	+	1	+	1	1	+	2	1	1	.	1	2	2	1	1	1	3	2	2	2	.	1	37	93	
+	2	1	2	2	2	2	2	3	2	+	1	2	+	+	+	+	+	+	.	+	+	+	.	.	37	93	
1	1	1	1	+	+	1	1	+	1	1	1	+	+	+	+	+	1	1	+	+	1	1	+	.	37	93	
+	1	+	+	1	+	1	+	+	+	1	1	+	.	+	+	+	+	+	+	1	+	1	+	+	37	93	
1	1	1	1	1	+	1	1	1	.	+	.	1	.	1	1	1	1	1	1	1	1	1	1	+	.	34	85
3	3	1	1	1	1	2	3	1	3	1	1	1	.	2	1	1	1	2	1	.	1	1	.	1	33	83	
.	+	1	+	1	1	1	1	1	1	1	+	1	.	.	+	.	+	+	.	.	+	+	+	.	33	83	
+	+	+	1	+	+	+	1	.	+	+	+	+	.	1	+	1	2	1	1	+	+	1	+	1	32	80	
.	+	+	.	+	+	+	1	.	.	1	2	.	.	+	+	.	.	.	.	+	+	+	+	.	29	73
1	1	1	+	+	.	+	+	1	.	+	+	1	+	.	.	+	.	.	+	.	+	+	.	.	28	70	
.	.	.	.	.	r	.	+	.	.	.	.	.	.	+	+	.	+	.	+	+	.	.	r	+	16	40
+	.	.	.	.	.	+	.	1	+	.	r	.	.	1	+	+	+	.	.	+	+	+	r	.	19	48
.	.	.	.	+	+	+	+	1	+	+	.	1	.	+	+	.	.	.	1	+	+	+	+	.	24	60	
.	+	+	+	+	+	.	+	1	+	.	.	.	+	.	+	+	+	+	1	+	+	+	+	+	28	70	
.	+	7	18
1	2	1	1	1	+	+	1	1	2	.	1	2	1	.	.	.	.	.	.	.	+	+	.	.	28	70
1	+	.	+	+	+	+	+	+	+	+	.	1	.	.	.	.	.	.	1	.	1	.	+	+	27	68
.	.	+	+	.	+	.	1	.	.	+	1	+	.	.	.	+	.	.	.	.	.	+	+	+	25	63
+	.	.	+	.	+	.	+	1	.	.	+	+	.	+	.	+	+	.	+	.	+	.	.	.	24	60	
.	.	.	.	+	.	.	.	+	+	+	.	1	.	+	1	+	+	+	1	.	.	1	.	.	23	58	
.	+	.	+	+	.	.	+	.	+	.	+	+	+	.	.	.	.	.	+	.	+	.	.	.	22	55
.	.	+	+	+	.	.	.	+	.	+	+	+	.	+	+	+	+	+	.	.	+	.	.	.	21	53	
1	1	1	+	1	+	1	.	+	.	.	.	.	+	+	.	+	+	.	1	.	.	.	.	1	19	48
.	.	+	+	+	+	+	.	.	.	.	+	+	.	.	+	.	.	+	.	.	.	.	1	.	19	48
.	+	+	+	.	+	+	+	.	.	+	2	1	.	.	.	.	.	.	.	.	.	.	+	.	19	48
.	.	.	.	.	.	.	.	+	.	+	.	.	+	+	1	1	1	+	1	1	1	1	+	+	16	40
.	.	.	.	+	.	+	.	.	+	.	+	1	+	.	15	38
.	+	.	+	.	.	.	1	+	+	.	.	14	35
+	.	.	.	.	.	.	.	.	.	.	.	+	.	+	1	.	.	.	.	.	.	.	.	.	13	33
.	.	.	+	+	.	.	+	.	.	.	.	.	.	+	.	.	+	.	.	.	.	+	+	.	13	33
.	.	+	.	.	.	.	.	.	.	.	.	+	.	1	+	+	+	.	.	.	.	+	.	+	13	33
.	+	+	+	+	+	.	.	.	1	3	.	12	30
.	r	.	r	3	8
.	r	.	.	+	.	.	+	1	6	15
.	.	.	.	+	.	.	.	+	.	.	.	+	5	13
.	+	2	5
.	.	+	+	+	4	10

Number of relevé (Zaporedna številka popisa)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
	<i>Luzula luzulina</i>	E1	.	.	.	.	.	+	.	.	.	.	.	.	.	.
	<i>Luzula pilosa</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Moneses uniflora</i>	E1	.	.	.	.	.	.	.	+	.	.	.	.	.	.
	<i>Orthilia secunda</i>	E1	.	.	.	.	.	+	.	.	.	.	.	.	.	.
	<i>Pyrola minor</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	+
	<i>Ajuga pyramidalis</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Listera cordata</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Luzula luzuloides</i> subsp. <i>rubella</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Pyrola chlorantha</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	r	
EP	<i>Erico-Pinetea</i>																
	<i>Rubus saxatilis</i>	E1	1	1	1	1	1	+	+	1	1	2	+	+	+	.	+
	<i>Pinus mugo</i>	E2b	.	.	+	.	+	+	+	1	+	.	+	2	+	4	4
	<i>Calamagrostis varia</i>	E1	.	2	1	2	.	1	.	.	+	.	1	+	+	1	.
	<i>Erica carnea</i>	E1	.	.	2	.	.	.	.	.	.	+	1	.	+	+	.
	<i>Carex ornithopoda</i>	E1	.	.	.	.	.	.	.	.	.	.	+	.	.	.	+
	<i>Cirsium erisithales</i>	E1	+	.	.	+	.	.	.	.	+	+	+	.	.	.	.
	<i>Aquilegia nigricans</i>	E1	.	+	.	+	.	.	.	.	+	.	.	.	.	.	.
	<i>Juniperus alpina</i>	E2a	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.
	<i>Arctostaphylos uva-ursi</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.
	<i>Galium austriacum</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Molinia caerulea</i> subsp. <i>arundinacea</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
AF	<i>Aremonio-Fagion</i>																
	<i>Dentaria enneaphyllos</i>	E1	+	.	.	.	+	.	1	.	.	.	.	+	.	.	.
	<i>Knautia drymeia</i>	E1	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Helleborus niger</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Cardamine trifolia</i>	E1	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.
	<i>Cyclamen purpurascens</i>	E1	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Rhamnus fallax</i>	E2	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.
FS	<i>Fagetalia sylvaticae</i>																
	<i>Daphne mezereum</i>	E2a	r	.	+	.	+	.	.	.	.	+	+	.	.	.	r
	<i>Melica nutans</i>	E1	+	.	+	+	+	1	+	.	.	.	+	.	+	.	.
	<i>Galeobdolon flavidum</i>	E1	.	.	.	.	.	.	+	.	.	.	+	+	+	.	.
	<i>Lonicera alpigena</i>	E2a	.	1	+	+	.	.	+	+	.	.	1	.	.	.	.
	<i>Poa nemoralis</i>	E1	.	.	.	.	.	.	+	.	.	.	+	.	.	.	.
	<i>Mercurialis perennis</i>	E1	1	.	.	.	.	.	+	+	.	.	1	.	1	.	.
	<i>Paris quadrifolia</i>	E1	+	.	.	.	+	.	+	.	.	+	+	+	.	.	.
	<i>Dryopteris filix-mas</i>	E1	+	.	.	.	.	.	+	+	+	+	+	.	.	.	.
	<i>Prenanthes purpurea</i>	E1	+	+	+	.	.	+	+	.	.	.	.	.	.	+	+
	<i>Myosotis sylvatica</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Chrysosplenium alternifolium</i>	E1	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.
	<i>Fagus sylvatica</i>	E3b	.	.	.	.	.	.	.	.	.	.	+	.	r	.	.
	<i>Fagus sylvatica</i>	E3a	+	r	+	.	.	+	.	.	.	.	+	.	.	.	.
	<i>Fagus sylvatica</i>	E2b	+	.	.	.	r	.	.	.	.	.	.	.	r	.	.
	<i>Fagus sylvatica</i>	E2a	.	+	+	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Fagus sylvatica</i>	E1	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.
	<i>Lilium martagon</i>	E1	.	.	.	+	.	.	.	.	.	.	r	+	.	.	.
	<i>Epilobium montanum</i>	E1	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.
	<i>Acer pseudoplatanus</i>	E3a	.	+	.	.	.	.	.	.	.	.	+	.	.	.	.
	<i>Acer pseudoplatanus</i>	E2b	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.
	<i>Acer pseudoplatanus</i>	E2a	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.
	<i>Acer pseudoplatanus</i>	E1	.	.	+	+	.	.	.	+	.	.	.	.	.	.	.

16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	Pr.	Fr.	
.	.	.	+	+	3	8
.	.	.	+	.	.	.	+	+	3	8
.	+	2	5
.	.	.	+	2	5
.	.	+	2	5
.	+	1	3
.	+	1	3
.	+	1	3
.	1	3
+	.	1	.	1	+	+	1	1	+	1	2	1	.	+	1	+	+	+	+	1	1	1	+	+	36	90	
2	3	3	2	2	4	5	3	.	.	1	3	+	3	1	1	.	.	+	.	.	1	+	.	.	28	70	
+	.	.	.	+	2	+	+	+	+	+	+	.	.	+	+	.	.	.	.	+	.	.	.	.	21	53
.	+	.	.	2	3	3	2	4	+	.	1	.	.	.	+	.	.	.	.	.	.	.	+	.	15	38
.	+	+	+	+	+	+	+	.	.	9	23	
.	+	+	+	.	8	20	
.	.	1	.	+	.	.	.	.	.	+	.	.	.	.	+	.	.	.	.	.	.	.	.	.	7	18
.	+	.	+	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	4	10	
.	1	3	
.	+	1	3	
.	+	1	3	
.	.	+	+	1	.	+	.	.	.	1	+	+	.	+	+	+	+	+	.	.	.	.	.	.	16	40
+	.	+	+	+	.	+	.	.	+	1	+	.	.	+	+	+	+	.	.	.	.	.	.	.	13	33
.	.	.	.	+	+	.	.	+	1	+	.	.	+	1	.	.	.	.	7	18	
.	1	.	.	.	.	.	.	1	1	.	.	+	.	5	13	
.	.	.	.	+	+	3	8	
.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	5	
1	+	+	+	+	1	+	+	.	+	+	+	.	+	+	+	+	+	+	+	+	1	.	r	+	28	70	
.	.	+	+	+	+	+	+	+	+	1	.	+	.	+	+	.	+	.	.	.	.	.	.	.	21	53
.	.	.	+	+	+	1	.	.	+	.	+	.	.	+	+	+	.	.	+	+	.	+	.	+	17	43	
.	.	.	.	+	+	+	+	+	.	+	+	.	.	+	+	+	+	.	.	+	17	43	
.	+	.	+	.	+	+	+	.	.	.	+	+	+	+	+	+	.	+	+	+	16	40	
.	.	.	.	+	.	+	.	.	+	1	+	1	.	.	+	+	.	+	.	14	35	
.	.	.	.	+	+	+	.	+	1	+	+	.	.	.	.	.	+	.	14	35	
.	+	1	1	+	.	.	.	.	.	2	1	+	13	33	
.	.	.	.	+	.	.	1	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	10	25
.	+	+	+	+	+	+	+	.	.	+	9	23	
.	+	+	+	+	.	+	.	.	+	.	+	8	20	
.	+	3	8	
.	.	.	.	+	+	7	18	
.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	5	13	
.	+	3	8	
.	1	3	
.	.	+	.	+	+	+	7	18	
.	+	+	+	1	+	6	15
.	+	3	8	
.	+	.	+	3	8	
.	+	.	3	8	
.	+	+	5	13	

Number of relevé (Zaporedna številka popisa)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<i>Symphytum tuberosum</i>	E1	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.
<i>Polystichum aculeatum</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Actaea spicata</i>	E1	.	.	.	.	.	+	.	.	+	.	.	.	.	.	.
<i>Galium laevigatum</i>	E1	.	.	.	+	.	+	.	+	.	.	.	.	.	.	.
<i>Adoxa moschatellina</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Festuca heterophylla</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Aruncus dioicus</i>	E1	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.
<i>Campanula trachelium</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Euphorbia amygdaloides</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Laburnum alpinum</i>	E3a	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Laburnum alpinum</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Mycelis muralis</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Phyteuma spicatum</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Ranunculus lanuginosus</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
QP <i>Quercetalia pubescentis</i>																
<i>Sorbus aria</i>	E2a	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.
<i>Arabis turrata</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Convallaria majalis</i>	E1	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.
<i>Primula veris</i> subsp. <i>columnae</i>	E1	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.
QF <i>Quercio-Fagetea</i>																
<i>Hepatica nobilis</i>	E1	.	.	.	1	.	.	+	.	.	.	+	.	.	.	.
<i>Anemone nemorosa</i>	E1	1	+	.	1	.	.	+	.	.	.	.	.	.	.	.
<i>Carex digitata</i>	E1	.	.	.	.	+	+	.	.	.	.	+	.	.	.	.
<i>Dactylorhiza fuchsii</i>	E1	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.
<i>Galium sylvaticum</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Ranunculus auricomus</i> agg.	E1	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.
<i>Viola riviniana</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
QR <i>Betula pendula</i>	E3a	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
BA <i>Betulo carpaticae-Alnetea viridis</i>																
<i>Salix appendiculata</i>	E3a	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.
<i>Salix appendiculata</i>	E2b	1	1	+	+	+	.	.	.	+	2	1	+	1	+	.
<i>Salix appendiculata</i>	E2a	.	.	+	.	+	.	.	.	.	.	+	.	1	+	.
<i>Salix appendiculata</i>	E1	.	.	.	.	+	.	.	.	.	.	.	.	.	+	.
<i>Sorbus chamaemespilus</i>	E2	+	1	1	.	1	.	+	+	1	+	.	+	+	+	1
<i>Salix glabra</i>	E2	.	+	.	.	.	.	+	+	.	.	.	.	.	.	+
<i>Salix waldsteiniana</i>	E2a	.	.	+	.	.	.	.	.	.	.	.	.	.	.	+
<i>Ribes alpinum</i>	E2a	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.
SSC <i>Sambuco-Salicion capreae</i>																
<i>Sorbus aucuparia</i>	E3b	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.
<i>Sorbus aucuparia</i>	E3a	+	+	+	+	.	+	.	+	.	1	+	.	.	.	
<i>Sorbus aucuparia</i>	E2b	+	+	+	+	+	.	.	1	1	1	+	.	1	+	1
<i>Sorbus aucuparia</i>	E2a	.	.	.	.	.	.	+	.	+	.	.	+	+	+	+
<i>Sorbus aucuparia</i>	E1	.	+	.	+	.	.	+	+	.	+	.	.	.	.	+
<i>Rubus idaeus</i>	E2a	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.
<i>Fragaria vesca</i>	E1	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.
<i>Urtica dioica</i>	E1	.	.	.	.	.	.	.	+	+	+	.	.	.	.	.
<i>Galeopsis speciosa</i>	E1	r	.	.	.	.	.	.	+	.	.	.	.	.	.	.
MuA <i>Mulgedio-Aconitetea</i>																
<i>Viola biflora</i>	E1	+	+	1	1	1	1	1	1	+	1	1	1	1	+	+
<i>Geranium sylvaticum</i>	E1	+	+	+	.	+	.	+	+	+	1	.	+	+	+	+
<i>Polygonatum verticillatum</i>	E1	+	.	+	+	.	+	+	+	1	1	+	.	+	.	.

Number of relevé (Zaporedna številka popisa)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<i>Saxifraga rotundifolia</i>	E1	.	+	.	.	+	.	+	+	+	2	+	.	.	.
<i>Athyrium filix-femina</i>	E1	+	.	.	.	+	+	+	+	+	1	+	+	.	.
<i>Veratrum album s.lat.</i>	E1	+	1	.	+	.	.	.	+	+	.	1	1	.	+
<i>Chaerophyllum hirsutum</i>	E1	.	.	.	.	.	.	+	+	+	+	.	.	.	+
<i>Adenostyles alliariae</i>	E1	.	.	.	.	.	.	+	.	.	+	.	.	.	.
<i>Ranunculus platanifolius</i>	E1	.	+	.	+	+	.	.	+	+	.	+	r	1	.
<i>Aconitum lycoctonum</i> subsp. <i>ranunculifolium</i>	E1	.	.	.	+	+	.	.	+	1	+	+	+	.	.
<i>Geum rivale</i>	E1	.	+	.	.	.	.	.	+	+	+	.	.	.	.
<i>Hypericum maculatum</i>	E1	.	.	.	.	+	.	.	+	+	.	+	.	.	.
<i>Phyteuma ovatum</i>	E1	+	+	.	.	+	+	+	.	.	.	r	.	.	.
<i>Poa hybrida</i>	E1	.	.	.	.	+	.	.	.	.	.	.	.	.	.
<i>Senecio ovatus</i>	E1	+	.	.	.	.	.	.	.	.	.	+	.	.	.
<i>Senecio cacaliaster</i>	E1	+	.	.	.	.	.	.	+	.	.	.	+	.	.
<i>Thalictrum aquilegifolium</i>	E1	.	.	.	.	.	.	.	+	.	.	+	.	+	.
<i>Doronicum austriacum</i>	E1	.	.	.	.	.	.	.	.	.	+	.	.	.	.
<i>Primula elatior</i>	E1	.	.	.	.	.	.	.	.	.	+	.	.	.	.
<i>Rumex arifolius</i>	E1	.	.	.	.	.	.	.	.	+	.	.	.	.	.
<i>Aconitum angustifolium</i>	E1	.	.	.	.	.	.	.	.	+	.	.	+	.	.
<i>Alchemilla xanthochlora</i>	E1	.	.	.	.	+	.	.	+	.	.	+	.	.	.
<i>Crepis paludosa</i>	E1	+	.	.	.	.	.	+	.	.	.	.	.	.	.
<i>Aconitum tauricum</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Chaerophyllum villarsii</i>	E1	.	.	.	.	+	.	.	.	.	.	.	.	.	.
<i>Cortusa matthioli</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Epilobium alpestre</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Peucedanum ostruthium</i>	E1	.	.	.	.	.	.	.	1	.	.	.	.	.	.
<i>Alchemilla monticola</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Cicerbita alpina</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Heracleum montanum</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Knautia longifolia</i>	E1	.	.	.	.	.	.	.	.	+	.	.	.	.	.
<i>Milium effusum</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Pedicularis recutita</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Rumex alpinus</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Scrophularia scopolii</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Athyrium distentifolium</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ES <i>Elyno-Seslerietea</i>															
<i>Sesleria caerulea</i> subsp. <i>calcaria</i>	E1	2	+	2	3	1	2	2	1	1	1	2	1	.	+
<i>Aster bellidiastrum</i>	E1	1	.	+	1	+	1	+	.	+	+	+	+	+	.
<i>Heliosperma alpestre</i>	E1	+	+	+	.	+	+	+	.	+	.	.	.	.	+
<i>Astrantia bavarica</i>	E1	+	+	.	+	+	.	.	+	+	+	.	+	.	+
<i>Polygonum viviparum</i>	E1	.	.	+	1	+	.	+	.	.	1	+	+	+	.
<i>Carex ferruginea</i>	E1	.	.	+	.	1	.	.	.	.	.	.	.	.	.
<i>Phyteuma orbiculare</i>	E1	+	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Campanula witasekiana</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Festuca calva</i>	E1	.	.	.	.	.	+	.	+	+	.	+	+	+	.
<i>Galium anisophyllum</i>	E1	.	.	.	.	+	.	.	.	.	.	.	+	+	.
<i>Juncus monanthos</i>	E1	.	.	.	.	+	+	+	.	.	.	+	.	+	+
<i>Carex firma</i>	E1	.	.	+	.	.	+	.	.	.	.	.	.	.	+
<i>Bartsia alpina</i>	E1	.	.	.	.	.	.	+	.	.	.	+	+	.	.
<i>Betonica alopecuros</i>	E1	+	.	.	.	.	.	.	.	.	.	+	+	.	.
<i>Carex sempervirens</i>	E1	.	.	.	.	+	.	.	.	.	.	+	+	.	+
<i>Arctostaphylos alpinus</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	+

16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	Pr.	Fr.	
.	+	+	.	+	1	.	+	+	.	1	1	1	1	1	1	1	1	1	.	1	23	58	
+	+	.	+	.	+	.	+	.	.	1	+	1	.	.	1	+	+	+	1	+	23	58	
.	.	1	.	1	+	.	.	.	.	+	1	+	1	1	+	1	+	.	.	.	.	+	.	1	22	55	
.	1	.	.	.	.	.	.	.	+	+	.	.	.	2	1	1	+	+	1	1	+	+	.	1	18	45	
+	.	+	.	+	+	1	.	.	1	+	+	+	.	.	+	+	.	.	4	14	35	
.	.	.	.	+	.	+	+	+	+	.	+	14	35
.	.	+	1	.	.	.	.	.	+	+	+	.	.	.	.	1	.	.	13	33
.	1	1	1	1	+	1	+	+	.	.	+	13	33	
.	.	.	.	+	+	.	.	1	1	1	1	.	1	.	.	+	.	+	13	33	
.	.	+	+	+	+	.	.	.	+	11	28
.	+	+	1	2	1	+	.	+	+	+	.	1	11	28	
.	+	+	+	.	.	+	+	+	1	2	+	11	28	
.	+	.	.	2	2	1	1	+	.	.	.	.	.	.	.	9	23
.	+	+	+	+	+	+	9	23
.	1	+	+	+	+	.	.	.	.	.	+	.	7	18
.	1	+	.	+	.	+	.	.	+	.	1	7	18	
.	1	1	1	1	.	.	.	.	+	.	1	7	18	
.	+	+	.	4	10
.	+	4	10
.	.	.	.	+	+	4	10
.	r	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	8
.	+	1	1	.	.	.	.	3	8
.	+	+	.	+	3	8
.	2	2	.	.	.	.	.	.	.	.	.	.	3	8
.	+	1	3
.	+	1	3
.	+	.	1	3
.	1	3
.	+	1	3
.	1	3
.	1	3
.	1	3
.	1	3
.	1	3
.	1	3
1	1	+	1	+	.	+	1	+	+	1	.	.	3	.	+	.	+	+	.	1	1	.	1	.	31	78	
+	1	+	.	.	+	.	+	+	.	+	.	.	1	.	+	.	.	.	.	.	.	+	+	r	.	23	58
.	1	+	+	+	+	.	+	.	.	+	+	.	.	.	+	+	+	+	.	.	.	+	.	.	.	21	53
.	+	1	.	+	+	.	.	.	.	+	.	.	.	+	+	1	+	1	1	.	.	.	.	.	.	20	50
.	.	+	+	+	+	.	+	+	+	+	+	+	17	43
.	1	.	.	+	.	.	.	.	.	.	.	.	1	.	+	+	+	+	+	1	.	.	.	.	.	11	28
.	.	.	+	+	+	.	+	+	.	+	+	+	+	1	.	.	11	28
.	.	.	.	+	+	+	.	.	.	+	+	+	+	+	8	20
.	+	+	.	.	8	20
.	.	+	+	+	+	.	.	.	+	.	.	8	20
.	+	+	8	20
.	.	.	+	+	.	.	6	15
.	+	.	.	+	5	13
.	+	+	.	5	13
.	+	5	13
.	.	.	.	+	+	+	.	.	4	10

Number of relevé (Zaporedna številka popisa)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<i>Helianthemum alpestre</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Pedicularis rostrato-capitata</i>	E1	.	.	+	.	.	.	.	.	.	.	+	.	.	.	.
<i>Thymus praecox</i> subsp. <i>polytrichus</i>	E1	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.
<i>Arabis vochinensis</i>	E1	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.
<i>Dryas octopetala</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Hieracium villosum</i>	E1	r	.	.	.	.	.	.	.	.	.	+	.	.	.	.
<i>Koeleria eriostachya</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.
<i>Phleum hirsutum</i>	E1	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.
<i>Phleum rhaeticum</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Pulsatilla alpina</i> subsp. <i>australpina</i>	E1	.	.	.	.	.	.	.	.	+	.	+	.	.	.	.
<i>Scabiosa lucida</i> subsp. <i>lucida</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Hieracium pilosum</i>	E1	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.
<i>Pedicularis verticillata</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Polygala alpestris</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Primula wulfeniana</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Ranunculus carinthiacus</i>	E1	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.
<i>Ranunculus montanus</i> agg.	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Senecio abrotanifolius</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Sesleria sphaerocephala</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Achillea clavinae</i>	E1	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.
<i>Carduus crassifolius</i>	E1	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Carex mucronata</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Myosotis alpestris</i>	E1	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.
<i>Oxytropis neglecta</i>	E1	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.
<i>Scabiosa lucida</i> subsp. <i>stricta</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
FB Festuco-Brometea																
<i>Bromopsis transilvanica</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Carlina acaulis</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Linum catharticum</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Prunella grandiflora</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
JT Juncetea trifidi																
<i>Soldanella alpina</i>	E1	.	+	+	.	+	.	.	.	.	+	.	.	.	.	+
<i>Anthoxanthum odoratum</i> agg.	E1	+	.	.	.	+	.	1	+	+	.	.	+	.	.	.
<i>Gentiana pannonica</i>	E1	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Potentilla aurea</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Agrostis rupestris</i>	E1	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.
LV Vaccinium gaultherioides	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+
CU Calluno-Ulicetea																
<i>Coeloglossum viride</i>	E1	r	.	.	+	+	.	.	.	.	+	.	.	.	.	.
<i>Hieracium lachenalii</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Galium pumilum</i>	E1	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.
EA Epilobietea angustifolii																
<i>Chamaenerion angustifolium</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Epilobium collinum</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
TG Trifolio-Geranietea																
<i>Digitalis grandiflora</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Vicia sylvatica</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
PaT Poo alpinae-Trisetalia																
<i>Campanula scheuchzeri</i>	E1	+	+	+	.	+	1	+	+	+	+	1	+	+	+	+
<i>Poa alpina</i>	E1	.	.	.	.	+	+	.	+	.	+	+	+	.	.	+
<i>Trollius europaeus</i>	E1	.	.	.	.	+	.	.	+	.	.	.	+	+	.	.

16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	Pr.	Fr.	
.	.	.	+	+	.	.	+	.	+	4	10
.	.	.	+	+	.	.	.	4	10
.	+	+	+	4	10
.	+	+	3	8
.	.	.	+	+	.	.	+	3	8
.	r	.	3	8
.	r	.	.	.	.	.	.	+	.	3	8
.	+	+	.	.	3	8
.	+	+	+	3	8
.	+	3	8
.	+	+	.	.	.	+	3	8
.	+	2	5
.	+	+	2	5
.	.	.	+	+	2	5
.	+	+	2	5
.	+	2	5
+	+	2	5
.	.	.	+	+	2	5
.	.	.	+	+	2	5
.	1	3
.	1	3
.	+	1	3
.	1	3
.	1	3
.	+	1	3
.	r	.	1	3
.	+	1	3
.	+	1	3
.	1	3
.	1	3
.	1	3
.	1	+	.	.	.	.	.	.	.	.	.	.	.	.	+	+	18	45
.	.	+	+	+	+	+	.	+	.	.	+	.	+	+	15	38
.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	+	7	18

Number of relevé (Zaporedna številka popisa)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	<i>Ranunculus nemorosus</i>	E1	.	.	.	.	.	.	+	.	.	+	.	.	.	.
	<i>Festuca nigrescens</i>	E1	+	.	.	.	.	1	.	.	.	.	.	.	.	.
	<i>Cerastium fontanum</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Crepis aurea</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
MA	<i>Molinio-Arrhenetheretea</i>															
	<i>Deschampsia cespitosa</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Caltha palustris</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Dactylis glomerata</i> s.str.	E1	.	.	.	.	.	.	+	+	.	.	.	.	.	.
	<i>Lotus corniculatus</i> s. lat. (<i>L. alpinus</i>)	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Veronica chamaedrys</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Angelica sylvestris</i>	E1	r	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Astrantia major</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Cirsium eriophorum</i>	E1	.	.	.	.	.	r	.	.	.	.	.	.	.	.
	<i>Galium mollugo</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Leontodon hispidus</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Prunella vulgaris</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Taraxacum officinale</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Trifolium pratense</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SCf	<i>Scheuchzerio-Caricetea fuscae</i>															
	<i>Selaginella selaginoides</i>	E1	+	+	.	+	+	.	.	+	+	+	+	.	+	.
	<i>Parnassia palustris</i>	E1	+	+	1	+	+	.	+	+	.	.	.	.	+	.
	<i>Pinguicula alpina</i>	E1	.	.	.	+	.	.	.	.	.	.	+	+	.	.
	<i>Tofieldia calyculata</i>	E1	.	.	+	.	+	.	.	.	.	.	.	.	.	.
AC	<i>Arabidetalia caeruleae</i>															
	<i>Alchemilla fissa</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Carex capillaris</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Salix retusa</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Carex atrata</i>	E1	.	.	.	.	r	.	.	.	.	.	.	.	.	.
	<i>Homogyne discolor</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Saxifraga sedoides</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Veronica aphylla</i>	E1	.	.	.	+	.	.	.	.	.	.	.	.	.	.
TR	<i>Thlaspietea rotundifolii</i>															
	<i>Campanula cochlearifolia</i>	E1	+	+	+	1	+	.	+	.	.	.	.	.	.	.
	<i>Adenostyles glabra</i>	E1	1	1	1	2	+	.	1	+	+	1	+	+	.	.
	<i>Festuca nitida</i>	E1	+	+	+	+	+	+	.	+	+	.	+	.	.	.
	<i>Gymnocarpium robertianum</i>	E1	.	.	+	+	.	.	.	.	.	+	+	+	.	.
	<i>Dryopteris villarii</i>	E1	+	.	r	.	+	1	.	+	+	.	.	1	.	.
	<i>Cystopteris montana</i>	E1	.	.	.	.	.	.	.	.	.	.	.	+	.	+
	<i>Trisetum argenteum</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Arabis alpina</i>	E1	.	.	.	.	.	.	.	.	.	+	.	.	.	.
	<i>Biscutella laevigata</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	+	.
	<i>Alchemilla alpigena</i>	E1	.	.	.	.	.	.	.	+	.	+	+	.	.	.
	<i>Minuartia austriaca</i>	E1	.	.	.	.	.	+	.	.	.	.	.	.	.	.
	<i>Rhodiola rosea</i>	E1	.	.	.	.	.	.	.	+	+	.	.	.	.	.
	<i>Saxifraga aizoides</i>	E1	.	.	.	+	.	.	.	.	.	.	.	+	.	.
	<i>Molopospermum peloponnesiacum</i> subsp. <i>bauhinii</i>	E1	.	.	.	.	.	.	r	.	.	+	.	.	.	.
	<i>Campanula cespitosa</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Cerastium carinthiacum</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Festuca laxa</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Geranium macrorrhizum</i>	E1	.	.	.	.	.	.	.	.	.	+	.	.	.	.
	<i>Ligusticum seguieri</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Number of relevé (Zaporedna številka popisa)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
	<i>Poa minor</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Saxifraga caesia</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Scrophularia juratensis</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
AT	<i>Asplenietea trichomanis</i>																
	<i>Asplenium viride</i>	E1	1	+	+	+	+	1	1	1	1	1	+	+	+	+	
	<i>Cystopteris fragilis</i>	E1	.	+	.	+	.	+	+	1	+	+	+	+	+	.	
	<i>Heliosperma pusillum</i>	E1	.	.	.	.	+	.	+	.	+	+	.	+	.	.
	<i>Moehringia muscosa</i>	E1	+	.	.	.	.	+	.	.	.	.	+	.	.	.
	<i>Saxifraga crustata</i>	E1	.	.	.	.	.	.	.	.	+	+	+	+	.	.
	<i>Polypodium vulgare</i>	E1	.	.	.	.	.	.	+	+	.	+	.	.	.	.
	<i>Cerastium subtriflorum</i>	E1	.	.	.	.	+	.	+	+	+	+	.	.	.	.
	<i>Asplenium ruta-muraria</i>	E1	+	.	.	.	.	+	.	.	.	+	+	.	.	.
	<i>Asplenium trichomanes</i>	E1	.	.	.	.	.	.	.	+	.	+	.	.	.	.
	<i>Festuca stenantha</i>	E1	.	.	.	.	.	.	+	.	.	+	.	.	.	.
	<i>Hieracium bifidum</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Ranunculus alpestris</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Soldanella minima</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Cystopteris regia</i>	E1	.	.	.	.	+	.	.	.	.	.	r	.	.	.
	<i>Androsace lactea</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Ranunculus traunfellneri</i>	E1	.	.	.	.	.	.	.	.	.	.	.	+	.	.
	<i>Bupleurum petraeum</i>	E1	.	.	.	+	.	.	.	.	.	.	.	.	.	.
	<i>Campanula zoysii</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Festuca alpina</i>	E1	.	.	.	.	.	+	.	.	.	.	.	.	.	.
	<i>Hedysarum hedysaroides</i> subsp. <i>exaltatum</i>	E1	.	.	.	.	.	.	.	.	.	+	.	.	.	.
	<i>Hieracium caesium</i>	E1	.	.	.	.	.	.	.	.	.	.	.	+	.	.
	<i>Phyteuma sieberi</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Potentilla clusiana</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Valeriana elongata</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
O	Other species (Druge vrste)																
	<i>Alchemilla</i> sp.	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Hieracium</i> sp.	E1	.	.	.	.	.	.	+	.	.	.	.	.	.	.
	<i>Selaginella helvetica</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
ML	Mosses and lichens (Mahovi in lišaji)																
	<i>Rhytidiadelphus triquetrus</i>	E0	.	1	+	1	+	+	1	+	+	2	1	+	2	1	3
	<i>Tortella tortuosa</i>	E0	1	+	+	+	+	+	+	+	1	+	+	.	1	+	+
	<i>Dicranum scoparium</i>	E0	+	+	.	+	+	+	1	+	+	+	1	1	1	+	1
	<i>Ctenidium molluscum</i>	E0	+	1	.	+	.	+	1	+	1	.	+	1	.	1	+
	<i>Hylocomium splendens</i>	E0	.	+	+	1	1	+	+	+	1	2	1	1	1	+	1
	<i>Polytrichum formosum</i>	E0	+	+	.	.	+	2	+	1	+	+	+	+	+	+	.
	<i>Fissidens dubius</i>	E0	+	.	.	.	+	+	.	+	+	.	.	+	.	+	.
	<i>Peltigera leucophlebia</i>	E0	.	+	.	+	.	+	+	.	+	+	+	+	1	.	.
	<i>Orthothecium rufescens</i>	E0	+	.	.	+	+	+	.	+	.	.
	<i>Schistidium apocarpum</i>	E0	+	+	.	.	.	+
	<i>Plagiochila porelloides</i>	E0	+	.	.	.	+	+	.	.	.	+
	<i>Sphagnum</i> sp. (inc. * <i>S. quinquefarium</i>)	E0	.	1	+	1	.
	<i>Peltigera canina</i>	E0	+	+	+	+
	<i>Eurhynchium striatum</i>	E0	+	.	.	1
	<i>Plagiothecium undulatum</i>	E0	.	.	+	+	.
	<i>Bartramia halleriana</i>	E0	+	.	.	+	+	+	+
	<i>Rhytidiadelphus loreus</i>	E0	+
	<i>Cladonia pyxidata</i>	E0

16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	Pr.	Fr.	
.	.	+	1	3
.	.	.	+	1	3
.	r	1	3
+	+	+	+	+	+	+	1	+	+	+	+	+	.	+	1	+	+	+	+	+	1	1	1	.	37	93	
.	+	.	.	.	.	.	.	.	.	.	+	+	.	+	1	+	+	1	+	1	+	.	1	.	22	55
.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	+	.	+	+	.	.	.	12	30
.	.	.	+	+	+	+	.	+	.	.	.	.	.	.	+	+	.	.	.	.	.	.	.	.	10	25
.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	+	7	18
.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	+	+	6	15
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	5	13
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4	10
.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	4	10
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	3	8
.	.	.	.	.	.	.	.	.	.	+	.	+	.	.	.	.	.	+	.	.	.	.	.	.	3	8
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	+	+	.	.	.	3	8
.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	+	.	+	.	.	.	.	3	8
.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	8
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.	2	5
.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	2	5
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	3
.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	3
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	3
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	3
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	3
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	1	3
.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	3
.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	1	3
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4	10
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	3
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	1	3
3	1	1	2	.	+	+	1	2	1	+	1	2	1	1	+	1	+	1	+	2	2	.	1	.	36	90	
.	+	+	+	+	+	+	+	+	+	+	+	.	.	+	+	.	+	+	+	+	+	+	+	+	+	35	88
+	+	.	.	.	.	.	1	+	.	+	+	.	+	+	+	+	+	.	+	1	1	+	1	+	31	78
+	+	.	1	.	.	.	+	+	+	+	1	.	1	+	+	+	.	+	+	1	1	+	1	.	29	73	
+	1	1	1	.	+	+	2	2	.	.	.	1	+	+	.	.	.	1	+	1	2	.	.	.	29	73	
.	+	.	.	.	.	.	+	.	+	+	.	1	.	.	+	+	+	+	+	1	1	+	+	+	27	68
.	.	.	.	.	+	.	+	.	.	.	.	+	.	+	+	.	.	.	+	+	.	.	+	.	15	38
.	.	.	.	.	.	.	1	.	.	.	.	+	.	.	.	+	.	.	.	.	.	+	+	.	14	35
.	+	.	.	.	.	.	+	.	.	.	.	+	.	.	.	.	.	+	.	.	+	.	.	.	10	25
.	.	+	.	.	.	.	+	.	.	.	+	.	.	.	+	.	.	.	.	.	.	.	1	+	9	23
.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	+	.	.	+	.	8	20
+	.	.	.	.	.	.	+	1	.	.	.	+	+	.	.	.	.	.	.	.	.	.	.	.	8	20
.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	+	.	.	.	.	+	.	7	18
.	+	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	+	.	.	+	.	.	.	.	6	15
.	+	.	.	.	.	+	1	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	6	15
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	5	13
.	.	.	.	.	.	.	+	.	.	.	.	.	.	+	.	.	.	.	+	.	.	.	.	.	4	10
.	.	.	.	.	+	.	+	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	1	.	4	10

Number of relevé (Zaporedna številka popisa)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<i>Cladonia</i> sp.	E0	.	.	.	.	.	.	.	.	+	.	+	.	.	+	.
<i>Conocephalum conicum</i>	E0	.	.	.	.	.	.	.	.	.	+	+	.	+	.	.
<i>Mnium thomsonii</i>	E0	.	.	.	.	.	.	.	.	.	+	.	+	.	.	.
<i>Rhizomnium punctatum</i>	E0	.	.	.	.	.	.	+	.	.	+	+	.	.	.	.
<i>Cetraria islandica</i>	E0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Letharia vulpina</i>	E3a	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Isothecium alopecuroides</i>	E0	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Marchantia polymorpha</i>	E0	.	.	.	.	.	.	+	.	.	.	.	+	.	.	.
<i>Metzgeria furcata</i>	E0	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Metzgeria</i> sp.	E0	.	.	.	.	.	.	.	+	.	1	.	.	.	.	.
<i>Neckera crispa</i>	E0	.	.	.	+	.	.	.	.	.	.	+	.	.	.	.
<i>Plagiomnium undulatum</i>	E0	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.
<i>Plagiothecium sylvaticum</i>	E0	.	+	.	.	.	.	+	.	.	.	.	.	.	.	.
<i>Polytrichum commune</i>	E0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Musci</i> sp.	E0	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.
<i>Atrichum undulatum</i>	E0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Bryum capillare</i>	E0	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.
<i>Eurhynchium</i> sp.	E0	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.
<i>Homalothecium lutescens</i>	E0	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.
<i>Hypnum cupressiforme</i>	E0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Paraleucobryum sauteri</i>	E0	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Plagiochila asplenioides</i>	E0	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.
<i>Plagiopus oederi</i>	E0	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Plagiothecium</i> sp.	E0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Polytrichastrum formosum</i>	E0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1
<i>Pseudoleskeella catenulata</i>	E0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Sanionia uncinata</i>	E0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Solorina saccata</i>	E0	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.
* <i>Scapania aequiloba</i>	E0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
* <i>Eurhynchium angustirete</i>	E0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

*det. Andrej Martinčič

- A Limestone – apnenec
- D Dolomite – dolomit
- G Claystone – glinavec
- L Marlstone – laporovec
- Re Rendzina – rendzina
- K Brown calcareous soil – rjava pokarbonatna tla
- Ev Eutric brown soil – evtrična rjava tla
- ID Igor Dakskobler
- AR Andrej Rozman
- AS Andrej Seliškar

Maximum tree diameter: 15–110 cm

Maximum tree height: 12–20 m

Table 10 / Tabela 10: *Rhododendro hirsuti-Pinetum mugo typicum* var. *Alnus viridis* = *Rhodothamno-Pinetum mugo typicum* var. *Alnus viridis*

Number of relevé (Zaporedna številka popisa)		1	2	3	4	5	6	7	8	9	10									
Database number of relevé (Delovna številka popisa)		1720	202909	202950	1320	236576	1630	203054	1360	203016	1250	240911	1690	234458	1630	203014	1580	203055	1490	244318
Elevation in m (Nadmorska višina v m)		1720	202909	202950	1320	236576	1630	203054	1360	203016	1250	240911	1690	234458	1630	203014	1580	203055	1490	244318
Aspect (Lega)		NE	N	NW	NW	NE	NW	W	NW	N	N									
Slope in degrees (Nagib v stopinjah)		40	30	30	35	20	15	35	30	30	25									
Parent material (Matična podlaga)		A	DA	Gr	A	A	Gr	A	A	A	Gr									
Soil (Tla)		Li	Re	Re	Re	Re	Re	Re	Re	Re	Re									
Stoniness in % (Kamnitost v %)		10	10	0	10	60	10	29	30	20	10									
Cover of tree layer in % (Zastiranje drevesne plasti v %)	E3	.	.	.	.	.	5	.	10	5	5									
Cover of shrub layer in % (Zastiranje grmovne plasti v %):	E2	80	90	90	90	90	80	80	90	90	70									
Cover of herb layer in % (Zastiranje zeliščne plasti v %):	E1	60	60	90	40	50	70	60	50	50	90									
Cover of moss layer in % (Zastiranje mahovne plasti v %)	E0	20	10	5	10	30	50	20	10	5	40									
Number of species (Število vrst)		44	53	38	61	56	79	57	81	57	71									
Relevé area (Velikost popisne ploskve)	m ²	50	100	100	100	100	200	200	100	100	100									
Date of taking relevé (Datum popisa)		7/31/2003	8/13/2002	7/10/2010	8/11/2000	8/1/2001	8/30/2011	10/4/2004	8/7/2001	8/11/2000	8/8/2012									
Locality (Nahajališče)		Črna prst - Škrljije	Črna prst - Zovh	Krma - Debela peč	Šoštar	Četr	Beli potok	Bala - Prevala	Lisec	Šoštar	Poljane - pl. Laz									
Quadrant (Kvadrant)		9749/4	9749/4	9649/2	9749/4	9749/4	9549/1	9648/1	9749/4	9749/4	9648/4									
Coordinate GK Y (D-48)	m	417835	418360	418345	419167	416722	412732	397520	417715	418905	410040									
Coordinate GK X (D-48)	m	121587	121449	139550	121402	122054	146811	139965	122410	121413	131139									
Author of the relevé (Avtor popisa)	ID	ID	ID	ID	ID	ID	ID, AR	ID	ID	ID	ID	Pr.	Fr.							
Diagnostic species of the association (Diagnostične vrste asociacije)																				
EP	<i>Pinus mugo</i>	E2b	4	5	5	5	4	5	3	3	4	4	10	100						
EP	<i>Rhododendron hirsutum</i>	E2a	3	3	3	2	3	2	1	2	2	+	10	100						
ES	<i>Laserpitium peucedanoides</i>	E1	1	+	.	+	.	+	.	+	.	.	5	50						
EP	<i>Rhodothamnus chamaecistus</i>	E1	.	+	+	.	+	+	+	.	.	.	5	50						
Geographical differential species (Geografske razlikovalnice)																				
AT	<i>Paederota lutea</i>	E1	.	.	.	.	+	+	.	+	+	.	4	40						
AF	<i>Anemone trifolia</i>	E1	.	.	1	.	.	+	.	.	.	.	2	20						
Differential species of lower units (Razlikovalnice nižjih enot)																				
BA	<i>Alnus viridis</i>	E2b	1	1	1	1	1	1	4	2	1	1	10	100						
BA	<i>Alnus viridis</i>	E2a	.	.	+	.	.	.	.	.	.	.	1	10						
BA	<i>Alnus viridis</i>	E1	.	.	.	.	.	.	.	.	.	+	1	10						
EP	<i>Erico-Pinetea</i>																			
	<i>Rubus saxatilis</i>	E1	+	+	+	1	+	1	1	+	1	1	10	100						
	<i>Calamagrostis varia</i>	E1	.	+	+	.	.	+	.	.	.	.	3	30						

Number of relevé (Zaporedna številka popisa)		1	2	3	4	5	6	7	8	9	10	Pr.	Fr.	
	<i>Erica carnea</i>	E1	.	.	+	.	.	1	+	.	.	.	3	30
	<i>Juniperus sibirica</i>	E2a	.	.	.	+	+	r	.	.	.	.	3	30
	<i>Carex ornithopoda</i>	E1	.	.	.	.	.	.	+	r	.	+	3	30
	<i>Buphthalmum salicifolium</i>	E1	.	.	.	+	.	.	.	.	.	.	1	10
	<i>Cirsium erisithales</i>	E1	.	.	.	.	.	.	+	.	.	.	1	10
VP	Vaccinio-Piceetea													
	<i>Vaccinium myrtillus</i>	E1	2	3	3	1	2	2	1	.	+	1	9	90
	<i>Rosa pendulina</i>	E2a	1	+	1	1	+	+	+	1	1	.	9	90
	<i>Lonicera caerulea</i>	E2a	+	+	+	+	+	+	+	1	.	1	9	90
	<i>Vaccinium vitis-idaea</i>	E1	2	1	2	2	+	2	+	.	.	1	8	80
	<i>Clematis alpina</i>	E2a	1	+	+	+	1	1	+	+	.	.	8	80
	<i>Valeriana tripteris</i>	E1	+	+	.	+	+	+	+	1	1	.	8	80
	<i>Lycopodium annotinum</i>	E1	.	2	3	+	1	2	1	.	+	1	8	80
	<i>Calamagrostis villosa</i>	E1	+	1	+	+	1	.	2	.	.	+	7	70
	<i>Luzula sylvatica</i>	E1	.	+	+	+	.	1	+	.	+	+	7	70
	<i>Oxalis acetosella</i>	E1	.	+	.	1	.	1	+	+	+	+	7	70
	<i>Solidago virgaurea</i>	E1	.	+	+	+	.	.	+	1	+	+	7	70
	<i>Dryopteris dilatata</i>	E1	.	+	.	+	+	+	.	+	1	+	7	70
	<i>Homogyne alpina</i>	E1	+	1	+	1	.	1	.	.	.	+	6	60
	<i>Gymnocarpium dryopteris</i>	E1	+	+	.	.	1	+	1	+	.	.	6	60
	<i>Huperzia selago</i>	E1	+	+	+	.	+	.	+	.	.	1	6	60
	<i>Maianthemum bifolium</i>	E1	+	.	+	+	+	+	.	.	.	.	5	50
	<i>Polystichum lonchitis</i>	E1	.	.	.	.	+	+	+	+	r	.	5	50
	<i>Lonicera nigra</i>	E2a	.	.	.	+	1	+	+	.	.	.	4	40
	<i>Gentiana asclepiadea</i>	E1	.	.	.	.	1	.	1	+	+	.	4	40
	<i>Phegopteris connectilis</i>	E1	+	.	.	.	1	2	.	.	.	.	3	30
	<i>Homogyne sylvestris</i>	E1	+	.	.	.	.	1	.	+	.	.	3	30
	<i>Larix decidua</i>	E3a	.	.	.	.	.	1	.	.	+	.	2	20
	<i>Larix decidua</i>	E2b	.	.	+	r	.	+	.	.	.	.	3	30
	<i>Larix decidua</i>	E2a	.	.	+	.	.	.	.	.	.	.	1	10
	<i>Larix decidua</i>	E1	.	.	.	.	.	.	.	.	.	+	1	10
	<i>Picea abies</i>	E3a	.	.	.	.	.	+	.	.	.	r	2	20
	<i>Picea abies</i>	E2b	.	.	.	r	+	+	.	.	.	.	3	30
	<i>Picea abies</i>	E2a	.	.	.	.	+	.	.	+	.	.	2	20
	<i>Picea abies</i>	E1	.	.	.	.	.	+	.	.	.	+	2	20
	<i>Dryopteris expansa</i>	E1	.	.	.	1	.	.	1	.	1	.	3	30
	<i>Saxifraga cuneifolia</i>	E1	.	.	.	.	+	+	.	.	.	.	2	20
	<i>Luzula luzulina</i>	E1	.	.	.	+	.	.	.	.	.	.	1	10
	<i>Luzula luzuloides</i>	E1	.	.	.	+	.	.	.	.	.	.	1	10
	<i>Abies alba</i>	E2	.	.	.	.	+	.	.	.	.	.	1	10
	<i>Orthilia secunda</i>	E1	.	.	.	.	.	+	.	.	.	.	1	10
	<i>Pyrola rotundifolia</i>	E1	.	.	.	.	.	+	.	.	.	.	1	10
	<i>Calamagrostis arundinacea</i>	E1	.	.	.	.	.	.	.	1	.	.	1	10
	<i>Veronica urticifolia</i>	E1	.	.	.	.	.	.	.	+	.	.	1	10
	<i>Hieracium murorum</i>	E1	.	.	.	.	.	.	.	.	.	+	1	10
	<i>Melampyrum sylvaticum</i>	E1	.	.	.	.	.	.	.	.	.	+	1	10
	<i>Pyrola minor</i>	E1	.	.	.	.	.	.	.	.	.	+	1	10
AF	Aremonio-Fagion													
	<i>Cardamine enneaphyllos</i>	E1	.	+	1	.	1	+	.	+	.	+	6	60
	<i>Knautia drymeia</i>	E1	.	.	.	.	.	+	.	+	.	.	2	20
	<i>Cyclamen purpurascens</i>	E1	.	.	.	.	+	.	.	.	.	.	1	10
	<i>Cardamine trifolia</i>	E1	.	.	.	.	.	+	.	.	.	.	1	10
	<i>Helleborus niger</i>	E1	.	.	.	.	.	+	.	.	.	.	1	10
	<i>Rhamnus fallax</i>	E2a	.	.	.	.	.	+	.	.	.	.	1	10

Number of relevé (Zaporedna številka popisa)		1	2	3	4	5	6	7	8	9	10	Pr.	Fr.
FS	Fagetalia sylvaticae												
	<i>Prenanthes purpurea</i>	E1	.	.	+	.	+	+	.	.	+	.	4 40
	<i>Galeobdolon flavidum</i>	E1	.	.	.	+	.	+	1	+	.	.	4 40
	<i>Melica nutans</i>	E1	.	.	.	.	+	1	+	1	.	.	4 40
	<i>Paris quadrifolia</i>	E1	.	.	.	.	+	+	+	+	.	.	4 40
	<i>Lilium martagon</i>	E1	.	+	.	.	.	.	.	+	+	.	3 30
	<i>Epilobium montanum</i>	E1	.	.	.	+	.	.	+	.	r	.	3 30
	<i>Daphne mezereum</i>	E2a	.	.	.	.	.	+	+	.	r	.	3 30
	<i>Mercurialis perennis</i>	E1	.	.	.	.	.	+	1	+	.	.	3 30
	<i>Chrysosplenium alternifolium</i>	E1	.	.	.	+	.	.	+	.	.	.	2 20
	<i>Acer pseudoplatanus</i>	E2	.	.	.	.	.	+	.	+	.	.	2 20
	<i>Dryopteris filix-mas</i>	E1	.	.	.	.	.	.	+	+	.	.	2 20
	<i>Galium laevigatum</i>	E1	.	.	.	.	.	.	.	+	+	.	2 20
	<i>Symphytum tuberosum</i>	E1	.	.	.	+	.	.	.	.	.	.	1 10
	<i>Fagus sylvatica</i>	E2b	.	.	.	.	+	.	.	.	.	.	1 10
	<i>Lonicera alpigena</i>	E2a	.	.	.	.	+	.	.	.	.	.	1 10
	<i>Cypripedium calceolus</i>	E1	.	.	.	.	.	r	.	.	.	.	1 10
	<i>Adoxa moschatellina</i>	E1	.	.	.	.	.	.	+	.	.	.	1 10
	<i>Actaea spicata</i>	E1	.	.	.	.	.	.	.	+	.	.	1 10
	<i>Scrophularia nodosa</i>	E1	.	.	.	.	.	.	.	+	.	.	1 10
	<i>Polystichum aculeatum</i>	E1	.	.	.	.	.	.	.	+	.	.	1 10
QF	Quercu-Fagetea												
	<i>Anemone nemorosa</i>	E1	.	.	.	+	+	.	.	1	1	+	5 50
	<i>Hepatica nobilis</i>	E1	.	.	.	.	+	.	.	.	.	.	1 10
	<i>Convallaria majalis</i>	E1	.	.	.	.	+	.	.	.	.	.	1 10
	<i>Sorbus aria</i>	E2a	.	.	.	.	.	+	.	.	.	.	1 10
	<i>Sorbus aria</i>	E2b	.	.	.	.	.	+	.	.	.	.	1 10
BA	Betulo carpaticae-Alnetea viridis												
	<i>Salix appendiculata</i>	E2b	+	+	+	1	1	.	1	1	1	.	8 80
	<i>Salix appendiculata</i>	E2a	.	.	.	1	1	+	.	.	.	+	4 40
	<i>Salix glabra</i>	E2	+	+	+	+	+	+	.	+	+	.	8 80
	<i>Salix waldsteiniana</i>	E2a	+	2	+	+	.	+	+	.	1	1	8 80
	<i>Sorbus chamaemespilus</i>	E2	+	+	+	1	1	+	1	.	1	.	8 80
SSC	Sambuco-Salicion capreae												
	<i>Sorbus aucuparia</i>	E3a	.	.	.	.	.	+	.	1	.	.	2 20
	<i>Sorbus aucuparia</i>	E2	+	.	+	1	.	1	2	+	1	+	8 80
	<i>Sorbus aucuparia</i>	E1	.	.	.	.	.	.	.	.	.	+	1 10
	<i>Rubus idaeus</i>	E2a	.	.	.	1	.	.	1	.	1	.	3 30
	<i>Hypericum hirsutum</i>	E1	.	.	.	.	.	.	.	+	.	.	1 10
MuA	Mulgedio-Aconitetea												
	<i>Viola biflora</i>	E1	1	1	.	1	.	1	1	.	1	1	7 70
	<i>Veratrum album</i>	E1	+	+	.	+	1	.	.	1	1	1	7 70
	<i>Geranium sylvaticum</i>	E1	.	+	.	+	.	+	.	+	+	.	5 50
	<i>Polygonatum verticillatum</i>	E1	.	+	.	+	+	.	.	+	1	.	5 50
	<i>Ranunculus platanifolius</i>	E1	.	r	.	+	+	.	+	.	+	.	5 50
	<i>Athyrium filix-femina</i>	E1	.	.	.	.	+	+	1	1	1	.	5 50
	<i>Adenostyles alliariae</i>	E1	.	+	.	+	.	.	.	+	1	.	4 40
	<i>Hypericum maculatum</i>	E1	.	.	.	+	.	.	.	.	+	.	2 20
	<i>Saxifraga rotundifolia</i>	E1	.	.	.	.	.	.	1	.	1	.	2 20
	<i>Senecio cacaliaster</i>	E1	.	.	.	.	.	.	.	1	1	.	2 20
	<i>Carduus personata</i>	E1	.	.	.	.	.	.	.	+	+	.	2 20
	<i>Chaerophyllum villarsii</i>	E1	+	+	.	2 20
	<i>Cicerbita alpina</i>	E1	r	1	.	2 20
	<i>Doronicum austriacum</i>	E1	+	1	.	2 20

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	<i>Heracleum sphondylium</i> subsp. <i>montanum</i>	E1	+	+	.	2	20
	<i>Aconitum lycoctonum</i> subsp. <i>ranunculifolium</i>	E1	+	+	.	2	20
	<i>Allium victorialis</i>	E1	.	+	.	.	.	.	.	.	.	1	10
	<i>Phyteuma ovatum</i>	E1	.	+	.	.	.	.	.	.	.	1	10
	<i>Crepis pyrenaica</i>	E1	.	.	.	.	.	.	+	.	.	1	10
	<i>Eryngium alpinum</i>	E1	.	.	.	.	.	.	r	.	.	1	10
	<i>Lathyrus occidentalis</i> var. <i>montanus</i>	E1	.	.	.	.	.	.	+	.	.	1	10
	<i>Myrrhis odorata</i>	E1	.	.	.	.	.	.	+	.	.	1	10
	<i>Poa hybrida</i>	E1	.	.	.	.	.	.	+	.	.	1	10
	<i>Thalictrum aquilegiifolium</i>	E1	.	.	.	.	.	.	+	.	.	1	10
	<i>Stellaria nemorum</i>	E1	.	.	.	.	.	.	.	1	.	1	10
	<i>Crepis paludosa</i>	E1	.	.	.	.	.	.	.	1	.	1	10
	<i>Geum rivale</i>	E1	.	.	.	.	.	.	.	1	.	1	10
	<i>Epilobium alpestre</i>	E1	.	.	.	.	.	.	.	+	.	1	10
ES	<i>Elyno-Seslerietea</i>												
	<i>Sesleria caerulea</i> subsp. <i>calcaria</i>	E1	1	+	.	1	.	.	+	.	1	5	50
	<i>Astrantia bavarica</i>	E1	+	+	.	+	.	.	r	.	+	5	50
	<i>Carex ferruginea</i>	E1	.	+	.	.	.	.	+	.	+	3	30
	<i>Campanula witasekiana</i>	E1	.	.	+	.	.	.	+	+	.	3	30
	<i>Heliosperma alpestre</i>	E1	.	.	.	+	.	.	+	.	1	3	30
	<i>Aster bellidiastrum</i>	E1	.	.	.	.	.	+	+	.	+	3	30
	<i>Juncus monanthos</i>	E1	.	+	.	.	.	.	.	.	+	2	20
	<i>Carduus crassifolius</i>	E1	.	.	.	+	.	.	+	.	.	2	20
	<i>Koeleria eriostachya</i>	E1	.	.	.	+	.	.	.	.	+	2	20
	<i>Anemone narcissiflora</i>	E1	+	.	.	.	.	.	.	.	.	1	10
	<i>Hieracium villosum</i>	E1	+	.	.	.	.	.	.	.	.	1	10
	<i>Linum julicum</i>	E1	+	.	.	.	.	.	.	.	.	1	10
	<i>Helianthemum alpestre</i>	E1	.	.	+	.	.	.	.	.	.	1	10
	<i>Festuca calva</i>	E1	.	.	.	.	.	.	+	.	.	1	10
	<i>Helianthemum nummularium</i> subsp. <i>grandiflorum</i>	E1	.	.	.	.	.	.	+	.	.	1	10
	<i>Betonica alopecuros</i>	E1	.	.	.	.	.	.	+	.	.	1	10
	<i>Pulsatilla alpina</i>	E1	.	.	.	.	.	.	r	.	.	1	10
	<i>Serratula tinctoria</i> subsp. <i>macrocephala</i>	E1	.	.	.	.	.	.	+	.	.	1	10
	<i>Agrostis alpina</i>	E1	.	.	.	.	.	.	.	.	+	1	10
	<i>Bartsia alpina</i>	E1	.	.	.	.	.	.	.	.	+	1	10
	<i>Carex firma</i>	E1	.	.	.	.	.	.	.	.	+	1	10
	<i>Carex sempervirens</i>	E1	.	.	.	.	.	.	.	.	+	1	10
	<i>Dryas octopetala</i>	E1	.	.	.	.	.	.	.	.	+	1	10
	<i>Polygonum viviparum</i>	E1	.	.	.	.	.	.	.	.	+	1	10
	<i>Salix alpina</i>	E1	.	.	.	.	.	.	.	.	+	1	10
JT	<i>Juncetea trifidi</i>												
	<i>Soldanella alpina</i>	E1	.	+	.	.	.	.	.	.	+	2	20
	<i>Anthoxanthum odoratum</i> agg.	E1	.	.	.	+	.	.	+	.	.	2	20
	<i>Agrostis rupestris</i>	E1	.	.	.	.	.	.	.	.	+	1	10
	<i>Gentiana pannonica</i>	E1	.	.	.	.	.	.	.	.	+	1	10
	<i>Potentilla aurea</i>	E1	.	.	.	.	.	.	.	.	+	1	10
LV	<i>Loiseleurio-Vaccinietea</i>												
	<i>Empetrum hermaphroditum</i>	E1	+	.	+	.	.	.	.	.	2	3	30
	<i>Arctostaphylos alpinus</i>	E1	.	+	.	.	.	.	.	.	2	2	20
	<i>Vaccinium gaultherioides</i>	E1	.	.	.	.	.	.	.	.	3	1	10
SCf	<i>Scheuchzerio-Caricetea fuscae</i>												
	<i>Parnassia palustris</i>	E1	+	+	.	+	.	.	r	+	+	6	60
	<i>Pinguicula alpina</i>	E1	+	+	.	.	+	3	30
	<i>Selaginella selaginoides</i>	E1	+	+	.	.	1	3	30

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CU	<i>Tofieldia calyculata</i>	E1	+	1	10	
	Calluno-Ulicetea													
	<i>Potentilla erecta</i>	E1	+	.	.	.	+	2	20	
PaT	<i>Hieracium lachenalii</i>	E1	.	.	.	.	.	.	.	.	+	1	10
	Poo alpinae-Trisetalia													
	<i>Campanula scheuchzeri</i>	E1	+	+	.	+	+	.	+	+	+	7	70	
	<i>Poa alpina</i>	E1	.	.	.	+	.	.	.	.	+	2	20
	<i>Trollius europaeus</i>	E1	.	.	.	+	.	.	.	.	+	2	20
	<i>Festuca nigrescens</i>	E1	+	.	+	2	20
MA	<i>Cerastium fontanum</i>	E1	.	.	.	.	.	.	.	r	.	1	10
	Molinio-Arrhenatheretea													
	<i>Galium album</i>	E1	.	.	.	+	.	.	.	.	.	1	10
	<i>Deschampsia cespitosa</i>	E1	.	.	.	.	.	.	+	.	.	1	10
	<i>Angelica sylvestris</i>	E1	.	.	.	.	.	.	.	+	.	1	10
AC	<i>Dactylis glomerata s.str.</i>	E1	.	.	.	.	.	.	.	+	.	1	10
	Arabidetalia caeruleae													
	<i>Salix retusa</i>	E1	.	.	.	.	.	.	.	.	1	1	10
	<i>Carex atrata</i>	E1	.	.	.	.	.	.	.	.	1	1	10
TR	<i>Carex capillaris</i>	E1	.	.	.	.	.	.	.	.	1	1	10
	<i>Homogyne discolor</i>	E1	.	.	.	.	.	.	.	.	+	1	10
	Thlaspietea rotundifolii													
	<i>Festuca nitida</i>	E1	.	.	.	+	.	+	+	.	+	5	50	
	<i>Adenostyles glabra</i>	E1	.	.	.	.	+	+	.	1	.	3	30
	<i>Gymnocarpium robertianum</i>	E1	.	.	+	.	.	+	.	.	.	2	20	
	<i>Dryopteris villarii</i>	E1	.	.	.	.	+	.	.	.	.	1	10
	<i>Astrantia carniolica</i>	E1	.	.	.	.	.	+	.	.	.	1	10
	<i>Cystopteris montana</i>	E1	.	.	.	.	.	+	.	.	.	1	10
	<i>Rhodiola rosea</i>	E1	.	.	.	.	.	.	.	.	+	1	10
AT	Asplenietea trichomanis													
	<i>Asplenium viride</i>	E1	.	+	.	.	1	+	1	+	.	+	6	60
	<i>Valeriana saxatilis</i>	E1	+	+	.	.	.	+	.	.	.	3	30	
	<i>Cystopteris fragilis</i>	E1	.	.	.	.	.	.	+	1	.	2	20
	<i>Saxifraga crustata</i>	E1	+	.	.	.	.	.	.	.	.	1	10
	<i>Campanula zoysii</i>	E1	.	.	.	.	.	r	.	.	.	1	10
	<i>Heliosperma pusillum</i>	E1	.	.	.	.	.	+	.	.	.	1	10
	<i>Moehringia muscosa</i>	E1	.	.	.	.	.	.	+	.	.	1	10
O	Other species (Druge vrste)													
	<i>Cirsium sp.</i>	E1	.	.	.	.	.	+	.	.	.	1	10
	<i>Carduus sp.</i>	E1	.	.	.	.	.	+	.	.	.	1	10
	<i>Alchemilla sp.</i>	E1	.	.	.	.	.	.	.	.	+	1	10
ML	Mosses and lichens (Mahovi in lišaji)													
	<i>Rhytidiadelphus triquetrus</i>	E0	.	1	+	1	1	2	+	.	1	1	8	80
	<i>Tortella tortuosa</i>	E0	+	+	+	.	+	.	+	1	.	+	7	70
	<i>Hylocomium splendens</i>	E0	+	.	1	+	.	2	+	.	.	1	6	60
	<i>Dicranum scoparium</i>	E0	.	+	1	1	1	1	5	50
	<i>Orthothecium rufescens</i>	E0	+	+	.	.	+	+	4	40
	<i>Polytrichum formosum</i>	E0	+	.	.	.	1	+	1	.	.	.	4	40
	<i>Rhytidiadelphus loreus</i>	E0	.	+	.	+	.	.	+	+	.	.	4	40
	<i>Sphagnum sp.</i>	E0	+	.	1	.	.	2	3	30
	<i>Ctenidium molluscum</i>	E0	+	.	+	1	.	.	3	30
	<i>Rhizomnium punctatum</i>	E0	.	+	+	.	.	.	2	20
	<i>Peltigera leucophlebia</i>	E0	.	.	+	.	.	+	2	20
	<i>Schistidium apocarpum</i>	E0	+	.	+	.	.	.	2	20
	<i>Dicranum sp.</i>	E0	+	1	10

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<i>Mnium thomsonii</i>	E0	.	+	1	10
<i>Bazzania trilobata</i>	E0	+	1	10
<i>Fissidens dubius</i>	E0	+	1	10
<i>Plagiochila asplenoides</i>	E0	.	.	.	.	.	+	.	.	.	1	10
<i>Plagiothecium undulatum</i>	E0	.	.	.	.	.	+	.	.	.	1	10
<i>Cladonia</i> sp.	E0	.	.	.	.	.	.	.	+	.	1	10
<i>Polytrichum commune</i>	E0	.	.	.	.	.	.	.	.	1	1	10
<i>Sanionia uncinata</i>	E0	.	.	.	.	.	.	.	.	1	1	10
<i>Cetraria islandica</i>	E0	.	.	.	.	.	.	.	.	1	1	10
<i>Musci</i> sp.	E0	.	.	.	.	.	.	.	.	+	1	10

- A Limestone – apnenec
D Dolomite – dolomit
G Claystone – glinavec
Gr Gravel – pobočni grušč
Re Rendzina – rendzina
Li Lithosol – kamnišče
ID Igor Dakskobler
AR Andrej Rozman