

Phytosociological analysis of montane-subalpine dwarf willow shrub communities in the Julian Alps and on the Trnovski gozd plateau (NW and W Slovenia)

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Key words: phytosociology, synsystematics, *Elyno-Seslerietea*, *Rhododendro hirsuti-Ericetea carnea*, *Betulo carpaticae-Alnetea viridis*, Julian Alps, Dinaric Alps, Trnovski Gozd Plateau, Snežnik Mts., Slovenia.

Ključne besede: fitocenologija, sinsistematika, *Elyno-Seslerietea*, *Rhododendro hirsuti-Ericetea carnea*, *Betulo carpaticae-Alnetea viridis*, Julijske Alpe, Dinarsko gorstvo, Trnovski gozd, Snežniško pogorje, Slovenija.

Abstract

By means of a phytosociological analysis of 72 relevés of montane-subalpine shrub communities with dominating *Rhododendron hirsutum*, *Salix waldsteiniana*, *S. glabra* and *S. appendiculata* from the Julian Alps and the Trnovski Gozd Plateau and by comparing them with similar communities elsewhere in the Alps and the Dinaric Alps we described a new association *Laserpitio peucedanoidis-Salicetum waldsteinianae*, a new subassociation *Rhododendretum hirsuti vaccinietosum myrtilli*, two new subassociations of the association *Dryado-Rhodothamnetum chamaecisti* that had recently been described in the Dolomites (*-caricetosum firmae*, *-salicetosum waldsteinianae*), as well as a new association *Heliospermo pusillae-Rhododendretum hirsuti*. We classified the glabrous willow community in the study area into a new association *Homogyno sylvestris-Salicetum glabrae* and proposed a new name – *Rhododendro hirsuti-Salicetum appendiculatae* for the large-leaved willow community, which we subdivided into two geographical variants: var. geogr. *Paederota lutea* (Julian Alps, Trnovski Gozd Plateau) and var. geogr. *Hypericum grisebachii* (Liburnian Karst).

Izveček

S fitocenološko analizo 72 popisov gorsko-subalpskih grmišč s prevladujočimi vrstami *Rhododendron hirsutum*, *Salix waldsteiniana*, *S. glabra* in *S. appendiculata* v Julijskih Alpah in Trnovskem gozdu in primerjavo s podobnimi združbami drugod v Alpah in v Dinarskem gorstvu smo opisali novo asociacijo *Laserpitio peucedanoidis-Salicetum waldsteinianae*, novo subasociacijo *Rhododendretum hirsuti vaccinietosum myrtilli* in dve novi subasociaciji asociacije *Dryado-Rhodothamnetum chamaecisti*, ki so jo nedavno opisali v Dolomitih (*-caricetosum firmae*, *-salicetosum waldsteinianae*), v Trnovskem gozdu pa novo asociacijo *Heliospermo pusillae-Rhododendretum hirsuti*. Združbo gole vrbe v raziskanem območju uvrščamo v novo asociacijo *Homogyno sylvestris-Salicetum glabrae*, za združbo velikolistne vrbe pa predlagamo novo ime *Rhododendro hirsuti-Salicetum appendiculatae* in jo členimo v dve geografski varianti: var. geogr. *Paederota lutea* (Julijske Alpe, Trnovski gozd) in var. geogr. *Hypericum grisebachii* (Liburnijski kras).

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Introduction

Until recently, communities of hairy alpenrose (*Rhododendron hirsutum*) and Waldstein willow (*Salix waldsteiniana*) in the Julian Alps were studied mainly by Zupančič & Žagar (2001) and Surina (2005a), while the role of large-leaved willow (*Salix appendiculata*) was indirectly discussed in descriptions of communities with dominating *Alnus viridis* (Dakskobler et al. 2013a), *Rhamnus fallax* (Dakskobler et al. 2013b) and *Sorbus aucuparia* (Dakskobler 2016). Subalpine shrub communities with dominating *Juniperus alpina* and *Rhododendron hirsutum* in the Southeastern Alps (Poldini et al. 2004) and in the northwestern part of the Dinaric Alps (Surina 2013), on the other hand, have been thoroughly studied. The studied communities usually overgrow specific sites (shady slopes with persistent snow cover, stony depressions, gullies, hollows and limestone pavements). Very often they are long-term successional stages on screes or rockfalls. Compared to the dominating forms of shrub vegetation in the subalpine belt of the Southeastern Alps (dwarf pine, green alder stands) they do not overgrow large areas, but their ecological role is similar and important, both in terms of their protective and biotope function. Over the last 15 years we have collected a lot of relevé material. We arranged the collected relevés into a phytosociological table, mutually compared them and classified the established communities into a syntaxonomic system.

Methods

Subalpine shrub communities in the Julian Alps and on the Trnovski Gozd Plateau were studied applying the Braun-Blanquet method (Braun-Blanquet 1964). A total of 72 relevés (12 of which had already been published – 11 relevés by Surina 2005a and one by T. Wraber 1980) were entered into the FloVegSi database (Fauna, Flora, Vegetation and Paleovegetation of Slovenia) of the Jovan Hadži Institute of Biology at SRC SASA (Seliškar et al. 2003). The phytosociological relevés were arranged into a working table based on hierarchical classification. We transformed the combined cover-abundance values with numerical values (1–9) according to van der Maarel (1979). Numerical comparisons were performed with the SYN-TAX 2000 program package (Podani 2001). The relevés were compared by means of “(unweighted) average linkage method” – UPGMA, using Wishart’s similarity ratio.

In the first step we used the numerical analyses as the basis on which we formed floristically homogeneous groups of relevés that were subsequently compared, using the same methodology, with similar communities in the Eastern Alps and the Dinaric Alps, also using hierarchical

classification and the same method as when we compared individual relevés.

The nomenclature source for the names of vascular plants are the Mala flora Slovenije (Martinčič et al. 2007) and Flora alpina (Aeschimann et al. 2004a,b), and for mosses Martinčič (2003, 2011). Suppan et al. (2000) is the nomenclature source for the names of lichenicolous fungi (lichens). Only the most frequent taxa were determined for mosses and lichens, some only to the rank of genus. For the names of syntaxa we follow Grabherr et al. (1993), Theurillat (2004), Karner (2007a), Šilc & Čarni (2012), E. Pignatti & S. Pignatti (2014) and Mucina et al. (2016). In the classification of species into phytosociological groups (groups of diagnostic species) we mainly refer to the Flora alpina (Aeschimann et al. 2004a,b). The geographic coordinates of relevés are determined according to the Slovenian geographic coordinate system D 48 (5th zone) on the Bessel ellipsoid and with Gauss-Krüger projection.

Most of the relevés discussed in this article were made in the Julian Alps and on the Trnovski Gozd Plateau (Dinaric Alps). The geological bedrock in the study area is mainly calcareous, limestone, dolomite limestone or dolomite (Buser 2009). The studied communities occur on initial soils (lithosols) or rendzina with raw or moder humus (Lovrenčak 1998, Vidic et al. 2015). The climate is montane, humid, with mean annual precipitation of (2,000) 2,500 to 3,000 mm (Zupančič 1998) and mean annual air temperature of (-1) 0 to +2 °C (Cegnar 1998). As the studied communities overgrow mainly shady slopes and hollows their stands are frequently covered with snow for several months.

Results and discussion

Review of the syntaxa, with types of newly described communities

Elyno-Seslerietea Br.-Bl. 1948

Seslerietalia coeruleae Br.-Bl. in Br.-Bl. et Jenny 1926

Caricion firmae Gams 1936

Dryado-Rhodothamnetum chamaecisti E. Pignatti,

Pignatti et Gerdol in E. Pignatti et Pignatti 2014

- *caricetosum firmae* subass. nov. hoc loco, the nomenclature type, *holotypus*, is relevé 8 in Table 1.

- *salicetosum waldsteinianae* subass. nov., the nomenclature type, *holotypus*, is relevé 16 in Table 1

Rhododendro hirsuti-Ericetea carnea Schubert et al. 2001

Rhododendro hirsuti-Ericetalia carnea Grabherr, Greimler et Mucina 1993

Ericion carnea Rübél ex Grabherr, Greimler et

Mucina 1993

Rhodothamno chamaecisti-Juniperetum alpini Pol-dini, Oriolo et Francescato 2004

Rhododendro hirsuti-Juniperetum alpinae Horvat ex Horvat et al. 1974

Rhododendretum hirsuti Lüdi 1921 *vaccinietosum myrtilli* subass. nov., the nomenclature type, *holotypus*, is relevé 27 in Table 1

Heliospermo pusillae-Rhododendretum hirsuti ass. nov. hoc loco, the nomenclature type, *holotypus*, is relevé 2 in Table 4

Homogyno sylvestris-Salicetum glabrae ass. nov. hoc loco, the nomenclature type, *holotypus*, is relevé 7 in Table 4

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

Alnetalia viridis Rübél ex Huml et al. 1979

Alnion viridis Schnyder 1930

Aceri-Salicetum appendiculatae Oberdorfer 1957

Salicetum waldsteinianae Beger ex Oberdorfer 1978

Salicetum glabrae Smettan ex Eggensberger 1994

Laserpitio peucedanoidis-Salicetum waldsteinianae Zupančič et Žagar ex Dakskobler et Surina ass. nov. hoc loco, the nomenclature type, *lectotypus*, is relevé 7 in Table 1 (Zupančič & Žagar 2001), syn.: *Salicetum waldsteinianae* Beger corr. Zupančič et Žagar 2001 var. geogr. *Homogyne sylvestris* Zupančič et Žagar 2001

- *typicum*, the nomenclature type is the same as the nomenclature type of the association

- *saxifragetosum rotundifoliae* subass. nov. hoc loco., the nomenclature type, *holotypus*, is relevé 2 in Table 2

Laserpitio peucedanoidis-Salicetum waldsteinianae var. geogr. *Hypericum grisebachii* T. Wraber in Dakskobler et Surina prov. (*Hyperico grisebachii-Salicetum waldsteinianae* T. Wraber in Dakskobler et Surina prov.)

Scabioso cinerei-Salicetum waldsteinianae Lakušič et al. 1979 ex Dakskobler et Surina ass. nov. = *Salicetum waldsteinianae* (Pawl. et Lakušič 1966) Lakušič et al. 1979 nom. inv., the nomenclature type, *lectotypus* hoc loco, is relevé 5 in Table 25 (Lakušič et al. 1979).

The association *Salicetum waldsteinianae* (Pawl. et Lakušič 1966) Lakušič et al. 1979 was invalidly published, violating the principles of ICPN (Weber et al. 2000) in several articles (e.g. Art. 5, 10, 15–18, 46). *Rhododendro hirsuti-Salicetum appendiculatae* Horvat ex Horvat, Glavač et Ellenberg 1974, nom. nov. prop., the nomenclature type, *neotypus* hoc loco, is relevé 18 in Table 4

- var. geogr. *Paederota lutea*

- var. geogr. *Hypericum grisebachii*

Subalpine dwarf shrubs with dominating *Rhododendron hirsutum* and *Rhodothamnus chamaecistus*

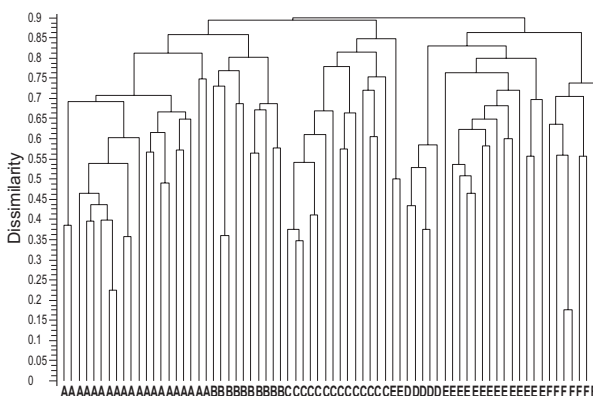


Figure 1: Dendrogram of relevés of montane-subalpine dwarf shrubs with dominant *Rhododendron hirsutum* and *Salix* spp. in the Julian Alps and the Trnovski Gozd Plateau (A – *Dryado-Rhodothamnetum*, B – *Rhododendretum hirsuti vaccinietosum myrtilli*, C – *Laserpitio peucedanoidis-Salicetum waldsteinianae*, D – *Heliospermo pusillae-Rhododendretum hirsuti*, E – *Rhododendro hirsuti-Salicetum appendiculatae*, F – *Homogyno sylvestris-Salicetum glabrae*) – UPGMA, 1 – similarity ratio.

Slika 1: Dendrogram popisov gorsko-subalpinskih grmišč s prevladujočimi vrstami *Rhododendron hirsutum* in *Salix* spp. (A – *Dryado-Rhodothamnetum*, B – *Rhododendretum hirsuti vaccinietosum myrtilli*, C – *Laserpitio peucedanoidis-Salicetum waldsteinianae*, D – *Heliospermo pusillae-Rhododendretum hirsuti*, E – *Rhododendro hirsuti-Salicetum appendiculatae*, F – *Homogyno sylvestris-Salicetum glabrae*) – UPGMA, komplement Wishartovega koeficienta podobnosti.

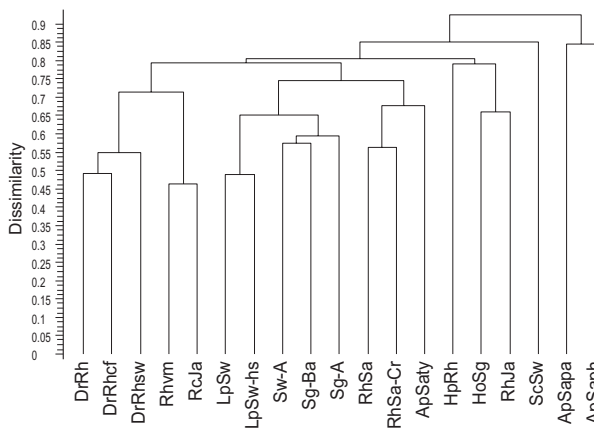


Figure 2: Dendrogram of syntaxa with dominant *Rhododendron hirsutum*, *Salix* spp. and (or) *Juniperus alpina* in the Alps and the Dinaric Alps (UPGMA, 1 – similarity ratio).

Slika 2: Dendrogram sintaksonov s prevladujočimi vrstami *Rhododendron hirsutum*, *Salix* spp. in (ali) *Juniperus alpina* v Alpah in Dinarskem gorstvu (UPGMA, komplement Wishartovega koeficienta podobnosti).

Legend to Figure 2:

- DrRh *Dryado-Rhododendrum chamaecisti*, the Dolomites (E. Pignatti & S. Pignatti, 2016, Association Table 11.3)
- DrRh_f *Dryado-Rhododendrum chamaecisti caricetosum firmae*, this article
- DrRh_{sw} *Dryado-Rhododendrum chamaecisti salicetosum waldsteinianae*, this article
- Rh_{vm} *Rhododendrum hirsuti vaccinetosum myrtilli*, this article
- Rc_{Ja} *Rhododendrum chamaecisti-Juniperetum alpini* (Poldini et al. 2004, Table 4)
- Lp_{Sw} *Laserpitio peucedanoidis-Salicetum waldsteinianae*, this article
- Lp_{Sw}-_{hs} *Salicetum waldsteinianae* var. geogr. *Homogyno sylvestris* = *Laserpitio peucedanoidis-Salicetum waldsteinianae*, the Julian Alps, the Karavanke (Zupančič & Žagar 2001, Table 1)
- Sw-A *Salicetum waldsteinianae*, Austria (Karner 2007b, Table 10, Column 7)
- Sg-Ba *Salicetum glabrae*, NE Alps (Eggensberger, 1994, Table 27, Columns 27–33)
- Sg-A *Salix glabra*-community (prov.), Austria (Karner 2007b, Table 10, Column 8)
- Rh_{Sa} *Rhododendro hirsuti-Salicetum appendiculatae*, this article
- Rh_{Sa}-_{Cr} *Salicetum appendiculatae* (= *Rhododendro hirsuti-Salicetum appendiculatae*), Croatia (Horvat et al., 1974, Table 135, Column 4)
- Ap_{Saty} *Aceri-Salicetum appendiculatae typicum*, Austria (Karner 2007b, Table 10, Column 6)
- Hp_{Rh} *Heliospermo pusillae-Rhododendrum hirsuti*, this article
- Ho_{Sg} *Homogyno sylvestris-Salicetum glabrae*, this article
- Rh_{Ja} *Rhododendro hirsuti-Juniperetum alpinae*, the Dinaric Alps (Surina 2013, Table 2)
- Sc_{Sw} *Scabioso cinerei-Salicetum waldsteinianae*, Bosnia and Herzegovina (Lakušić et al. 1979, Table 25)
- Ap_{Sapa} *Aceri-Salicetum appendiculatae petasitetosum albi*, Austria (Karner 2007b, Table 10, Column 5)
- Ap_{Saph} *Aceri-Salicetum appendiculatae petasitetosum hybridi*, Austria (Karner 2007b, Table 10, Column 4)

The relevés from the working table roughly grouped into three large clusters, the left additionally into two subclusters and the right into three (Figure 1). The first group of relevés comprises dwarf shrub stands with dominating *Rhododendron hirsutum* and *Rhodothamnus chamaecistus*, in places also *Salix waldsteiniana*. These relevés were arranged in Table 1. They grouped into a larger

and a smaller cluster and those from the large cluster additionally into two subclusters. The stands in relevés from the larger cluster (relevés 1–20 in Table 1) occur on gentle to very steep (5°–40°) shady stony slopes (northern, northwestern, northeastern, only in one relevé on a southeastern aspect), at elevations between 1,440 and 2,100 m. They remain snow-covered for a large part of the year. The parent material is limestone, dolomite, even talus; the soil is initial, lithosol or shallow rendzina with moder humus. The composition by groups of diagnostic species is shown in Table 6, Columns 2 and 3. Species of subalpine-alpine grasslands from the class *Elyno-Seslerietea* occur alongside the dominating dwarf shrubs, *Rhododendron hirsutum* and *Rhodothamnus chamaecistus*. So far (Surina 2005a, Table 25), similar stands have been classified into the association *Rhododendrum hirsuti* Lüdi 1921, taking into account its description in Grabherr et al. (1993: 436–437). Our synthetic table (Table 5) comprises also the species composition of the association *Dryado-Rhododendrum chamaecisti*, which was described as new by Erika and Sandro Pignatti (2014: 455–457; 2016, Association Table 11.3, pages 319–320 and 428). Comparison of montane and subalpine-alpine shrub and hairy alpenrose communities from the Alps and the Dinaric Alps (Figure 2) showed that our relevés from the first, large cluster group with the relevés from the Dolomites and that their mutual similarity, despite certain different species distributed in a very limited area (endemics), is sufficient for us to classify them into the same association. The Pignattis classified it into the alliance *Caricion firmae* and identified it as a permanent stage without prospects for further succession. In terms of species composition its stands are connective with dwarf pine communities (*Rhododendro hirsuti-Pinetum mugo*, *Rhodothamnus-Pinetum mugo*) at their lower range boundary and with subalpine-alpine grasslands from the alliances *Caricion firmae* and (or) *Caricion austroalpinae* at their upper range boundary. The only character species mentioned by Pignattis are *Rhodothamnus chamaecistus* and *Dryas octopetala*, although *Rhododendron hirsutum* occurs with equal frequency and mean coverage. They also listed two subunits, but did not typify or classify them into a hierarchical system. The relevés of the first subunit grow at higher elevations between 1,600 and 2,000 m, and its differential species are from the order *Seslerietalia*: *Sesleria caerulea*, *Carex firma*, *Aster bellidiflorus*, *Biscutella laevigata* and *Bartsia alpina*. In the second group they listed relevés from the elevation of around 1,500 m which demonstrate higher species diversity and comprise several more acidophilous species of open coniferous forests. According to them, this subunit is characterised by *Juniperus alpina*, *Homogyne alpina*,

Rubus saxatilis, *Senecio abrotanifolius* and *Larix decidua*. We determined the following diagnostic species for the association *Dryado-Rhodothamnetum chamaecisti* in the Julian Alps: *Rhodothamnus chamaecistus*, *Rhododendron hirsutum*, *Selaginella selaginoides*, *Valeriana saxatilis*, *Dryas octopetala*, *Pedicularis rostratocapitata*, *Tofieldia calyculata*, *Homogyne discolor*, *Saxifraga aizoides*, *Pinguicula alpina* and *Salix retusa*. These species are good indicators of environmental conditions – stony shady slopes in the subalpine and lower alpine belt with initial soils. Localities of the stands of the association *Dryado-Rhodothamnetum* in Slovenia are indicated in Figure 3.

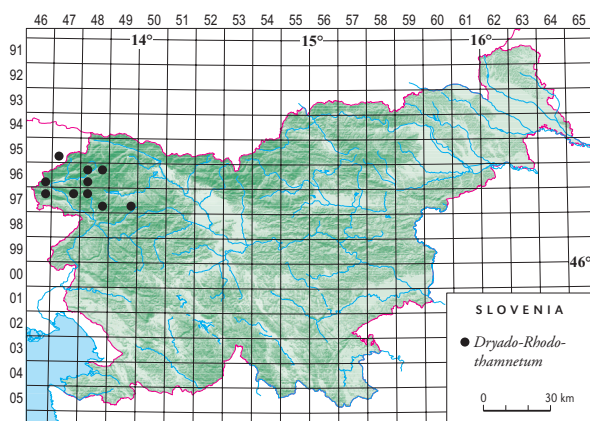


Figure 3: Localities of the stands of the association *Dryado-Rhodothamnetum* in Slovenia.

Slika 3: Nahajališča sestojev asociacije *Dryado-Rhodothamnetum* v Sloveniji.

We described two subassociations. The stands of the subassociation *-caricetosum firmae* (relevés 1 to 11 in Table 1) partly correspond to the first subunit mentioned by Erika and Sandro Pignatti (2014: 456). The differential species are *Carex firma*, *Sesleria sphaerocephala* and *Phyteuma sieberi*. The stands of this subassociation are the most similar to the original description of the association *Dryado-Rhodothamnetum* and demonstrate a similarity and contact with stony grasslands from the alliance *Caricion firmae*. Most of them were made at elevations above 1,800 m. The second subassociation (relevés 12 to 20 in Table 1) was named *-salicetosum waldsteinianae* and its differential species are *Salix waldsteiniana*, *Ranunculus carinthiacus*, *Anemone narcissiflora*, *Carex atrata* and *Viola biflora*. They differentiate the group of relevés that partly resemble the second subunit mentioned by Erika and Sandro Pignatti (ibid.). They are distributed mainly in the subalpine belt (1,600 to 1,800 m), on slightly deeper and acidified soils. Although they comprise a higher proportion of diagnostic species of classes *Betulo-Alnetea*, *Mulgedio-Aconitetea* and *Vaccinio-Piceetea* (Column 3 in Table 6), they are still

dominated by species of the class *Elyno-Seslerietea* and their entire species composition still allows for them to be classified into the association *Dryado-Rhodothamnetum*, which is corroborated also by Figure 2.

The group of relevés with dominating *Rhododendron hirsutum* in which *Rhodothamnus chamaecistus* occurs only sporadically and with low mean coverage (relevés 21 to 30 in Table 1), cannot be classified into this association (see also Figure 2). *Salix waldsteiniana* is particularly abundant in some of the relevés, although these stands did not group with the stands classified into its community. Species of classes *Vaccinio-Piceetea*, *Betulo-Alnetea* and *Mulgedio-Aconitetea* (Column 4 in Table 6) already dominate in terms of proportions. These relevés were made on steep shady slopes in the elevation belt spanning 1,600 to 2,000 m. Ecological conditions are similar to those in the previously described community, but soil conditions are different (deeper, most and acidified soil, moder rendzina) and allow for progressive development towards a willow community.

The entire species composition of these relevés, which are transitional between the relevés of the stands of association *Dryado-Rhodothamnetum* and relevés of the stands of association *Salicetum waldsteinianae* s. lat., indicates that they are the most similar to the stands of association *Rhodothamno-Juniperetum alpini* that was described by Poldini et al. (2004) for the Carnic Alps. Its diagnostic species are *Juniperus alpina* (*J. sibirica*), *Rhododendron hirsutum*, *Sorbus chamaemespilus*, *Rhodothamnus chamaecistus*, *Vaccinium myrtillus*, *V. vitis-idaea* and *Homogyne alpina*. They overgrow heavily karstified subalpine plateaus. All diagnostic species of this association occur also in the studied stands, but the species that gave the community its name, *Juniperus alpina* and *Rhodothamnus chamaecistus*, occur with a significantly lower frequency and substantially lower mean coverage. The question is whether our relevés, despite established floristic similarity, can be classified into the community named after Alpine (dwarf) juniper (*Juniperus alpina*) if this species does not have an edifying role in them. This role unquestionably belongs to *Rhododendron hirsutum* and (partly) *Salix waldsteiniana*. Ecological conditions are also slightly different. Our relevés occur on shady slopes, even talus and rarely on karstified plateaus. If we take into account the composition of the upper stand layer we should, for now, opt for classification into the association *Rhododendretum hirsuti* (as described by Grabherr et al. 1993), new subassociation *-vaccinietosum myrtilli*. Its differential species are *Vaccinium myrtillus*, *Luzula sylvatica*, *Salix waldsteiniana*, *Rosa pendulina*, *Sorbus chamaemespilus*, *Campanula scheuchzeri*, *Viola biflora* and *Festuca nigrescens*. We also differentiate the variant with *Empetrum hermaphroditum*

(its differential species include the taxon *Rhododendron × intermedium*) on promontories or ridges with raw humus. Localities of the stands of the subassociation *Rhododendretum hirsuti vaccinietosum myrtilli* in Slovenia are indicated in Figure 4.

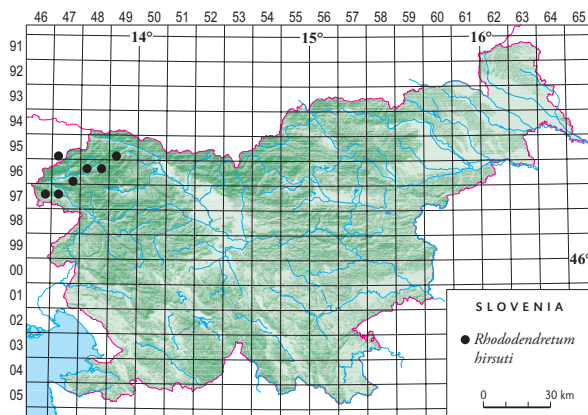


Figure 4: Localities of the stands of the subassociation *Rhododendretum hirsuti vaccinietosum myrtilli* in Slovenia.

Slika 4: Nahajališča sestojev sintaksona *Rhododendretum hirsuti vaccinietosum myrtilli* v Sloveniji.

Ass. *Salicetum waldsteinianae* s. lat. in the Slovenian Alps and the Snežnik Mts.

Most of the relevés in the central relevé cluster in the initial working table (Figure 1) are classified into the association *Salicetum waldsteinianae* s. lat. They demonstrate a similarity with two of our relevés in which, however, the uppermost stand layer is dominated by *Salix appendiculata*, so they are classified into the association *Rhododendro hirsuti-Salicetum appendiculatae* (Chapter 3.6). So far, the relevés of the association *Salicetum waldsteinianae* in the Slovenian Alps have been published by T. Wraber (1980), Zupančič & Žagar (2001) and Surina (2005a, Table 28). These authors classified them into the geographical variant *Salicetum waldsteinianae* var. geogr. *Homogyne sylvestris*, which was determined in detail by Zupančič & Žagar (ibid.). Despite similarities in their sites the relevés from the Southeastern Alps comprise numerous species that are absent from the stands of this association elsewhere in the Alps (in Austria, northern Italy). Waldstein willow stands in the Slovenian Alps are syndynamically related with stands of the association *Saxifrago aizoidis-Caricetum ferrugineae*, which might be a southeastern-Alpine form of the “macroassociation” *Caricetum ferruginae* s. lat., so it is reasonable to change the current rank of the geographical variant *Homogyne sylvestris* to the rank of a new asso-

ciation. This is supported also by the comparison whose results are shown in Figure 2. Table 2 comprises 14 relevés of this association from the Julian Alps. Diagnostic species of the new association are *Salix waldsteiniana*, *Laserpitium peucedanoides*, *Carex ferruginea*, *Astrantia bavarica*, *Salix glabra*, *Rhodiola rosea*, *Selaginella selaginoides*, *Aconitum angustifolium*, *Homogyne sylvestris*, *Rhodothamnus chamaecistus*, *Pulsatilla alpina* subsp. *australpina* and *Hedysarum hedysaroides*. In terms of ecology the listed species characterise the new association both as a shrub community on shady stony slopes in the subalpine belt (between 1,300 and 1,900 m a.s.l.) with a persistent snow cover and as a southeastern-Alpine community. We named it *Laserpitio peucedanoidis-Salicetum waldsteinianae*, after a frequent species of subalpine grasslands and open altimontane-subalpine forests of this area, *Laserpitium peucedanoides*. We distinguish between two subassociations. Relevés 1 to 5 in Table 2 are classified into the subassociation *-saxifragetosum rotundifoliae*. Its differential species are *Saxifraga rotundifolia*, *Primula elatior*, *Poa alpina* and *Phleum rhaeticum*. They characterise a mesophilous, mature form of the studied community on fresh rendzinas. For now, we group the other relevés into two variants within the typical subassociation (*-typicum*). The variant with *Sorbus chamaemespilus* indicates mixed shrub communities with sporadic occurrence of *Alnus viridis* that demonstrate a certain similarity with the stands of the association *Rhododendro hirsuti-Alnetum viridis*. The stands of the variant with *Hedysarum hedysaroides* indicate the initial form of the studied community on very shallow soils and are syndynamically related to the stands of the association *Saxifrago aizoidis-Caricetum ferrugineae*. Localities of the stands of the association *Laserpitio peucedanoidis-Salicetum waldsteinianae* in Slovenia are indicated in Figure 5.

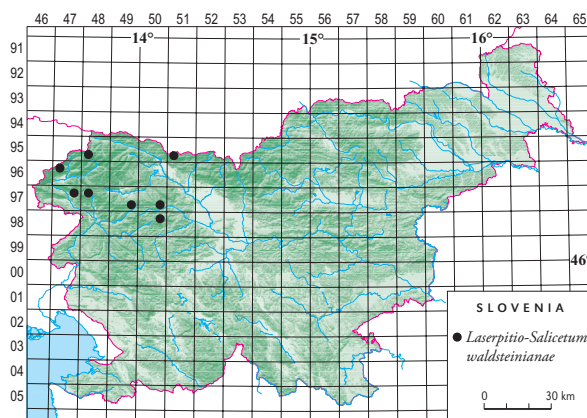


Figure 5: Localities of the stands of the association *Laserpitio-Salicetum waldsteinianae* in northwestern Slovenia.

Slika 5: Nahajališča sestojev asociacije *Laserpitio-Salicetum waldsteinianae* v severozahodni Sloveniji.

Stands of the association *Salicetum waldsteinianae* s. lat. were studied on Mt. Snežnik (NW Dinaric Alps, Liburnian Karst) as well, namely by late Tone Wraber (1997, 2000) who, unfortunately, passed away before he published the relevés. In his manuscript, which is kept in Wraber's library at the Botanical Garden of the University of Ljubljana, we found four relevés arranged herein in Table 3. Comparative analyses of similarities (Sørensen's similarity index, 1948) between stands from the Julian Alps (relevés in Table 2) and Mt. Snežnik demonstrated a similarity of 40% (and a 36% similarity for the relevés from Table 2 and additional ones published by Zupančič and Žagar, 2001), which did not justify the classification of the stands from Mt. Snežnik into the association *Laserpitio-Salicetum waldsteinianae*. The ecology of the stands from Mt. Snežnik is somewhat different, and this is reflected in their species composition: they host a significantly lower number of species from subalpine-alpine grasslands

and they are frequently syndynamically related with the stands from the associations *Hyperico grisebachii-Caricetum ferrugineae*, *Doronicum austriaci-Adenostyletum alliariae* (Surina 2005b) and *Hyperico grisebachii-Pinetum mugo* (Zupančič et al. 2004). *Hypericum richeri* subsp. *grisebachii* appeared to be a good differential species for the stands from Mt. Snežnik. On the other hand, 61 out of 66 species recorded in the stands dominated by *Salix waldsteiniana* from Mt. Snežnik (Wraber, mscr.) occur in stands of the association *Laserpitio-Salicetum waldsteinianae* in the South-Eastern Alps as well (Appendix 1). The stands from Mt. Snežnik can therefore provisionally be classified either into the new geographical variant *Laserpitio peucedanoidis-Salicetum waldsteinianae* var. geogr. *Hypericum grisebachii* or into the new association *Hyperico grisebachii-Salicetum waldsteinianae*. However, we would need more relevés for a proper description and typification of the new association.

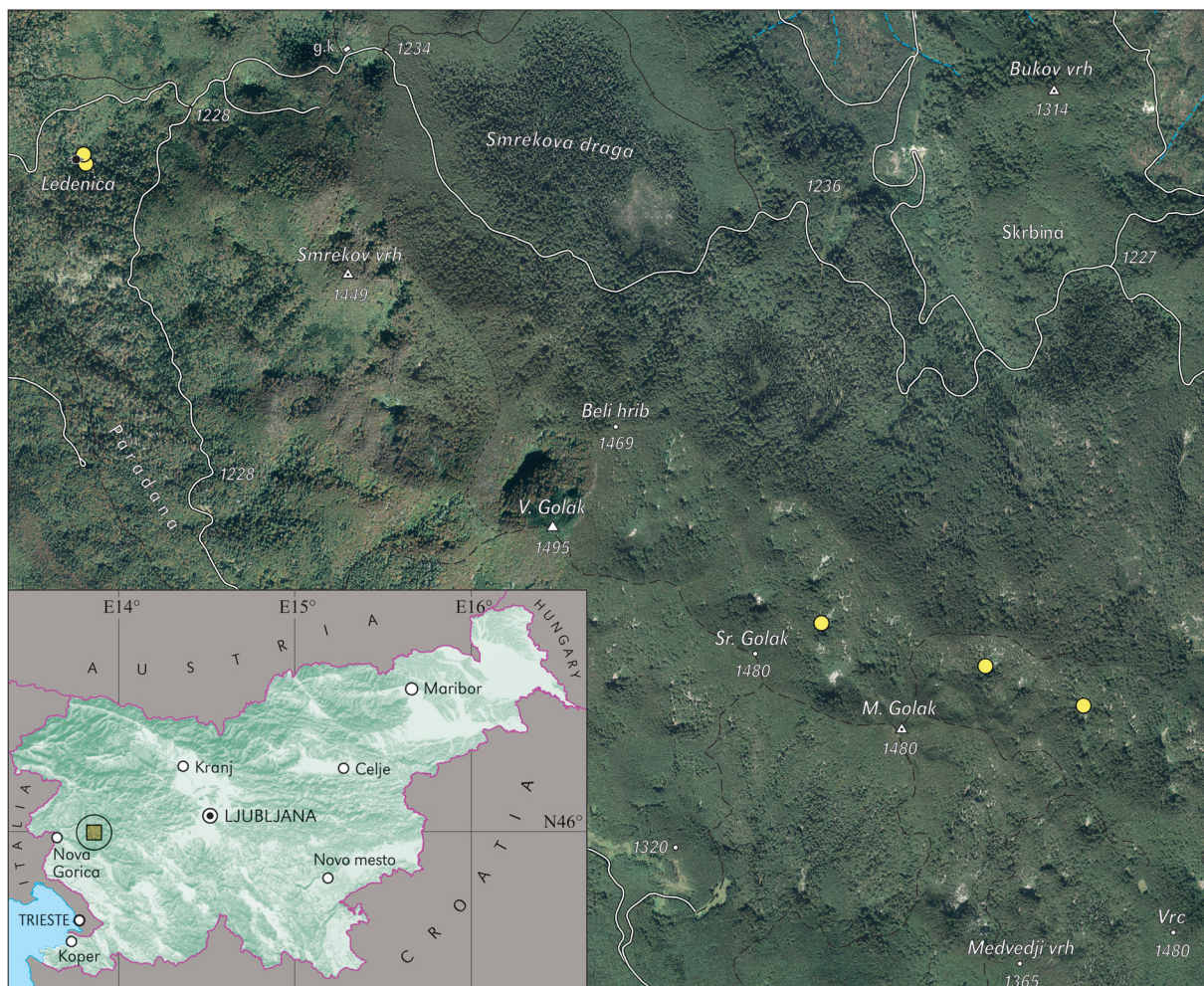


Figure 6: Localities of stands of the association *Heliospermo pusillae-Rhododendretum hirsuti* on the Trnovski Gozd Plateau.

Slika 6: Nahajališča sestojev asociacije *Heliospermo-Rhododendretum hirsuti* v Trnovskem gozdu.

Association *Heliospermo pusillae-Rhododendretum hirsuti* on the Trnovski Gozd Plateau

In our comparison of all relevés (Figure 1) the first five relevés in Table 4 grouped separately from the relevés of other determined communities and are therefore classified into a new association *Heliospermo pusillae-Rhododendretum hirsuti*. Stands of the new association are characterised by dominating *Salix waldsteiniana* and *Rhododendron hirsutum* in the shrub layer, but comprise also *Salix glabra*, *S. appendiculata* and *Rhodothamnus chamaecistus*. They occur in rocky frost hollows on the Trnovski Gozd Plateau at elevations between 1,100 and 1,400 m (Paradana, Kraljeva Kamra, under Srednji and Veliki Golak – Figure 6), where the snow cover, and consequently also very cold air among the rockfall material, persists long into the summer. Stands of the new association are therefore characterised primarily by hygrophilous and frigophilous species characteristic for such rocky sites: *Heliosperma pusillum* (its community *Drepanoclado uncinati-Heliospermetum pusillae* has developed on even more extreme parts of some of these hollows – Surina & Vreš 2004), *Carex capillaris*, *C. atrata*, *Salix retusa*, in part also *Paederota lutea*, *Viola biflora*, *Salix serpyllifolia*, *Valeriana saxatilis*, on one of the relevés also the endemic *Primula carniolica*, as well as by an abundant moss layer dominated by *Sanionia uncinata*, syn. *Drepanocladus uncinatus*). Until now such species combination has not been recorded anywhere else in the Slovenian mountains, not even in the Julian Alps or Snežnik Mountains, even though Waldstein willow and hairy alpenrose stands also occur there. In some spots the stands of the new association are at the contact with dwarf pine stands (*Rhodothamno-Pinetum mugo*), with the stands of larged-leaved willow (*Rhododendro hirsuti-Salicetum appendiculatae*) and with the stands of the association *Drepanoclado uncinati-Heliospermetum pusillae*. Their full species composition indicates a certain similarity with the stands dominated by glabrous willow (*Salix glabra*) that will be described below and with the stands of the association *Rhododendro hirsuti-Juniperetum alpinae* (Surina 2013), also from the Dinaric Alps. In terms of the structure of phytosociological groups (Column 14 in Table 6) the association is distinctly transitional between the communities of the alliance *Alnion viridis* and the communities of the alliance *Ericion carneae* and order *Rhododendro hirsuti-Ericetalia carneae*. For now we find the classification into this order and class *Rhododendro hirsuti-Ericetea carneae* (Mucina et al. 2016) more appropriate.

Association *Homogyno sylvestris-Salicetum glabrae* in the southern Julian Alps and on the Trnovski Gozd Plateau

The group of seven relevés with dominant *Salix glabra* from the Julian Alps and the northern part of the Trnovski Gozd Plateau (relevés 6–12 in Table 4) clustered in the right side of the dendrogram with all relevés (Figure 1). With their entire species composition these stands show a certain similarity with the stands of associations *Heliospermo-Rhododendretum hirsuti* and *Rhododendro hirsuti-Juniperetum alpinae* (Figure 2), but their structure is unique. The upper stand layer is dominated by *Salix glabra* and *Rhododendron hirsutum*, in certain places accompanied by *Salix appendiculata*. *Salix waldsteiniana* and *Juniperus alpina*, however, were not recorded there. These stands therefore cannot be classified into the above-mentioned or described syntaxa. They clearly differentiate also from the glabrous willow community from the Northeastern Alps that Eggenberger (1994) described as the association *Salicetum glabrae*. Mutual comparison of the floristic composition of our relevés with his, despite several other species that they have in common (such as *Rhododendron hirsutum*, *Calamagrostis varia*, *Adenostyles glabra*, *Betonica alopecurus*) demonstrates a merely 32% floristic similarity (Sørensen 1948), which does not allow for classification into the same association. Eggenberger (ibid.) classifies the association *Salicetum glabrae* into the alliance *Salicion waldsteinianae* Oberdorfer 1978 (which is a synonym for the alliance *Alnion viridis*). Karner (2007a,b) treats the stands with *Salix glabra* in Austria as the *Salix glabra* community (prov.) and considers it a special form of the association *Salicetum waldsteinianae*. His observation is confirmed also by hierarchical classification as both (north)eastern-Alpine glabrous willow communities bond with the association *Salicetum waldsteinianae* and not with the studied south-eastern Alpine-Dinaric community (Figure 2). Our community occurs still in the belt of montane-altimontane beech forests at the elevations between 950 and 1,400 m, on steep to very steep shady slopes, in gravelly gullies, in erosion-exposed areas under rock faces and barriers, on rockfall material. It therefore represents a pioneer or succession stage where the natural conditions (annual snowslides, shallow, unstable soils) do not allow for the development of beech forests and is classified into a new association *Homogyno sylvestris-Salicetum glabrae*. Its diagnostic species are *Salix glabra*, *Rhododendron hirsutum*, *Calamagrostis varia*, *Sesleria caerulea*, *Homogyne sylvestris*, *Carex ferruginea*, *Ostrya carpinifolia*, *Astrantia carniolica*, *Betonica alopecurus*, *Knautia drymeia*

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and *Cyclamen purpurascens*. Co-occurrence of the listed species indicates gravelly dolomite parent material, initial soil, shady and relatively moist sites, a pioneer stage of development in the belt of Illyrian beech forests (mainly from the association *Rhododendro hirsuti-Fagetum*). Composition by groups of diagnostic species (Column 15 in Table 6) allows for the classification of the new association into the alliance *Ericion carneae*, order *Rhododendro-Ericetalia carneae* and class *Rhododendro hirsuti-Ericetea carneae*. Localities of the stands of the new association on the map of Slovenia are indicated in Figure 7.

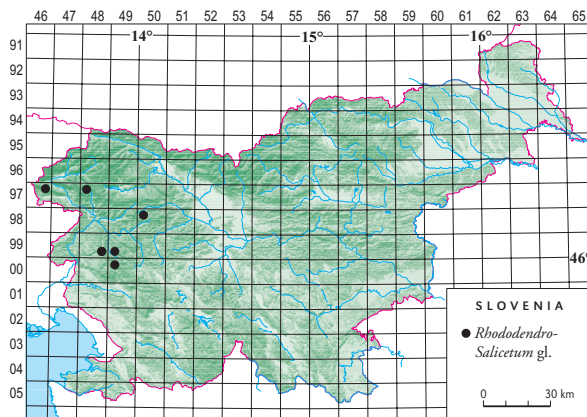


Figure 7: Localities of the stands of the association *Homogyno sylvestris-Salicetum glabrae* in Slovenia.

Slika 7: Nahajališča sestojev asociacije *Homogyno sylvestris-Salicetum glabrae* v Sloveniji.

Association *Rhododendro hirsuti-Salicetum appendiculatae* in the Julian Alps and on the Trnovski Gozd Plateau

Classification of our relevés shows the stands with dominating *Salix appendiculata* grouping within the third group (on the right) (Figure 1). We arranged them in Table 4 (relevés 13–28). By comparing these relevés with similar communities in the Alps and in the Dinaric Alps (Figure 2, Table 5) we determined that they resemble the relevés of the association *Salicetum appendiculatae* (Horvat et al. 1974) and relevés of the subassociation *Aceri-Salicetum appendiculatae typicum* (Karner 2007b). Horvat (1962: 105) used the name *Salicetum grandiflorae* Horv. ass. nova for the large-leaved willow community that overgrows the edges of karst sinkholes and depressions in the mountains of southwestern Croatia (Liburnian Karst), where snow persists for extended periods. In his short description of the new association (without a phytosociological table) he listed the taxon *Senecio crassifolius* as a character species

(Horvat may have recorded *Senecio ovatus* (syn. *S. fuchsii*); species *S. crassifolius* (syn. *Senecio leucanthemifolius*) does not occur in Croatia) and a list of more frequent species, including *Homogyno sylvestris*, *Juniperus alpina*, *Hypericum richeri* subsp. *grisebachii*, *Clematis alpina*, *Lonicera caerulea* s. lat. (see also Trinajstić 2008: 123). Horvat et al. (1974, Table 135, Column 4) published a synthetic table of the association *Salicetum appendiculatae* Horvat 1962 based on 10 relevés from Gorski Kotar in Croatia, which is (as it was published before 1979) a valid description of the new association (Weber et al. 2000). It is true that literature sources, including more recent ones (e.g. E. Pignatti & S. Pignatti 2014: 235) mention the same name with a different author for a different community from the Alps (*Salicetum appendiculatae* Oberd. 1957). The original name of Oberdorfer's community was *Acer-Salicetum appendiculatae* (Oberdorfer 1957) and the quotation *Salicetum appendiculatae* (Br.-Bl. 50) Oberd. 1957 em. is from the second edition (Oberdorfer 1978). A slightly corrected original name *Aceri-Salicetum appendiculatae* Oberdorfer 1957 is therefore the valid name (Karner 2007a, b). In phytosociological investigations of the Snežnik Mts. Gabrijel Tomažič observed and recorded also a community at the bottom of deep sinkholes and frost hollows which he called *Rhodoro-Salicetum grandiflorae*, but his relevés were never published (Tomažič & Tregubov 1958, 1959, Zupančič 2001, Surina 2013). Our comparison shows that *Salicetum appendiculatae* Horvat is not a synonym for the association *Aceri-Salicetum appendiculatae* Oberdorfer (*Acer pseudoplatanus* and several other species listed in Oberdorfer's original relevé of this association from 1957 are completely absent in Horvat's synthetic table from 1974). These are obviously two different communities, where the stands that Karner (ibid.) classified into the subassociation *Aceri-Salicetum appendiculatae typicum* could in fact be part of Horvat's community which they resemble more than the stands of two other subassociations of the association *Aceri-Salicetum (-petasitetosum albi* and *-petasitetosum hybridi)*. Because Horvat's name *Salicetum appendiculatae* is frequently used with different authors as the name of another syntaxon and is therefore potentially misleading, *nomen ambiguum* (Weber et al. 2000, Art. 36), we propose a new name that was first used (before Horvat) by G. Tomažič: *Rhododendro hirsuti-Salicetum appendiculatae*, but the author cited for the association is still Horvat. Based on our comparisons we differentiate two geographical variants, var. geogr. *Paederota lutea* (Julian Alps, Trnovski Gozd Plateau) and var. geogr. *Hypericum grisebachii* (Liburnian Karst: Snežnik Mts., Gorski Kotar). This article describes only the stands of the geographical variant *Paederota lutea* that were found in the western and southern part of the Ju-

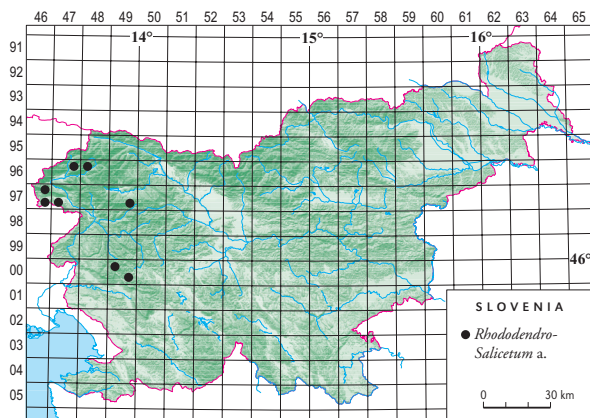


Figure 8: Localities of the stands of the association *Rhododendro hirsuti-Salicetum appendiculatae* in western Slovenia and northeastern Italy.

Slika 8: Nahajališča proučenih sestojev asociacije *Rhododendro hirsuti-Salicetum appendiculatae* v zahodni Sloveniji in severovzhodni Italiji.

lian Alps with their foothills and on the Trnovski Gozd Plateau (Figure 8). The relevés were made on elevations between 470 and 1,650 m, in stony frost hollows and shady gullies with initial soils (lithosol, moder rendzina) and a persistent snow cover. Such hollows covered with rockfall material can be found in Pradol, a dry ravine between Mts. Mija and Ljubija at the border between Slovenia and Italy, in the territory of the Republic Italy, at the elevation of only 470 m. This is where we described a new variant with *Dryopteris remota* (its differential species are also *Polypodium vulgare* and *Phyllitis scolopendrium*). The stands of the new variant are surrounded by stands of European ash and sycamore maple communities (*Veratro nigri-Fraxinetum*, *Lamio orvalae-Aceretum*) where these hygrophilous ferns frequently occur. Similar shady hollows covered by rockfall or talus deposits are located under Mt. Matajur (Glava), in cirque Dol under the ridge of Breginjski Stol, under Mt. Črna Gora at Mt. Črna Prst, and on the Trnovski Gozd Plateau at the rim of the karst cave in Paradana, in the ravines under the peaks of Mali Golak and Veliki Golak (Kraljeva Kamra), and under the peak Vrh Hoje, where we found stands of the typical variant. Slightly different in terms of floristic composition are large-leaved willow stands in shady stony gullies above the Bala valley in the central Julian Alps, where we described the variant with *Peucedanum ostruthium*. In addition to *Salix appendiculata* these shrub communities generally comprise, in the upper shrub, occasionally also in the lower tree layer, individual specimens of *Sorbus aucuparia*, *Acer pseudoplatanus*, *Picea abies*, *Abies alba*, rarely also *Alnus viridis* and *Pinus mugo*. Only *Sorbus aucuparia* is frequent and has larger coverage than other above-listed species. The species that dominate in the lower shrub layer are *Rhododendron hirsutum*, *Rubus idaeus* and *Lonicera*

caerulea, in places also single specimens of *Salix glabra*, *S. waldsteiniana*, *Juniperus alpina*, *Lonicera nigra* and *Ribes alpinum*. Composition by groups of diagnostic species is in Column 11 in Table 6. The large-leaved willow community is a long term succession stage on sites where natural factors prevent the development of forest and has a similar protective role as green alder stands.

Conclusions

Steep, shady, stony and gravelly slopes and hollows with a persistent snow cover left by the snowslides that descend these slopes every year are extreme sites for forest growth. Although dwarf pine (*Rhodothamno-Pinetum mugo*) and partly also green alder stands (*Rhododendro hirsuti-Alnetum viridis*) represent the predominant shrub community types on such extreme sites under and at the existing timberline in the Julian Alps and on the Trnovski Gozd Plateau, other stands whose top layer is dominated by willows *Salix appendiculata*, *S. waldsteiniana* and (or) *S. glabra* also occur on smaller areas. We described their communities, which are usually long-term successional stages, accompanied by individual *Sorbus aucuparia*, *Picea abies* or *Acer pseudoplatanus* trees. Similar communities are known also elsewhere in the Eastern Calcareous Alps and in the Dinaric Alps. Nevertheless, floristic differences between them can be significant and naming them after only one species (*Salicetum appendiculatae*, *Salicetum waldsteinianae*, *Salicetum glabrae*) is not very appropriate and can even be misleading. We therefore described two new associations, *Laserpitio peucedanoidis-Salicetum waldsteinianae* and *Homogyno sylvestris-Salicetum glabrae*. As for the large-leaved willow community in the Southeastern and the Dinaric Alps, which was first recorded in Slovenia by Gabrijel Tomažič and its description first published by Ivo Horvat, we propose a new name – *Rhododendro hirsuti-Salicetum appendiculatae*. Among the listed willows *Salix waldsteiniana* is syndynamically related also to low shrub communities above the upper timberline up to the alpine belt where hairy alpenrose (*Rhododendron hirsutum*) is the dominant species. These shrub communities also overgrow shady slopes and stony soils, sometimes as contact communities with *Carex ferruginea* dominating grasslands. Despite some common diagnostic species (*Rhododendron hirsutum*, *Rhodothamnus chamaecistus*) they are floristically and ecologically slightly different from the communities with dominating Alpine juniper (*Juniperus alpina*) and cannot be classified within its associations (*Rhodothamno-Juniperetum alpini*, *Rhododendro hirsuti-Juniperetum alpinae*) or within dwarf pine communities. Some of these dwarf shrubs are tenta-

tively treated as a syntaxon *Rhododendretum hirsuti vacciniotosum myrtilli*. We have established the occurrence of the stands of the association *Dryado-Rhodothamnetum chamaecisti* that was recently described in the Dolomites also in the Julian Alps and described a new association *Heliospermo pusillae-Rhododendretum hirsuti* on the Trnovski Gozd Plateau.

All shrub communities described herein have an important protective and biotope role and are also the site of two species of European conservation concern (Čušin et al. 2004): *Eryngium alpinum* (which occurs in stands of the association *Laserpitio-Salicetum waldstenianae*) and *Primula carniolica* (in stands of associations *Rhododendro hirsuti-Salicetum appendiculatae* and *Heliospermo pusillae-Rhododendretum hirsuti*), some species protected in Slovenia (Anon. 2004): *Huperzia selago*, *Lycopodium annotinum*, *Cyclamen purpurascens*, *Leontopodium alpinum*, *Gentiana lutea* subsp. *symphyandra*, *G. clusii*, *G. pannonica*, *Helleborus niger*, *Dactylorhiza fuchsii*, *Coeloglossum viride*, *Gymnadenia conopsea*, *Malaxis monophyllos*, *Nigritella rhellicani*, *N. miniata* s. lat., *Primula auricula* and *Pinguicula alpina*, and some endemic or rare species (Dakskobler et al. 2016): *Aconitum angustifolium*, *Centaurea julica* subsp. *haynaldii*, *Geranium argenteum*, *Hieracium prenanthoides*.

Povzetek

Fitocenološka analiza montansko-subalpinskih vrbovih grmišč v Julijskih Alpah in Trnovskem gozdu (severozahodna in zahodna Slovenija)

Strma osojna kamnita in gruščnata pobočja in kotanje, kjer ali kamor vsako leto polzijo snežni plazovi in se sneg v njih dolgo zadržuje, so skrajna rastišča za uspevanje gozda. Čeprav sta prevladujoča tipa grmiščnega rastja na takih skrajnih rastiščih pod in na zdajšnji gozdni meji v Julijskih Alpah in v Trnovskem gozdu predvsem ruševje (*Rhodothamno-Pinetum mugo*) in deloma zelenojelševje (*Rhododendro hirsuti-Alnetum viridis*), na manjših površinah uspevajo tudi sestoji, kjer v najvišji sestojni plasti prevladujejo vrbe: *Salix appendiculata*, *S. waldsteniana*, *S. glabra*. Opisali smo njihove združbe, ki so dolgotrajni sukcesijski stadiji, v katerih se med drevesnimi vrstami posamično pojavljajo predvsem jerebika (*Sorbus aucuparia*), le ponekod tudi smreka in gorski javor. Podobne združbe poznamo tudi drugod v karbonatnih Vzhodnih Alpah in v Dinarskem gorstvu. Ker so floristične razlike med njimi lahko precejšnje, je njihovo poimenovanje zgolj po eni vrsti (*Salicetum appendicula-*

tae, Salicetum waldsteinianae, Salicetum glabrae) manj primerno, lahko celo zavajajoče. Zato smo opisali novi asociaciji *Laserpitio peucedanoidis-Salicetum waldsteinianae* in *Homogyno sylvestris-Salicetum glabrae*. Za združbo velikolistne vrbe v Jugovzhodnih Alpah in Dinarskem gorstvu, ki jo je v Sloveniji prvi popisal Gabrijel Tomažič, njen opis pa prvi objavil Ivo Horvat, predlagamo novo ime *Rhododendro hirsuti-Salicetum appendiculatae*. Med tremi naštetimi vrbam je vrsta *Salix waldsteniana* sindinamsko povezana tudi z nizkimi grmišči nad zgornjo gozdno mejo vse do alpskega pasu, v katerih prevladuje dlakavi sleč (*Rhododendron hirsutum*). Tudi ta grmišča poraščajo osojna pobočja in kamnita tla, ponekod so stična s travišči rjastorjavega šaša (*Carex ferruginea*). Kljub skupnim diagnostičnim vrstam (*Rhododendron hirsutum*, *Rhodothamnus chamaecistus*) so floristično in ekološko nekoliko drugačna od združb s prevladujočim sibirskim brinom (*Juniperus alpina*) in jih ne moremo uvrščati v njegovi asociaciji (*Rhodothamno-Juniperetum alpini, Rhododendro hirsuti-Juniperetum alpinae*), prav tako ne v ruševje. Nekatera od teh pritlikavih grmišč za zdaj obravnavamo v sintaksonu *Rhododendretum hirsuti vacciniotosum myrtilli*. Ugotavljamo pojavljanje sestojev asociacije *Dryado-Rhodothamnetum chamaecisti*, ki je bila nedavno opisana v Dolomitih, tudi v Julijskih Alpah in opisujemo novo asociacijo *Heliospermo pusillae-Rhododendretum hirsuti* v Trnovskem gozdu.

Vse v članku opisane grmiščne združbe imajo pomembno varovalno in biotopsko vlogo in so tudi življenjski prostor dveh evropsko varstveno pomembnih vrst (Čušin et al. 2004): *Eryngium alpinum* (raste v sestojih asociacije *Laserpitio-Salicetum waldstenianae*) in *Primula carniolica* (raste v sestojih asociacij *Rhododendro hirsuti-Salicetum appendiculatae* in *Heliospermo pusillae-Rhododendretum hirsuti*), nekaterih v Sloveniji zavarovanih vrst (Anon. 2004): *Huperzia selago*, *Lycopodium annotinum*, *Cyclamen purpurascens*, *Leontopodium alpinum*, *Gentiana lutea* subsp. *symphyandra*, *G. clusii*, *G. pannonica*, *Helleborus niger*, *Dactylorhiza fuchsii*, *Coeloglossum viride*, *Gymnadenia conopsea*, *Malaxis monophyllos*, *Nigritella rhellicani*, *N. miniata* s. lat., *Primula auricula* in *Pinguicula alpina* ter nekaterih endemitov ali redkih vrst (Dakskobler et al. 2016): *Aconitum angustifolium*, *Centaurea julica* subsp. *haynaldii*, *Geranium argenteum*, *Hieracium prenanthoides*.

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Table 1 (Tabela 1): *Dryado-Rhodothamnetum chamaecisti*, *Rhododendretum hirsuti*.

Number of relevé (Zaporedna številka popisa)	1	2	3	4	5	6	7	8	9	10	11	
Database number of relevé (Delovna številka popisa)	132925	132940	200647	203540	221071	241768	249127	253976	241933	241934	245582	
Author of the relevé (Avtor popisa)	BS	BS	BS	ID	ID	ID	ID	ID	ID	ID	ID	
Elevation in m (Nadmorska višina v m)	1440	1460	1765	1810	1950	2110	1890	2093	2118	2115	1822	
Aspect (Lega)	N	NW	N	NW	NE	N	N	NW	N	N	SE	
Slope in degrees (Nagib v stopinjah)	30	30	20	25	35	40	10	30	15	35	5	
Parent material (Matična podlaga)	A	A	A	Gr	A	A	DA	A	A	A	A	
Soil (Tla)	Li	Li	Li	Li	Re	Li	Re	Li	Re	Re	Li	
Stoniness in % (Kamnitost v %)	.	.	10	10	0	20	10	2	5	20	30	
Cover of shrub layer in % (Zastiranje grmovne plasti v %)	E2	.	.	.	.	.	.	.	.	.	.
Cover of herb layer in % (Zastiranje zeliščne plasti v %)	E1	90	90	90	90	100	80	90	100	90	80	70
Cover of moss layer in % (Zastiranje mahovne plasti v %)	E0	.	.	1	.	.	.	.	.	.	.
Number of species (Število vrst)		21	15	25	30	28	28	13	19	25	30	23
Relevé area (Velikost popisne ploskve)	m ²	6	4	4	10	20	4	3	5	4	4	5
Date of taking relevé (Datum popisa)		6/25/2002	6/25/2002	6/27/2002	8/30/2002	7/11/2008	8/17/2011	6/30/2013	8/8/2014	8/29/2011	8/29/2011	6/29/2012
Locality (Nahajališče)		Veliki Šmohor	Veliki Šmohor	Velika Baba	Pihavec	Kaluder	Veliki Jelenk	Rušnati vrh	Tirentski Pelc	Babanjski Skedenj	Babanjski Skedenj	Konjski vrh-Četr
Quadrant (Kvadrant)		9748/1	9748/1	9748/1	9648/2	9648/3	9648/1	9748/4	9648/1	9646/4	9646/4	9749/4
Coordinate GK Y (D-48)	m	398980	398861	400907	408048	400500	397847	407350	401171	381852	381835	416515
Coordinate GK X (D-48)	m	5127540	5127434	5128087	5139587	5129898	5138608	5123308	5138856	5133342	5133344	5121134
Diagnostic species of the associations (Diagnostične vrste asociacije)												
RE <i>Rhododendron hirsutum</i>	E1	1	2	4	2	3	3	4	3	1	2	2
RE <i>Rhodothamnus chamaecistus</i>	E1	4	4	3	3	3	3	3	3	+	2	3
ES <i>Selaginella selaginoides</i>	E1	+	.	+	1	1	1	.	+	1	1	.
PC <i>Valeriana saxatilis</i>	E1	1	+	1	1	+	.	.	.	+	1	+
Cfir <i>Dryas octopetala</i>	E1	.	.	1	3	3	2	3	4	3	1	1
Cfir <i>Pedicularis rostratocapitata</i>	E1	.	.	.	1	1	+	+	+	1	1	+
CD <i>Tofieldia calyculata</i>	E1	1	1	.	1	1	+	.	.	.	.	+
ES <i>Homogyne discolor</i>	E1	.	.	+	1	.	1	1	1	.	.	.
MC <i>Saxifraga aizoides</i>	E1	.	.	+	1	1	.	.	+	.	.	.
CD <i>Pinguicula alpina</i>	E1	.	.	+	.	+	.	.	.	.	+	.
AC <i>Salix retusa</i>	E1	.	.	+	+	.	.	.	.	.	.	.

Number of relevé (Zaporedna številka popisa)		1	2	3	4	5	6	7	8	9	10	11	
Cfir	<i>Carex firma</i>	E1	1	1	1	2	3	+	1	2	2	1	2
Cfir	<i>Sesleria sphaerocephala</i>	E1	.	.	+	.	.	+	+	1	3	3	.
Cfir	<i>Phyteuma sieberi</i>	E1	.	.	+	.	+	.	.	+	+	.	+
SV	<i>Ranunculus carinthiacus</i>	E1	.	.	.	.	.	.	.	.	.	.	.
ES	<i>Anemone narcissiflora</i>	E1	.	.	.	.	.	.	.	.	.	.	.
OE	<i>Carex atrata</i>	E1	.	.	.	.	.	.	.	.	.	.	.
MuA	<i>Viola biflora</i>	E1	1	.	.	.	+	.	.	.	.	.	.
BA	<i>Salix waldsteiniana</i>	E2	.	.	.	.	.	.	.	.	.	.	.
VP	<i>Rosa pendulina</i>	E1	.	.	.	.	.	.	.	.	.	.	.
VP	<i>Luzula sylvatica</i>	E1	.	.	.	.	.	.	.	.	.	.	.
VP	<i>Vaccinium myrtillus</i>	E1	.	.	.	.	.	.	.	.	.	.	.
BA	<i>Sorbus chamaemespilus</i>	E2a	.	.	.	.	.	.	.	.	.	.	.
JT	<i>Campanula scheuchzeri</i>	E1	.	.	.	.	.	.	.	.	.	+	.
NS	<i>Festuca nigrescens</i>	E1	.	.	.	.	.	.	.	.	.	.	.
LV	<i>Empetrum hermaphroditum</i>	E1	.	.	.	.	.	.	.	.	.	.	.
RE	<i>Rhododendron x intermedium</i>	E1	.	.	.	.	.	.	.	.	.	.	.
RE	<i>Rhododendro hirsuti-Ericetalia carneae</i>												
	<i>Pinus mugo</i>	E2	.	.	+	+	.	.	.	.	.	.	.
	<i>Erica carnea</i>	E1	.	.	.	.	.	.	.	.	.	.	.
CFir	<i>Caricion firmae</i>												
	<i>Salix alpina</i>	E1	.	.	.	r	.	+	.	.	+	.	.
	<i>Festuca quadriflora</i>	E1	.	.	.	.	.	+	.	.	2	1	.
	<i>Helianthemum alpestre</i>	E1	.	.	.	.	+	.	.	+	.	.	1
	<i>Oxytropis neglecta</i>	E1	.	.	.	+	.	.	.	+	.	1	.
	<i>Silene acaulis</i>	E1	.	.	.	2	.	.	.	.	+	+	.
	<i>Primula wulfeniana</i>	E1	.	.	.	.	.	.	1	.	.	.	+
	<i>Ranunculus hybridus</i>	E1	.	.	.	.	.	.	.	.	.	.	.
OE	<i>Oxytropido-Elynon</i>												
	<i>Lloydia serotina</i>	E1	.	.	.	.	.	.	.	.	+	.	.
	<i>Gentiana nivalis</i>	E1	.	.	.	.	.	.	.	.	.	.	.
CA	<i>Caricion austroalpinae</i>												
	<i>Laserpitium peucedanooides</i>	E1	+	.	.	.	.	.	.	.	.	.	.
	<i>Koeleria eriostachya</i>	E1	.	.	.	.	.	.	.	.	.	.	.
	<i>Pulsatilla alpina</i> subsp. <i>austroalpina</i>	E1	.	.	.	.	.	.	.	.	.	.	.
	<i>Festuca calva</i>	E1	.	.	.	.	.	.	.	.	.	.	.
	<i>Arabis vochinensis</i>	E1	.	.	.	.	.	.	.	.	.	.	.
CF	<i>Caricion ferrugineae</i>												
	<i>Carex ferruginea</i>	E1	.	.	+	.	.	.	.	.	.	.	.
	<i>Hedysarum hedysaroides</i>	E1	.	.	.	.	1	.	.	.	.	.	.
	<i>Knautia longifolia</i>	E1	.	.	.	.	.	.	.	.	.	.	.
	<i>Gentiana pumila</i>	E1	.	.	.	.	.	.	.	.	.	+	.
	<i>Cerastium subtriflorum</i>	E1	.	.	.	.	.	.	.	.	.	.	.
	<i>Pedicularis rostrato-spicata</i>	E1	.	.	.	.	.	.	.	.	.	.	.
	<i>Serratula macrocephala</i>	E1	.	.	.	.	.	.	.	.	.	.	.
	<i>Malaxis monophyllos</i>	E1	.	.	.	.	.	.	.	.	.	.	.
SV	<i>Seslerietalia coeruleae</i>												
	<i>Galium anisophyllum</i>	E1	.	.	.	.	.	.	.	.	+	.	+
	<i>Achillea clavinae</i>	E1	.	.	.	.	.	+	+	+	+	1	.
	<i>Juncus monanthos</i>	E1	+	1	.	.	.	.	.	.	.	.	.
	<i>Gentiana clusii</i>	E1	+	.	+	+	+	.	.	.	.	.	.
	<i>Potentilla crantzii</i>	E1	.	.	.	.	.	.	.	.	.	.	.
	<i>Helictotrichon parlatoarei</i>	E1	.	.	.	.	.	.	.	.	.	.	.

12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Pr.	Fr.
.	.	.	.	.	+	1	.	.	.	.	.	.	.	.	.	.	.	.	13	43
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	6	20
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	5	17
+	1	+	+	.	.	+	+	1	+	.	.	.	.	.	.	+	.	.	9	30
.	.	1	1	+	1	.	1	.	.	.	.	.	.	.	.	.	.	.	5	17
.	.	.	.	+	+	.	.	+	.	.	.	.	.	.	.	.	.	.	4	13
1	+	1	.	1	1	+	1	+	+	.	.	.	.	.	.	.	.	.	14	47
.	+	+	.	1	4	1	2	1	3	4	.	3	1	.	1	+	.	.	13	43
.	.	.	.	.	.	.	.	.	1	1	+	+	.	.	+	+	.	.	7	23
.	.	.	.	.	.	.	+	1	+	1	2	2	2	.	+	+	.	1	10	33
+	.	+	1	.	.	.	.	2	.	1	3	3	+	3	3	3	1	3	13	43
.	.	+	.	.	.	.	.	.	+	+	+	+	.	2	.	+	.	+	8	27
.	.	.	.	.	.	.	.	.	+	.	1	1	1	.	+	+	+	+	10	33
.	+	.	.	.	.	.	.	.	1	.	+	+	+	+	1	.	.	+	8	27
.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	4	3	3	10
.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	4	2	7
.	.	.	+	r	.	.	.	.	.	.	.	.	.	+	.	+	+	r	8	27
.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	+	2	3	10
+	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	5	17
.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	4	13
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	10
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	10
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	10
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	7
.	.	.	1	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	2	7
.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	2	7
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	1	3
+	.	+	1	.	.	.	.	.	+	1	+	+	+	.	.	.	.	.	9	30
.	+	.	.	.	.	.	.	+	.	1	1	1	+	.	.	.	+	.	7	23
1	+	.	+	.	.	.	+	+	.	.	.	+	.	.	.	.	.	.	6	20
.	.	.	.	.	.	.	.	.	.	+	.	1	+	.	.	.	.	.	3	10
.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	3
.	.	1	2	1	+	.	.	.	.	.	.	.	4	.	.	.	.	.	6	20
.	.	.	.	.	+	.	.	1	.	.	.	.	.	.	.	.	.	.	3	10
.	.	.	.	.	.	.	+	.	+	.	.	.	.	.	.	.	.	.	2	7
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	3
.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	3
.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	3
.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	1	3
.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	1	3
.	+	1	1	.	.	+	.	+	.	+	+	+	+	.	+	.	.	.	12	40
.	+	+	.	.	.	+	.	+	.	.	.	.	.	.	.	+	.	.	10	33
.	.	1	.	.	.	1	.	.	.	.	.	+	.	.	+	+	.	.	7	23
.	.	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	6	20
+	1	.	.	.	.	.	+	+	.	.	.	.	.	.	.	.	.	.	4	13
.	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.	.	.	.	2	7

Number of relev (Zaporedna številka popisa)		1	2	3	4	5	6	7	8	9	10	11	
	<i>Leucanthemum heterophyllum</i>	E1	.	.	.	.	.	.	.	+	.	.
	<i>Nigritella rubra</i> agg. (<i>N. bicolor</i>)	E1	.	.	.	.	r	.	.	.	.	.
	<i>Thesium alpinum</i>	E1	.	.	.	.	.	.	.	.	.	+
	<i>Saussurea discolor</i>	E1	.	.	.	.	.	.	.	.	.	.
ES	<i>Elyno-Seslerietea</i>												
	<i>Sesleria caerulea</i>	E1	1	1	.	1	2	.	.	1	+	+	1
	<i>Aster bellidiastrum</i>	E1	1	1	+	1	1	+	1	+	1	1	.
	<i>Bartsia alpina</i>	E1	.	.	.	.	+	+	1	+	.	1	.
	<i>Polygonum viviparum</i>	E1	.	.	+	+	+	1	.	1	1	1	.
	<i>Astrantia bavarica</i>	E1	2	.	.	.	.	+	.	.	.	.	.
	<i>Carex sempervirens</i>	E1	.	.	+	.	.	.	.	.	.	.	.
	<i>Hieracium villosum</i>	E1	.	.	.	.	.	.	.	.	.	.	.
	<i>Betonica alopecuros</i>	E1	.	.	.	+	.	.	.	.	.	.	.
	<i>Phyteuma orbiculare</i>	E1	.	.	.	.	.	.	.	.	.	+	+
	<i>Anthyllis vulneraria</i> subsp. <i>alpestris</i>	E1	.	.	.	+	.	+	.	.	.	.	+
	<i>Linum julicum</i>	E1	+	.	.	.	.	.	.	.	.	.	.
	<i>Pedicularis verticillata</i>	E1	.	.	.	.	.	.	.	.	.	+	.
	<i>Thymus praecox</i> subsp. <i>polytrichus</i>	E1	.	.	.	.	.	.	.	.	.	.	+
	<i>Alchemilla alpigena</i>	E1	.	.	.	.	.	.	.	+	.	.	.
	<i>Lotus alpinus</i>	E1	.	.	.	.	.	.	.	.	.	.	.
	<i>Euphrasia salisburgensis</i>	E1	.	.	.	+	.	+	.	.	.	.	.
	<i>Agrostis alpina</i>	E1	.	.	.	.	.	2	.	.	1	.	.
	<i>Polygala alpestris</i>	E1	.	.	.	.	.	.	.	.	.	.	r
	<i>Helianthemum nummularium</i> subsp. <i>grandiflorum</i>	E1	.	.	.	.	.	.	.	.	.	.	.
	<i>Campanula witasekiana</i>	E1	.	.	.	.	.	.	.	.	.	.	.
	<i>Nigritella rbellicani</i>	E1	.	.	.	.	.	.	.	.	.	.	.
	<i>Gentianella anisodonta</i>	E1	.	.	.	.	.	.	.	+	.	.	.
	<i>Daphne striata</i>	E1	.	.	.	.	.	.	.	.	.	.	2
	<i>Alchemilla fallax</i>	E1	.	.	.	.	.	.	.	.	.	.	.
	<i>Gentiana verna</i>	E1	.	.	.	.	.	.	.	.	.	.	.
	<i>Hieracium pilosum</i>	E1	.	.	.	.	.	.	.	.	.	.	.
	<i>Scabiosa lucida</i>	E1	.	.	.	.	.	.	.	.	.	.	.
	<i>Cerastium strictum</i>	E1	.	.	.	.	.	.	.	.	.	.	.
NS	<i>Nardion strictae</i>												
	<i>Coeloglossum viride</i>	E1	.	.	.	+	r	+	.	.	.	+	+
	<i>Potentilla erecta</i>	E1	.	.	.	.	.	.	.	.	.	.	.
	<i>Alchemilla flabellata</i>	E1	.	.	.	.	.	.	.	.	.	.	.
	<i>Gentiana pannonica</i>	E1	.	.	.	.	.	.	.	.	.	.	.
JT	<i>Juncetea trifidi</i>												
	<i>Anthoxanthum nipponicum</i>	E1	.	.	.	.	.	.	.	.	.	.	.
	<i>Botrychium lunaria</i>	E1	.	.	.	.	.	.	.	.	.	.	.
	<i>Euphrasia minima</i>	E1	.	.	.	.	.	+	.	.	.	+	.
	<i>Potentilla aurea</i>	E1	.	.	.	.	.	.	.	.	.	.	.
	<i>Leontodon helveticus</i>	E1	.	.	.	.	.	.	.	.	.	.	.
LV	<i>Loiseleurio-Vaccinietaea</i>												
	<i>Arctostaphylos alpinus</i>	E1	.	.	1	3	2	3	1	1	3	4	+
	<i>Vaccinium gaultherioides</i>	E1	.	.	.	.	+	+	.	.	.	.	.
AC	<i>Arabidetalia caeruleae</i> (inc. <i>Salicetea herbaceae</i>)												
	<i>Soldanella alpina</i>	E1	.	.	.	+	+	+	.	.	.	.	.
	<i>Ranunculus traunfellneri</i>	E1	.	.	+	.	.	+	.	.	.	+	.
	<i>Doronicum glaciale</i>	E1	.	.	.	1	.	.	.	.	.	.	.
	<i>Trifolium pallescens</i>	E1	.	.	.	.	.	.	.	.	.	+	.

12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Pr.	Fr.
.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	2	7
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	3
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	3
.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	1	3
2	2	1	3	1	1	1	3	2	2	3	1	1	2	+	.	.	1	.	24	80
+	+	1	.	+	+	1	+	+	.	.	.	.	.	.	.	.	.	.	18	60
1	+	1	1	+	1	1	1	1	.	.	+	.	.	+	+	+	.	.	18	60
1	1	1	.	1	+	1	1	1	.	.	.	.	.	.	+	+	.	+	18	60
1	+	1	+	+	+	.	.	1	.	.	.	.	.	.	+	1	+	.	12	40
2	+	1	1	.	.	.	+	.	.	.	1	1	.	.	.	.	.	.	8	27
+	+	+	.	.	.	.	.	+	.	.	.	.	.	.	+	+	.	.	6	20
.	.	.	.	.	.	.	.	+	.	+	+	.	+	.	.	.	.	.	5	17
.	+	.	.	.	.	.	.	+	.	+	.	.	.	.	.	.	.	.	5	17
.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4	13
+	.	1	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4	13
.	+	1	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4	13
.	.	.	+	.	.	.	.	+	.	.	.	.	.	.	+	.	.	.	4	13
+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	10
+	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	3	10
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	7
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	7
.	.	.	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	7
.	.	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	7
.	.	.	.	.	.	.	.	.	.	1	.	.	.	+	.	.	.	.	2	7
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	2	7
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	3
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	3
+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	3
.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	1	3
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	3
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	3
1	.	+	.	.	.	.	+	.	.	.	.	.	.	.	.	r	.	.	9	30
.	.	.	.	.	.	.	.	.	.	1	+	.	.	.	.	.	.	.	2	7
.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	3
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	1	3
1	1	.	.	+	.	.	.	1	+	1	+	+	.	.	+	.	.	1	11	37
.	.	.	.	.	.	.	.	.	.	.	.	+	r	.	.	+	.	.	3	10
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	7
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	1	3
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	1	3
.	.	1	.	.	+	.	.	1	1	.	.	.	.	.	.	.	+	1	15	50
.	.	+	.	.	.	.	.	.	.	.	.	.	.	1	2	2	.	.	6	20
.	+	.	.	.	.	.	.	.	+	.	.	.	.	.	.	+	.	.	6	20
.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	4	13
.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	2	7
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	2	7

Number of relevé (Zaporedna številka popisa)		1	2	3	4	5	6	7	8	9	10	11
	<i>Thlaspi minimum</i> (<i>T. kernerii</i>)	E1	.	+	.	.	.	.	.	.	.	.
	<i>Salix serpyllifolia</i>	E1	.	.	+	.	.	.	.	.	.	.
	<i>Soldanella minima</i>	E1	.	.	+	.	.	.	.	.	.	.
	<i>Carex ornithopodoides</i>	E1	.	.	.	.	.	.	.	.	.	+
	<i>Salix reticulata</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Alchemilla fissa</i>	E1	.	.	.	.	.	.	.	.	.	.
TR	<i>Thlaspietea rotundifolii</i>											
	<i>Heliosperma alpestre</i>	E1	.	.	1	.	.	.	.	.	.	.
	<i>Biscutella laevigata</i>	E1	.	+	.	.	.	.	.	.	.	.
	<i>Rhodiola rosea</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Aquilegia einseleana</i>	E1	1	+	.	.	.	.	.	.	.	.
	<i>Athamanta cretensis</i>	E1	+	+	.	.	.	.	.	.	.	.
	<i>Armeria alpina</i>	E1	.	.	+	.	.	.	.	.	.	.
	<i>Festuca nitida</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Molopospermum peloponnesiacum</i> subsp. <i>baubinii</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Festuca laxa</i>	E1	+	.	.	.	.	.	.	.	.	.
	<i>Rumex scutatus</i>	E1	+	.	.	.	.	.	.	.	.	.
	<i>Gymnocarpium robertianum</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Campanula cochleariifolia</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Pimpinella alpina</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Valeriana montana</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Hieracium bifidum</i>	E1	.	.	.	.	.	.	.	.	.	.
PS	<i>Physoplexido-Saxifragion petraeae</i>											
	<i>Paederota lutea</i>	E1	+	.	.	.	.	.	.	.	.	.
	<i>Saxifraga crustata</i>	E1	.	.	.	+	.	.	.	.	+	.
	<i>Saxifraga squarrosa</i>	E1	.	.	.	.	.	+	.	.	.	+
PC	<i>Potentilletalia caulescentis</i>											
	<i>Primula auricula</i>	E1	+	.	.	.	.	.	.	.	.	.
Cy	<i>Cystopteridion fragilis</i>											
	<i>Carex brachystachys</i>	E1	1	+	.	.	.	.	.	.	.	.
	<i>Cystopteris regia</i>	E1	.	+	.	.	.	.	.	.	.	.
AT	<i>Asplenietea trichomanis</i>											
	<i>Asplenium viride</i>	E1	.	+	.	.	.	.	.	.	.	.
	<i>Valeriana tripteris</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Saxifraga paniculata</i>	E1	.	.	.	+	.	.	.	.	.	.
CD	<i>Caricetalia davallianae</i>											
	<i>Parnassia palustris</i>	E1	.	.	+	.	+	+	.	.	.	.
	<i>Carex capillaris</i>	E1	.	.	.	.	.	.	.	.	.	.
PoT	<i>Poo alpinae-Trisetetalia</i>											
	<i>Poa alpina</i>	E1	.	.	.	.	.	.	.	1	+	.
	<i>Trollius europaeus</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Phleum rhaeticum</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Euphrasia picta</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Alchemilla xanthochlora</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Ranunculus nemorosus</i>	E1	.	.	.	.	.	.	.	.	.	.
MA	<i>Molinio-Arrhenatheretea</i>											
	<i>Lathyrus pratensis</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Veronica chamaedrys</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Trifolium repens</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Leontodon hispidus</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Dactylis glomerata</i>	E1	.	.	.	.	.	.	.	.	.	.

12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Pr.	Fr.
.	1	3
.	1	3
.	1	3
.	1	3
.	.	.	.	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	3
.	+	.	.	.	1	3
.	+	+	+	1	.	.	+	+	.	.	7	23
.	.	+	+	+	4	13
.	+	.	.	+	+	.	.	.	3	10
.	2	7
.	2	7
.	.	+	2	7
.	+	+	2	7
.	+	.	.	.	r	.	.	.	.	.	2	7
.	1	3
.	1	3
+	1	3
.	+	1	3
.	+	1	3
.	+	1	3
.	r	.	.	.	.	.	1	3
.	+	+	3	10
.	+	3	10
.	2	7
.	1	3
.	2	7
.	1	3
.	+	.	.	.	+	+	.	+	5	17
.	+	+	.	.	.	2	7
.	1	3
.	+	+	.	.	+	1	.	+	.	.	.	+	.	.	.	.	.	.	9	30
.	.	.	.	+	1	3
.	+	1	.	+	.	.	.	1	.	.	.	.	.	.	6	20
.	+	+	.	2	2	+	.	.	.	.	.	5	17
+	+	.	.	2	7
.	+	1	3
.	+	1	3
.	+	1	3
.	+	.	.	.	r	.	.	.	.	.	2	7
1	1	3
+	1	3
.	.	+	1	3
.	+	1	3

Number of relevé (Zaporedna številka popisa)		1	2	3	4	5	6	7	8	9	10	11
	<i>Deschampsia cespitosa</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Trifolium pratense</i>	E1	.	.	.	.	.	.	.	.	.	.
FB	Festuco-Brometea											
	<i>Gymnadenia conopsea</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Bromopsis transilvanica</i>		.	.	.	.	.	.	.	.	.	.
TG	Trifolio-Geranietea											
	<i>Laserpitium siler</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Libanotis sibirica</i> subsp. <i>montana</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Polygonatum odoratum</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Silene nutans</i>	E1	.	.	.	.	.	.	.	.	.	.
MuA	Mulgedio-Aconitetea											
	<i>Geranium sylvaticum</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Veratrum album</i> subsp. <i>lobelianum</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Aconitum lycoctonum</i> agg. (<i>A. lupicida</i>)	E1	.	.	.	.	.	.	.	.	.	.
	<i>Hypericum maculatum</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Aconitum angustifolium</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Athyrium filix-femina</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Ranunculus platanifolius</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Peucedanum ostruthium</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Chaerophyllum hirsutum</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Poa hybrida</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Hieracium valdepilosum</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Senecio cacaliaster</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Polygonatum verticillatum</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Rumex arifolius</i>	E1	.	.	.	.	.	.	.	.	.	.
BA	Betulo-Alnetea viridis											
	<i>Juniperus alpina</i>	E2a	.	.	.	.	.	.	.	.	.	.
	<i>Salix appendiculata</i>	E2	.	.	.	.	.	.	.	.	.	.
	<i>Salix glabra</i>	E2	.	.	.	.	.	.	.	.	.	.
	<i>Alnus viridis</i>	E2a	.	.	.	.	.	.	.	.	.	.
SS	Sambuco-Salicion capreae											
	<i>Sorbus aucuparia</i>	E2a	.	.	.	.	.	.	.	.	.	.
	<i>Rubus idaeus</i>	E2a	.	.	.	.	.	.	.	.	.	.
	<i>Fragaria vesca</i>	E1	.	.	.	.	.	.	.	.	.	.
EP	Erico-Pinetea											
	<i>Carex ornithopoda</i>	E1	.	.	.	.	+	.	.	.	.	+
	<i>Rubus saxatilis</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Chamaecytisus hirsutus</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Molinia caerulea</i> subsp. <i>arundinacea</i>	E1	.	.	.	.	.	.	.	.	.	.
VP	Vaccinio-Picetea											
	<i>Homogyne alpina</i>	E1	.	.	.	.	2	.	.	1	1	.
	<i>Vaccinium vitis-idaea</i>	E1	.	.	.	.	.	.	.	.	.	1
	<i>Clematis alpina</i>	E2a	.	.	.	.	.	.	.	.	.	.
	<i>Solidago virgaurea</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Maianthemum bifolium</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Huperzia selago</i>	E1	.	.	.	.	1	.	.	+	.	.
	<i>Picea abies</i>	E2a	.	.	.	.	.	.	.	.	.	.
	<i>Lycopodium annotinum</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Polystichum lonchitis</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Calamagrostis villosa</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Dryopteris expansa</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Rhododendron ferrugineum</i>	E1	.	.	.	.	.	.	.	.	.	.

Number of relevé (Zaporedna številka popisa)		1	2	3	4	5	6	7	8	9	10	11
	<i>Larix decidua</i>	E2	.	.	.	.	.	.	.	.	.	.
	<i>Aposeris foetida</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Melampyrum sylvaticum</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Luzula luzuloides</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Lonicera caerulea</i>	E2a	.	.	.	.	.	.	.	.	.	.
	<i>Pyrola minor</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Luzula luzulina</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Oxalis acetosella</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Dryopteris dilatata</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Calamagrostis arundinacea</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Hieracium murorum</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Saxifraga cuneifolia</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Gymnocarpium dryopteris</i>	E1	.	.	.	.	.	.	.	.	.	.
TA	Tilio-Acerion											
	<i>Thalictrum aquilegifolium</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Acer pseudoplatanus</i>	E1	.	.	.	.	.	.	.	.	.	.
FS	Fagetalia sylvaticae											
	<i>Lilium martagon</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Dryopteris filix-mas</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Anemone trifolia</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Luzula nivea</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Melica nutans</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Daphne mezereum</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Galium laevigatum</i>	E1	.	.	.	.	.	.	.	.	.	.
QF	Quercus-Fagetea											
	<i>Hepatica nobilis</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Hieracium lachenalii</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Dactylorhiza fuchsii</i>	E1	.	.	.	.	.	.	.	.	.	.
	<i>Platanthera bifolia</i>	E1	.	.	.	.	.	.	.	.	.	.
O	Other species (Druge vrste)											
	<i>Festuca</i> sp.	E1	.	.	.	1	.	.	.	.	.	.
	<i>Vicia</i> sp.	E1	.	.	.	.	.	.	.	.	.	.
ML	Mosses and lichens (Mahovi in lišaji)											
	<i>Hylocomium splendens</i>	E0	.	.	.	.	.	.	.	.	.	.
	<i>Rhytidiadelphus triquetrus</i>	E0	.	.	.	.	.	.	.	.	.	.
	<i>Tortella tortuosa</i>	E0	.	.	.	.	+	.	.	.	.	.
	<i>Dicranum</i> sp.	E0	.	.	.	.	.	.	.	.	.	.
	<i>Tortella</i> sp.	E0	.	.	.	.	.	+	.	.	.	.
	<i>Dicranum scoparium</i>	E0	.	.	.	.	.	.	.	.	.	.
	<i>Peltigera leucophlebia</i>	E0	.	.	.	.	.	.	.	.	.	.
	<i>Rhytidiadelphus loreus</i>	E0	.	.	.	.	.	.	.	.	.	.
	<i>Cetraria islandica</i>	E0	.	.	.	.	.	.	.	.	.	.
	<i>Cladonia furcata</i>	E0	.	.	.	.	.	.	.	.	.	.

Legend – Legenda

- 1–20 *Dryado-Rhodothamnetum chamaecisti*
 21–30 *Rhododendretum hirsuti vaccinetosum myrtilli*
 Pr. Presence (number of relevés in which the species is presented) -
 število popisov, v katerih se pojavlja vrsta
 Fr. Frequency in % – frekvenca v %
 E2a Lower shrub layer – spodnja grmovna plast

- ID Igor Dakskobler
 BS Boštjan Surina
 A Limestone – apnenec
 D Dolomite – dolomit
 Gr Gravel – grušč
 L Marlstone – laporovec
 Li Lithosol – kamnišče
 Re Rendzina – rendzina

Table 2 (Tabela 2): *Laserpitio peucedanoidis-Salicetum waldsteinianae*

Number of relevé (Zaporedna številka popisa)	1	2	3	4	5	6	7	8	9	10	11	12	13	14			
Database number of relevé (Delovna številka popisa)	200808	200809	200810	200815	200816	200962	216577	212056	201863	202723	202724	203011	203007	203012			
Author of the relevé (Avtor popisa)	BS	BS	BS	BS	BS	BS	ID	ID	TW	ID	ID	ID	ID	ID			
Elevation in m (Nadmorska višina v m)	1620	1600	1620	1745	1745	1550	1690	1620	1870	1350	1630	1820	1590	1770			
Aspect (Lega)	NW	NW	NW	N	N	NE	NE	N	N	NE	N	NE	N	NNE			
Slope in degrees (Nagib v stopinjah)	25	25	20	30	30	30	30	35	30	5	20	10	35	40			
Parent material (Matična podlaga)	A	A	A	A	A	A	A	Gr	A	DA	A	A	Gr	A			
Soil (Tla)	Re	Re	Re	Re	Re	Re	Re	Li	Re	Li	Re	Re	Li	Re			
Stoniness in % (Kamnitost v %)	.	.	.	.	.	.	.	20	.	10	10	20	30	30
Cover of shrub layer in % (Zastiranje grmovne plasti v %)	E2	90	100	100	95	100	100	80	60	100	70	80	30	30	40		
Cover of herb layer in % (Zastiranje zeliščne plasti v %):	E1	60	50	40	10	10	70	60	50	60	60	60	70	70	90		
Cover of moss layer in % (Zastiranje mahovne plasti v %):	E0	10	5	10	.	10	5	.	.	5		
Number of species (Število vrst)	49	43	38	38	31	34	41	35	31	53	74	25	39	41			
Relevé area (Velikost popisne ploskve)	m ²	100	50	100	20	20	25	20	20	20	6	30	5	30	20		
Date of taking relevé (Datum popisa)	7/10/2002	7/10/2002	7/10/2002	7/29/2002	7/29/2002	8/8/2002	8/24/2007	8/8/2006	7/25/1979	8/1/2001	8/7/2001	7/27/2001	8/23/2001	7/27/2001			
Locality (Nahajališče)		Mali Šmohor-Planina na Polju	Mali Šmohor-Planina na Polju	Mali Šmohor-Planina na Polju	Masečnik-Velikti Stador	Masečnik-Velikti Stador	Palec	Čez Brežič	Lisec	Vršič-Krnško pogorje	Pastirjev plaz-Četrr	Lisec	Črna prst	Črna prst	Črna prst		
Quadrant (Kvadrant)	9748/1	9748/1	9748/1	9748/1	9748/1	9748/1	9647/1	9749/4	9747/2	9749/4	9749/4	9749/4	9749/4	9749/4			
Coordinate GK Y (D-48)	m	398742	398730	398711	399515	399514	400459	386904	418125	395057	416788	417667	418000	418245	417982		
Coordinate GK X (D-48)	m	5126496	5126500	5126479	5123837	5123818	5124325	5138872	5121503	5129088	5121920	5122252	5121354	5121558	5121384		
Diagnostic species of the association (Diagnostične vrste asociacije)																	
BA <i>Salix waldsteiniana</i>	E2	4	4	5	5	5	5	5	4	3	3	2	3	2	2	14	100
CA <i>Laserpitium peucedanoides</i>	E1	+	+	+	+	.	.	+	1	.	+	+	.	1	+	10	71
CF <i>Carex ferruginea</i>	E1	2	2	.	1	.	.	+	3	.	1	+	.	3	3	9	64
ES <i>Astrantia bavarica</i>	E1	+	1	+	1	.	.	+	1	.	.	+	.	1	1	9	64
BA <i>Salix glabra</i>	E2	2	2	+	2	2	3	.	+	+	.	8	57
TR <i>Rhodiola rosea</i>	E1	+	+	+	.	.	+	.	+	.	.	+	.	.	.	7	50
ES <i>Selaginella selaginoides</i>	E1	+	+	+	.	+	.	+	1	1	7	50	
CA <i>Pulsatilla alpina</i> subsp. <i>austroalpina</i>	E1	.	+	.	+	.	+	r	.	+	.	6	43
MuA <i>Aconitum angustifolium</i>	E1	1	1	2	+	+	+	6	43
EP <i>Rhodothamnus chamaecistus</i>	E1	+	.	.	+	1	3	21
VP <i>Homogyne sylvestris</i>	E1	+	r	.	.	1	3	21
CF <i>Hedysarum hedysaroides</i>	E1	1	+	1	3	21

Number of relevé (Zaporedna številka popisa)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	Pr.	Fr.		
Differential species of lower units (Razlikovalne vrste nižjih enot)																			
MuA	<i>Saxifraga rotundifolia</i>	E1	+	1	2	+	1	3	+	.	.	.	.	.	.	.	7	50
MuA	<i>Primula elatior</i>	E1	1	1	+	1	1	.	+	.	.	.	.	.	.	.	6	43
PAT	<i>Poa alpina</i>	E1	+	+	1	+	2	+	+	.	.	.	.	.	.	.	7	50
PAT	<i>Phleum rhaeticum</i>	E1	+	.	+	+	+	.	+	.	.	.	.	.	.	.	5	36
BA	<i>Betulo-Alnetea viridis</i>																		
	<i>Salix appendiculata</i>	E2	+	.	1	+	.	.	1	+	.	2	+	.	.	.	7	50	
	<i>Sorbus chamaemespilus</i>	E2a	.	.	.	.	.	.	.	.	2	1	1	.	+	.	4	29
	<i>Alnus viridis</i>	E2a	.	.	.	.	.	.	.	.	2	.	+	.	.	+	3	21
	<i>Juniperus alpina</i>	E2a	.	.	.	.	.	.	.	.	.	+	.	.	.	+	2	14
	<i>Pedicularis recutita</i>	E1	.	.	.	.	.	.	.	+	.	.	.	.	.	.	1	7
MuA	<i>Mulgedio-Aconitetea</i>																		
	<i>Veratrum album</i> subsp. <i>lobelianum</i>	E1	+	+	+	+	+	1	+	+	+	+	.	.	+	.	11	79	
	<i>Viola biflora</i>	E1	2	2	2	2	2	+	.	1	.	.	+	.	+	+	10	71	
	<i>Chaerophyllum villarsii</i>	E1	1	+	1	+	+	1	+	.	+	.	+	.	.	.	9	64	
	<i>Aconitum lycoctonum</i> agg. (<i>A. lupicida</i>)	E1	1	1	2	.	1	2	1	.	.	.	+	.	.	.	7	50	
	<i>Heracleum sphondylium</i> subsp. <i>montanum</i>	E1	.	.	.	+	1	+	+	1	.	.	+	.	+	.	7	50	
	<i>Rumex arifolius</i>	E1	.	.	+	+	1	2	1	.	.	.	+	.	.	.	6	43	
	<i>Geranium sylvaticum</i>	E1	.	.	.	.	.	+	1	.	1	+	+	.	.	.	5	36
	<i>Geum rivale</i>	E1	.	+	+	.	+	+	.	.	+	.	.	.	.	.	5	36
	<i>Hypericum maculatum</i>	E1	.	.	+	+	.	.	1	.	1	.	+	.	.	.	5	36	
	<i>Pleurospermum austriacum</i>	E1	+	.	.	.	.	.	.	+	.	+	+	.	.	.	4	29
	<i>Adenostyles alliariae</i>	E1	.	.	.	.	.	+	+	.	.	.	+	.	.	.	3	21
	<i>Ranunculus plataniifolius</i>	E1	.	.	.	.	.	.	.	+	.	+	+	.	.	.	3	21
	<i>Senecio ovatus</i>	E1	.	.	.	.	+	+	.	.	.	.	.	.	.	.	2	14
	<i>Athyrium filix-femina</i>	E1	.	.	.	.	+	.	.	.	.	.	+	.	.	.	2	14
	<i>Epilobium alpestre</i>	E1	.	.	.	.	.	1	1	.	.	.	.	.	.	.	2	14
	<i>Senecio cacaliaster</i>	E1	.	.	.	.	.	.	.	.	.	.	+	.	.	.	2	14
	<i>Hieracium prenanthoides</i>	E1	.	.	.	.	.	.	.	.	.	1	1	.	.	.	2	14
	<i>Crepis pyrenaica</i>	E1	.	.	.	.	.	.	.	.	.	+	+	.	.	.	2	14
	<i>Athyrium distentifolium</i>	E1	.	.	.	.	.	+	.	.	.	.	.	.	.	.	1	7
	<i>Peucedanum ostruthium</i>	E1	.	.	.	.	.	.	1	.	.	.	.	.	.	.	1	7
	<i>Chaerophyllum hirsutum</i>	E1	.	.	.	.	.	.	+	.	.	.	.	.	.	.	1	7
	<i>Tephrosia longifolia</i>	E1	.	.	.	.	.	.	.	.	.	+	.	.	.	.	1	7
	<i>Eryngium alpinum</i>	E1	.	.	.	.	.	.	.	.	.	1	.	.	.	.	1	7
	<i>Polygonatum verticillatum</i>	E1	.	.	.	.	.	.	.	.	.	1	.	.	.	.	1	7
	<i>Aconitum degenii</i> subsp. <i>paniculatum</i>	E1	.	.	.	.	.	.	.	.	.	.	+	.	.	.	1	7
	<i>Carduus personata</i>	E1	.	.	.	.	.	.	.	.	.	.	+	.	.	.	1	7
	<i>Crepis paludosa</i>	E1	.	.	.	.	.	.	.	.	.	.	+	.	.	.	1	7
	<i>Poa hybrida</i>	E1	.	.	.	.	.	.	.	.	.	.	+	.	.	.	1	7
	<i>Silene vulgaris</i> subsp. <i>antelopum</i>	E1	.	.	.	.	.	.	.	.	.	.	+	.	.	.	1	7
RE	<i>Rhododendro hirsuti-Ericetalia carnea</i>																		
	<i>Rhododendron hirsutum</i>	E1	+	+	.	.	+	.	.	.	+	2	1	.	+	2	8	57	
CFir	<i>Caricion firmae</i>																		
	<i>Ranunculus hybridus</i>	E1	+	.	.	.	.	.	.	.	.	.	.	.	1	+	3	21
	<i>Carex firma</i>	E1	+	+	+	3	21
	<i>Pedicularis rostratocapitata</i>	E1	+	.	+	2	14
	<i>Phyteuma sieberi</i>	E1	r	.	+	2	14
	<i>Dryas octopetala</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	+	1	7
CA	<i>Caricion austroalpinae</i>																		
	<i>Heracleum austriacum</i> subsp. <i>siifolium</i>	E1	+	.	.	.	.	.	.	.	.	.	.	r	.	.	2	14

Number of relevé (Zaporedna številka popisa)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	Pr.	Fr.
CF	Caricion ferrugineae																
	<i>Cerastium subtriflorum</i>	E1	+	.	+	.	.	.	.	.	.	.	.	.	.	.	2 14
	<i>Knautia longifolia</i>	E1	.	.	.	.	.	.	1	.	.	.	.	.	.	.	1 7
	<i>Malaxis monophyllos</i>	E1	.	.	.	.	.	.	1	.	.	.	.	.	.	.	1 7
	<i>Lathyrus occidentalis</i> var. <i>montanus</i>	E1	.	.	.	.	.	.	.	.	.	.	+	.	.	.	1 7
	<i>Serratula macrocephala</i>	E1	.	.	.	.	.	.	.	.	.	.	+	.	.	.	1 7
SV	Seslerietalia coeruleae																
	<i>Galium anisophyllum</i>	E1	1	1	1	1	.	.	.	.	.	.	.	+	.	.	5 36
	<i>Juncus monanthos</i>	E1	+	+	+	.	.	+	.	.	.	.	.	.	.	.	4 29
	<i>Potentilla crantzii</i>	E1	+	+	.	+	.	.	.	.	.	.	.	.	.	.	4 29
	<i>Ranunculus carinthiacus</i>	E1	+	+	+	.	.	.	.	.	.	.	.	.	.	.	3 21
	<i>Helictotrichon parlatorei</i>	E1	.	+	+	.	.	.	.	.	.	.	.	.	.	.	2 14
	<i>Geranium argenteum</i>	E1	.	.	.	+	.	.	.	.	.	.	.	.	.	.	1 7
	<i>Saussurea discolor</i>	E1	.	.	.	.	.	.	.	.	.	.	.	1	.	.	1 7
	<i>Leontopodium alpinum</i>	E1	.	.	.	.	.	.	.	.	.	.	.	r	.	.	1 7
	<i>Thesium alpinum</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	+	.	1 7
ES	Elyno-Seslerietea																
	<i>Aster bellidiastrum</i>	E1	1	+	.	.	.	.	1	.	.	.	+	+	1	+	7 50
	<i>Polygonum viviparum</i>	E1	+	+	+	1	.	.	.	+	.	.	.	1	+	.	7 50
	<i>Betonica alopecuroides</i>	E1	+	1	1	.	+	.	.	.	.	.	.	1	.	.	6 43
	<i>Alchemilla fallax</i>	E1	1	+	1	+	+	.	.	.	.	.	.	.	.	.	5 36
	<i>Alchemilla alpigena</i>	E1	+	+	+	.	.	+	.	.	.	.	.	.	.	.	4 29
	<i>Anemone narcissiflora</i>	E1	.	.	.	.	.	.	.	+	.	.	.	r	+	1	4 29
	<i>Carex sempervirens</i>	E1	+	+	+	+	.	.	.	.	.	.	.	.	.	.	4 29
	<i>Lotus alpinus</i>	E1	+	1	1	.	.	.	.	+	.	.	.	.	.	.	4 29
	<i>Sesleria caerulea</i>	E1	+	.	.	.	.	.	.	.	.	.	.	2	.	1	3 21
	<i>Phyteuma orbiculare</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	+	+	3 21
	<i>Homogyne discolor</i>	E1	.	+	.	.	.	.	1	.	.	.	.	.	.	.	2 14
	<i>Bartsia alpina</i>	E1	.	+	.	.	.	.	.	.	.	.	.	.	.	+	2 14
	<i>Myosotis alpestris</i>	E1	.	.	.	.	.	.	.	+	.	1	.	.	.	.	2 14
	<i>Rhinanthus glacialis</i>	E1	.	.	.	.	.	.	.	1	.	.	.	.	1	.	2 14
	<i>Hieracium villosum</i>	E1	.	.	.	.	.	.	.	.	.	.	.	+	.	.	2 14
	<i>Campanula witasekiana</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1 7
	<i>Ranunculus montanus</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	+	.	1 7
	<i>Thymus praecox</i> subsp. <i>polytrichus</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	+	.	1 7
	<i>Scabiosa lucida</i>	E1	.	.	.	.	.	.	.	.	1	.	.	.	.	.	1 7
	<i>Helianthemum nummularium</i> subsp. <i>grandiflorum</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	+	.	1 7
	<i>Linum julicum</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	1	.	1 7
	<i>Gentianella anisodonta</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	+	1 7
NS	Nardion strictae																
	<i>Potentilla erecta</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	+	1 7
	<i>Coeloglossum viride</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	r	1 7
JT	Juncetea trifidi																
	<i>Campanula scheuchzeri</i>	E1	.	.	.	.	.	.	.	+	.	+	.	.	+	+	5 36
	<i>Anthoxanthum nipponicum</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	+	.	1 7
LV	Loiseleurio-Vaccinietea																
	<i>Arctostaphylos alpinus</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	+	.	1 2 14
AC	Arabidetalia caeruleae																
	<i>Soldanella alpina</i>	E1	+	+	+	.	.	.	1	.	.	+	.	.	.	+	6 43
	<i>Potentilla brauneana</i>	E1	.	+	.	.	.	.	.	.	.	.	.	.	.	.	1 7
	<i>Trifolium pallescens</i>	E1	.	.	.	.	.	.	.	+	.	.	.	.	.	.	1 7

Number of relevé (Zaporedna številka popisa)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	Pr.	Fr.
TR	<i>Thlaspietea rotundifolii</i>																
	<i>Adenostyles glabra</i>	E1	+	1	1	+	1	+	.	1	.	2	+	.	+	.	10 71
	<i>Festuca nitida</i>	E1	+	+	+	.	.	.	+	1	.	.	.	.	.	.	5 36
	<i>Heliosperma alpestre</i>	E1	.	+	.	.	.	.	+	.	.	.	.	.	.	+	3 21
	<i>Valeriana montana</i>	E1	.	.	.	.	.	.	+	+	.	+	.	.	.	.	3 21
	<i>Biscutella laevigata</i>	E1	+	.	.	.	.	.	.	.	.	.	.	.	+	.	2 14
	<i>Saxifraga aizoides</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	+	.	2 14
	<i>Silene vulgaris</i> subsp. <i>glareosa</i>	E1	+	.	.	.	.	.	.	.	.	.	.	.	.	.	1 7
	<i>Pimpinella alpina</i>	E1	.	.	.	.	+	.	.	.	.	.	.	.	.	.	1 7
	<i>Dryopteris villarii</i>	E1	.	.	.	.	.	+	.	.	.	.	.	.	.	.	1 7
	<i>Astrantia carniolica</i>	E1	.	.	.	.	.	.	.	.	.	+	.	.	.	.	1 7
	<i>Gymnocarpium robertianum</i>	E1	.	.	.	.	.	.	.	.	.	+	.	.	.	.	1 7
	<i>Campanula cochlearifolia</i>	E1	.	.	.	.	.	.	.	.	.	.	.	+	.	.	1 7
	<i>Hieracium bifidum</i>	E1	.	.	.	.	.	.	.	.	.	.	.	+	.	.	1 7
	<i>Athamanta cretensis</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	+	.	1 7
PS	<i>Physoplexido-Saxifragion petraeae</i>																
	<i>Paederota lutea</i>	E1	.	+	.	.	.	.	.	.	.	+	.	.	.	.	2 14
	<i>Saxifraga crustata</i>	E1	.	.	.	.	.	.	.	.	.	.	.	+	+	.	2 14
PC	<i>Potentilletalia caulescentis</i>																
	<i>Valeriana saxatilis</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	+	2	2 14
Cy	<i>Cystopteridion fragilis</i>																
	<i>Cystopteris fragilis</i>	E1	.	.	.	.	+	+	.	.	+	.	.	.	.	.	3 21
	<i>Cystopteris regia</i>	E1	.	+	+	.	.	.	.	.	.	.	.	.	.	.	2 14
AT	<i>Asplenieta trichomanis</i>																
	<i>Valeriana tripteris</i>	E1	+	.	.	+	+	+	.	+	1	.	+	.	.	.	7 50
	<i>Asplenium viride</i>	E1	.	+	.	.	.	.	.	1	+	+	.	.	.	.	4 29
CD	<i>Caricetalia davallianae</i>																
	<i>Parnassia palustris</i>	E1	1	+	+	.	.	.	.	+	+	.	.	.	+	+	8 57
	<i>Tofieldia calyculata</i>	E1	+	.	.	.	.	.	.	.	.	.	.	.	1	1	3 21
	<i>Carex capillaris</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	+	.	1 7
	<i>Pinguicula alpina</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	+	1 7
PoT	<i>Poo alpinae-Trisetetalia</i>																
	<i>Trollius europaeus</i>	E1	.	.	.	.	+	+	.	+	.	.	+	r	.	.	5 36
	<i>Cardaminopsis halleri</i>	E1	.	.	.	.	.	.	.	.	1	.	.	.	.	.	2 14
	<i>Pimpinella major</i> subsp. <i>rubra</i>	E1	.	.	.	.	.	.	.	.	.	.	.	1	.	.	1 7
MA	<i>Molinio-Arrhenatheretea</i>																
	<i>Angelica sylvestris</i>	E1	.	.	.	.	.	+	.	+	.	+	.	.	.	.	3 21
	<i>Dactylis glomerata</i>	E1	.	.	.	.	.	.	.	+	.	+	.	1	.	.	3 21
	<i>Trifolium pratense</i>	E1	.	.	.	.	.	.	.	+	.	.	+	r	.	.	3 21
	<i>Deschampsia cespitosa</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2 14
	<i>Lathyrus pratensis</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2 14
	<i>Vicia cracca</i>	E1	.	.	.	1	+	.	.	.	.	.	.	.	.	.	2 14
	<i>Leontodon hispidus</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1 7
	<i>Galium album</i>	E1	.	.	.	.	.	.	.	.	1	.	.	.	.	.	1 7
FB	<i>Festuco-Brometea</i>																
	<i>Gymnadenia conopsea</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	+	1 7
TG	<i>Trifolio-Geranietea</i>																
	<i>Trifolium alpestre</i>	E1	.	.	.	+	.	.	.	.	.	.	.	.	.	.	1 7
	<i>Bupleurum longifolium</i>	E1	.	.	.	.	.	.	.	.	.	+	.	.	.	.	1 7
SS	<i>Sambuco-Salicion caprae</i>																
	<i>Urtica dioica</i>	E1	.	.	.	.	.	.	.	1	.	.	.	.	.	.	1 7

Number of relevé (Zaporedna številka popisa)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	Pr.	Fr.	
	<i>Sorbus aucuparia</i>	E2a	.	.	.	.	.	.	.	.	1	.	.	.	.	1	7
EP	Erico-Pinetea																	
	<i>Rubus saxatilis</i>	E1	.	.	.	.	.	.	.	1	1	1	.	+	.	4	29
	<i>Cirsium erisithales</i>	E1	.	.	.	.	.	.	.	+	.	r	.	+	.	3	21
	<i>Carex ornithopoda</i>	E1	.	.	+	.	.	.	.	.	+	.	.	.	.	2	14
	<i>Buphthalmum salicifolium</i>	E1	.	.	.	.	.	.	.	.	.	r	.	1	.	2	14
	<i>Calamagrostis varia</i>	E1	.	.	.	+	.	.	.	.	.	.	.	.	.	1	7
	<i>Aquilegia nigricans</i>	E1	.	.	.	.	.	.	.	.	.	+	.	.	.	1	7
	<i>Peucedanum austriacum</i> subsp. <i>rablense</i>	E1	.	.	.	.	.	.	.	.	.	.	+	.	.	1	7
VP	Vaccinio-Piceetea																	
	<i>Luzula sylvatica</i>	E1	.	.	+	.	+	1	.	1	.	+	.	.	.	5	36	
	<i>Polystichum lonchitis</i>	E1	.	+	.	.	+	.	.	.	.	+	.	.	.	4	29
	<i>Rosa pendulina</i>	E1	+	2	+	+	.	.	+	5	36
	<i>Solidago virgaurea</i>	E1	.	.	.	.	.	.	.	1	+	+	.	.	r	4	29
	<i>Gentiana asclepiadea</i>	E1	.	.	.	.	.	.	.	1	.	+	+	.	.	3	21
	<i>Dryopteris expansa</i>	E1	.	.	.	.	+	.	.	.	.	.	+	.	.	2	14
	<i>Aposeris foetida</i>	E1	.	.	.	.	.	+	.	.	.	.	+	.	.	2	14
	<i>Vaccinium myrtillus</i>	E1	.	.	.	.	.	.	.	.	.	+	1	.	.	2	14
	<i>Maianthemum bifolium</i>	E1	.	.	.	.	.	.	.	.	.	+	+	.	.	2	14
	<i>Picea abies</i>	E2a	.	.	.	.	.	.	.	.	.	r	.	r	.	2	14
	<i>Clematis alpina</i>	E2a	+	.	.	+	2	14
	<i>Vaccinium vitis-idaea</i>	E1	.	.	.	1	.	.	.	.	.	.	.	.	.	1	7
	<i>Larix decidua</i>	E2	.	.	.	.	.	.	+	.	.	.	.	.	.	1	7
	<i>Pyrola minor</i>	E1	.	.	.	.	.	.	+	.	.	.	.	.	.	1	7
	<i>Abies alba</i>	E2	.	.	.	.	.	.	.	.	.	r	.	.	.	1	7
	<i>Calamagrostis arundinacea</i>	E1	.	.	.	.	.	.	.	.	.	.	+	.	.	1	7
	<i>Hieracium murorum</i>	E1	.	.	.	.	.	.	.	.	.	.	+	.	.	1	7
	<i>Lonicera caerulea</i>	E2a	.	.	.	.	.	.	.	.	.	.	+	.	.	1	7
	<i>Melampyrum sylvaticum</i>	E1	.	.	.	.	.	.	.	.	.	.	+	.	.	1	7
	<i>Luzula luzuloides</i>	E1	.	.	.	.	.	.	.	.	.	.	.	+	.	1	7
	<i>Pyrola rotundifolia</i>	E1	+	1	7
	<i>Huperzia selago</i>	E1	+	1	7
TA	Tilio-Acerion																	
	<i>Thalictrum aquilegifolium</i>	E1	+	.	.	+	+	.	.	+	.	+	+	.	.	6	43	
	<i>Chrysosplenium alternifolium</i>	E1	.	.	.	+	+	1	.	.	.	.	.	.	.	3	21
	<i>Acer pseudoplatanus</i>	E1	.	.	.	.	.	.	.	.	.	.	+	+	.	2	14
	<i>Adoxa moschatellina</i>	E1	+	.	.	.	.	.	.	.	.	.	.	.	.	1	7
AF	Aremonio-Fagion																	
	<i>Cardamine enneaphyllos</i>	E1	+	.	+	.	.	.	.	.	.	.	.	.	.	2	14
	<i>Knautia drymeia</i>	E1	.	.	.	.	.	.	.	.	.	.	.	+	.	1	7
	<i>Rhamnus fallax</i>	E2	.	.	.	.	.	.	.	.	.	.	r	.	.	1	7
FS	Fagetalia sylvaticae																	
	<i>Epilobium montanum</i>	E1	+	.	+	+	+	.	.	.	.	.	.	.	.	4	29
	<i>Dryopteris filix-mas</i>	E1	.	+	.	.	.	+	.	.	.	.	.	+	.	3	21
	<i>Galeobdolon flavidum</i>	E1	.	.	.	.	.	+	.	.	.	.	.	+	.	2	14
	<i>Paris quadrifolia</i>	E1	.	.	.	.	.	+	.	.	.	.	.	+	.	2	14
	<i>Galium laevigatum</i>	E1	.	.	.	.	.	.	.	.	.	.	+	1	.	2	14
	<i>Lilium martagon</i>	E1	+	.	.	.	.	.	.	.	.	.	.	.	.	1	7
	<i>Daphne mezereum</i>	E1	.	.	+	.	.	.	.	.	.	.	.	.	.	1	7
	<i>Lathyrus vernus</i>	E1	+	1	7
	<i>Melica nutans</i>	E1	+	1	7

Number of relevé (Zaporedna številka popisa)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	Pr.	Fr.
	<i>Mercurialis perennis</i>	E1	.	.	.	.	.	.	.	.	.	+	.	.	.	1	7
	<i>Poa nemoralis</i>	E1	.	.	.	.	.	.	.	.	.	+	.	.	.	1	7
QF	Quercus-Fagetea																
	<i>Anemone nemorosa</i>	E1	.	.	.	.	.	.	.	.	.	+	+	.	.	2	14
	<i>Primula veris</i> subsp. <i>columnnae</i>	E1	.	.	.	.	.	+	.	.	.	.	.	.	.	1	7
	<i>Convallaria majalis</i>	E1	.	.	.	.	.	.	.	.	.	.	1	.	.	1	7
O	Other species (Druge vrste)																
	<i>Festuca</i> sp.	E1	+	.	.	+	.	.	.	.	.	.	.	1	+	.	4 29
	<i>Alchemilla</i> sp.	E1	.	.	.	.	.	+	.	.	.	.	.	.	.	.	1 7
	<i>Vicia</i> sp.	E1	.	.	.	.	.	.	.	.	.	.	r	.	.	.	1 7
	<i>Minuartia</i> sp.	E1	.	.	.	.	.	.	.	.	.	.	.	r	.	.	1 7
	<i>Hieracium</i> sp.	E1	.	.	.	.	.	.	.	.	.	.	.	.	+	.	1 7
ML	Mosses and lichens (Mahovi in lišaji)																
	<i>Ctenidium molluscum</i>	E0	.	.	.	.	.	.	2	.	.	+	+	.	.	.	3 21
	<i>Rhytidiadelphus triquetrus</i>	E0	.	.	.	.	.	.	.	.	.	1	+	.	.	.	2 14
	<i>Tortella</i> sp.	E0	.	.	.	.	.	.	.	.	.	.	.	.	+	+	2 14
	<i>Pseudoleskeella catenulata</i>	E1	.	.	.	.	.	.	1	.	.	.	.	.	.	.	1 7
	<i>Marchantia polymorpha</i>	E0	.	.	.	.	.	.	+	.	.	.	.	.	.	.	1 7
	<i>Dicranum scoparium</i>	E0	.	.	.	.	.	.	.	.	.	.	+	.	.	.	1 7
	<i>Schistidium apocarpum</i>	E0	.	.	.	.	.	.	.	.	.	.	+	.	.	.	1 7
	<i>Tortella tortuosa</i>	E0	.	.	.	.	.	.	.	.	.	.	+	.	.	.	1 7

Legend – Legenda

- Pr. Presence (number of relevés in which the species is presented) – število popisov, v katerih se pojavlja vrsta
- Fr. Frequency in % – frekvenca v %
- E2a Lower shrub layer – spodnja grmovna plast
- ID Igor Dakskobler
- BS Boštjan Surina
- TW Tone Wraber
- A Limestone – apnenec
- D Dolomite– dolomit
- Gr Gravel – grušč
- Li Lithosol – kamnišče
- Re Rendzina – rendzina

Table 3: *Laserpitio peucedanoidis-Salicetum waldsteinianae* var. geogr. *Hypericum grisebachii* T. Wraber (*Hyperico grisebachii-Salicetum waldsteinianae* T. Wraber), the Snežnik Mts.

Tabela 3: *Laserpitio peucedanoidis-Salicetum waldsteinianae* var. geogr. *Hypericum grisebachii* T. Wraber (*Hyperico grisebachii-Salicetum waldsteinianae* T. Wraber), Snežniško pogorje

Number of relevé (Zaporedna številka popisa)		1	2	3	4			
Database number of relevé (Delovna številka popisa)		265160	265163	265162	265161			
Author of the relevé (Avtor popisa)		TW	TW	TW	TW			
Elevation in m (Nadmorska višina v m)		1580	1610	1620	1680			
Aspect (Lega)		N	N	W	NWW			
Slope in degrees (Nagib v stopinjah)		25	10	10	25			
Parent material (Matična podlaga)		A	A	A	A			
Soil (Tla)		R	R	R	R			
Cover of shrub and herb layer in % (Zastiranje grmovne in zeliščne plasti v %)		E2/E1 100	100	100	100			
Number of species (Število vrst)		26	32	23	32			
Relevé area (Velikost popisne ploskve)		m ² 20	50	20	60			
Date of taking relevé (Datum popisa)		7/26/1994	8/10/1994	8/24/1997	8/9/1994			
Locality (Nahajališče)		Veliki Snežnik	Veliki Snežnik-Čelo	Kindlerjev vrh	Veliki Snežnik			
Quadrant (Kvadrant)		0452/2	0452/2	0452/2	0452/2			
Coordinate GK Y (D-48)		m 457366	457554	457692	457087			
Coordinate GK X (D-48)		m 5049869	5049898	5049318	5049560			
Diagnostic species of the association (Diagnostične vrste asociacije)							Pr.	Fr.
BA	<i>Salix waldsteiniana</i>	E2a	4	5	5	4	4 100	
MuA	<i>Hypericum richeri</i> subsp. <i>grisebachii</i>	E1	1	1	+	1	4 100	
CA	<i>Laserpitium peucedanoides</i>	E1	1	1	.	.	2 50	
CF	<i>Carex ferruginea</i>	E1	2	1	.	.	2 50	
CA	<i>Pulsatilla alpina</i> subsp. <i>australpina</i>	E1	1	1	.	.	2 50	
VP	<i>Homogyne sylvestris</i>	E1	.	1	+	.	2 50	
MuA	Mulgedio-Aconitetea							
	<i>Geranium sylvaticum</i>	E1	1	1	1	1	4 100	
	<i>Veratrum album</i> subsp. <i>album</i>	E1	1	1	.	1	3 75	
	<i>Heracleum sphondylium</i> subsp. <i>montanum</i>	E1	+	+	.	+	3 75	
	<i>Viola biflora</i>	E1	.	+	1	1	3 75	
	<i>Aconitum lycoctonum</i> s. lat. (<i>A. lupicida</i>)	E1	.	1	+	.	2 50	
	<i>Allium victorialis</i>	E1	.	+	+	.	2 50	
	<i>Crepis paludosa</i>	E1	.	+	+	.	1 50	
	<i>Silene vulgaris</i> subsp. <i>antelopum</i>	E1	.	1	.	+	2 50	
	<i>Doronicum austriacum</i>	E1	.	.	1	2	2 50	
	<i>Saxifraga rotundifolia</i>	E1	.	.	1	+	2 50	
	<i>Adenostyles alliariae</i>	E1	.	.	.	2	1 25	
	<i>Cicerbita alpina</i>	E1	.	.	.	1	1 25	
	<i>Rumex arifolius</i>	E1	.	.	.	1	1 25	
	<i>Senecio ovatus</i>	E1	.	.	.	2	1 25	
	<i>Tephrosia longifolia</i>	E1	.	.	.	1	1 25	
RE	Rhododendro hirsuti-Ericetalia carnea							
	<i>Rhododendron hirsutum</i>	E2a	+	.	.	.	1 25	
CA	Caricion austroalpinae							
	<i>Gentiana lutea</i> subsp. <i>symphyandra</i>	E1	+	.	.	.	1 25	
	<i>Koeleria eriostachya</i>	E1	.	.	.	+	1 25	
ES	Elyno-Seslerietea							
	<i>Campanula witasekiana</i>	E1	+	+	.	1	3 75	
	<i>Rhinanthus glacialis</i>	E1	.	+	.	.	1 25	
	<i>Myosotis alpestris</i>	E1	.	.	+	.	1 25	
	<i>Homogyne discolor</i>	E1	.	.	.	2	1 25	
	<i>Bartsia alpina</i>	E1	.	.	.	+	1 25	
	<i>Phyteuma orbiculare</i>	E1	.	.	.	+	1 25	
	<i>Polygonum viviparum</i>	E1	.	.	.	+	1 25	

Number of relevé (Zaporedna številka popisa)		1	2	3	4	Pr.	Fr.
NS	Nardion strictae						
	<i>Coeloglossum viride</i>	E1	.	.	+	1	25
AC	Arabidetalia caeruleae						
	<i>Soldanella alpina</i>	E1	+	1	1	4	100
TR	Iblaspietea rotundifolii						
	<i>Festuca nitida</i>	E1	+	.	.	1	25
	<i>Rumex scutatus</i>	E1	.	+	.	1	25
	<i>Adenostyles glabra</i>	E1	.	.	+	1	25
	<i>Dryopteris villarii</i>	E1	.	.	+	1	25
	<i>Heliosperma alpestre</i>	E1	.	.	.	1	25
AT	Asplenietea trichomanis						
	<i>Asplenium viride</i>	E1	+	.	+	2	50
	<i>Valeriana tripteris</i>	E1	.	+	1	2	50
PoT	Poo alpinae-Trisetetalia						
	<i>Trollius europaeus</i>	E1	+	1	.	3	75
	<i>Festuca nigrescens</i>	E1	.	.	.	1	25
MA	Molinio-Arrhenatheretea						
	<i>Deschampsia cespitosa</i>	E1	.	.	.	1	25
	<i>Trifolium pratense</i>	E1	.	.	.	1	25
FB	Festuco-Brometea						
	<i>Gymnadenia conopsea</i>	E1	.	+	.	1	25
TG	Trifolio-Geranietea						
	<i>Lilium carniolicum</i>	E1	.	+	.	1	25
SS	Sambuco-Salicion capreae						
	<i>Rubus idaeus</i>	E2a	.	.	.	1	25
EP	Erico-Pinetea						
	<i>Cirsium erisithales</i>	E1	1	2	+	4	100
	<i>Rubus saxatilis</i>	E1	1	+	1	3	75
	<i>Calamagrostis varia</i>	E1	2	3	.	2	50
	<i>Buphthalmum salicifolium</i>	E1	+	.	.	1	25
	<i>Pinus mugo</i>	E2a	.	.	.	1	25
VP	Vaccinio-Picetea						
	<i>Rosa pendulina</i>	E2a	+	+	+	2	75
	<i>Aposeris foetida</i>	E1	+	2	.	2	50
	<i>Polystichum lonchitis</i>	E1	.	+	+	2	50
	<i>Homogyne alpina</i>	E1	+	.	.	1	25
	<i>Solidago virgaurea</i>	E1	+	.	.	1	25
AF	Aremonio-Fagion						
	<i>Cardamine enneaphyllos</i>	E1	+	.	.	1	25
FS	Fagetalia sylvaticae						
	<i>Mercurialis perennis</i>	E1	2	2	.	2	50
	<i>Daphne mezereum</i>	E2a	.	+	.	1	25
	<i>Galeobdolon flavidum</i>	E1	.	+	.	1	25
	<i>Actaea spicata</i>	E1	.	.	+	1	25
	<i>Poa nemoralis</i>	E1	.	.	+	1	25
	<i>Myosotis sylvatica</i> agg.	E1	.	.	.	1	25
QF	Quercio-Fagetea						
	<i>Anemone nemorosa</i>	E1	+	1	+	3	75
O	Other species (Druge vrste)						
	<i>Alchemilla</i> sp.	E1	.	.	.	1	25

Legend – Legenda

Pr. Presence (number of relevés in which the species is presented) –
število popisov, v katerih se pojavlja vrsta
Fr. Frequency in % – frekvenca v %

E2a Lower shrub layer – spodnja grmovna plast
TW Tone Wraber
A Limestone – apnenec
Re Rendzina – rendzina

Table 4 (Tabela 4): *Heliospermo-Rhododendretum hirsuti*, *Homogyno sylvestris-Salicetum glabrae*, *Rhododendro hirsuti-Salicetum appendiculatae*

Number of relevé (Zaporedna številka popisa)	1	2	3	4	5	6	7	8	9	10
Database number of relevé (Delovna številka popisa)	242190	263999	264000	254614	242193	203423	234497	234602	244299	246958
Author of the relevé (Avtor popisa)	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Elevation in m (Nadmorska višina v m)	1300	1125	1125	1365	1353	1080	1110	1020	940	950
Aspect (Lega)	0	NNW	NW	0	0	NE	N	NE	NE	N
Slope in degrees (Nagib v stopinjah)	0	45	50	0-5	0-10	25	45	30	35	45
Parent material (Matična podlaga)	A	A	A	DA	A	DA	D	Gr	D	DA
Soil (Tla)	Li	Re	Li	Li	Li	Re	Li	Li	Re	Li
Stoniness in % (Kamnitost v %)	90	30	10	90	90	.	.	30	20	30
Cover of tree layer in % (Zastiranje drevesne plasti v %)	E3	.	.	.	.	.	.	.	.	.
Cover of shrub layer in % (Zastiranje grmovne plasti v %)	E2	70	70	60	60	50	40	80	90	70
Cover of herb layer in % (Zastiranje zeliščne plasti v %)	E1	30	40	40	30	30	80	60	40	60
Cover of moss layer in % (Zastiranje mahovne plasti v %)	E0	20	40	10	30	20	5	10	5	5
Number of species (Število vrst)	41	31	28	45	33	43	57	37	27	26
Relevé area (Velikost popisne ploskve)	m ²	100	50	50	50	100	50	50	100	10
Date of taking relevé (Datum popisa)	7/18/2001	7/5/2016	7/5/2016	10/6/2014	7/18/2001	8/28/1992	8/22/2003	8/20/2003	8/10/2012	7/26/2002
Locality (Nahajališče)	Kraljeva kamra	Paradana	Paradana	Veliki Golak	Veliki Golak	Pl. Lašca	Stanov rob-Grovcenk	Poldanovec	Poldanovec	Drnova
Quadrant (Kvadrant)	0049/1	0049/1	0049/1	0049/1	0049/1	9748/1	9948/4	9949/3	9949/3	9850/1
Coordinate GK Y (D-48)	m	414064	410873	410875	413230	413752	401015	409032	410132	409961
Coordinate GK X (D-48)	m	5092766	5094512	5094502	5093029	5092892	5124715	5097476	5096997	5097069
		414064	410873	410875	413230	413752	401015	409032	410132	409961
		5092766	5094512	5094502	5093029	5092892	5124715	5097476	5096997	5097069

Diagnostic species of the associations (Diagnostične vrste asociacij)

		1	2	3	4	5	6	7	8	9	10	
EP	<i>Rhododendron hirsutum</i>	E2a	4	4	3	4	2		1	4	3	3
BA	<i>Salix waldsteiniana</i>	E2a	2	2	3	1	1		.	.	.	.
Cy	<i>Carex brachystachys</i>	E1	+	2	+	.	r		.	.	.	+
CF	<i>Heliosperma pusillum</i>	E1	+	2	2	+	+		.	.	.	.
CD	<i>Carex capillaris</i>	E1	+	1	+	+	+		.	.	.	.
EP	<i>Rhodothamnus chamaecistus</i>	E1	.	1	1	1	.		+	+	.	.
OE	<i>Carex atrata</i>	E1	+	.	.	+	+		.	.	.	.
AC	<i>Salix retusa</i>	E1	1	1	.	.	+		.	.	.	.
MuA	<i>Salix glabra</i>	E2	1	+	+	1	.		2	4	4	4
EP	<i>Calamagrostis varia</i>	E1	+	.	+	.	.		2	1	2	3
ES	<i>Sesleria caerulea</i>	E1	.	.	.	.	.		1	1	+	+
EP	<i>Erica carnea</i>	E1	.	.	.	.	.		1	1	.	2
VP	<i>Homogyna sylvestris</i>	E1	.	.	.	.	.		+	1	1	1
CF	<i>Carex ferruginea</i>	E1	.	.	.	.	.		+	1	1	1
AF	<i>Cyclamen purpurascens</i>	E1	.	.	.	.	.		+	+	+	+
ES	<i>Betonica alopecuroides</i>	E1	.	.	.	.	.		+	1	+	+

11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
247016	253848	264003	264004	241068	242191	259083	259084	263998	246103	254613	258724	251415	264001	262103	248110	248112	248113
ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
970	1360	1730	1650	1390	1310	1435	1445	1125	1060	1370	1330	1485	1130	1500	470	470	470
NE	W	SW	SW	SW	SW	N	SWW	SE	NE	NE	W	NE	SW	NW	0	0	0
35	35	20	25	30	25	25	25	45	30	30	30	60	35	30	0	0	0-10
D	D	A	A	A	A	Gr	Gr	A	A	DA	Gr	A	A	A	Gr	Gr	Gr
Re	Re	Re	Re	Li	Re	Re	Re	Re	Re	Re	Li	Re	Re	Re	Re	Re	Li
30	.	10	10	90	60	20	30	20	.	10	70	40	20	40	30	20	60
.	.	.	.	5	.	5	.	.	30	30	.	.	.	.	.	.	.
30	60	90	80	40	80	80	80	80	70	60	60	80	80	80	80	80	70
80	90	70	90	20	40	70	70	80	80	80	80	60	50	70	40	40	30
5	.	.	.	5	10	30	20	10	10	10	20	20	20	10	70	60	40
42	42	26	35	33	38	61	61	64	58	42	59	50	34	67	26	36	83
100	30	50	50	100	100	100	100	100	100	100	100	50	50	100	100	100	50
6/29/1999	8/2/2014	8/2/2016	8/2/2016	6/21/2011	7/18/2001	6/22/2015	6/22/2015	7/5/2016	5/18/2012	10/6/2014	6/11/2015	6/25/2013	7/5/2016	7/12/2016	5/1/2013	5/1/2013	7/16/2001
Bedrova grapa	Muzec- Planjca	Bala- Osojniki	Bala- Prevala	Veliki Golak	Kraljeva kamra	Mali Golak	Mali Golak	Paradana	Vrh Hoje	Veliki Golak	Breginjski Stol-Dol	Matajur- Glava	Paradana	Črna gora- pl. Lisec	Pradol	Pradol	Pradol
0049/1	9746/2	9648/1	9647/2	0049/1	0049/1	0049/1	0049/1	0049/1	0049/4	0049/1	9746/2	9747/3	0049/1	9749/4	9746/4	9746/4	9746/4
415919	378288	397557	397454	413255	414081	412423	412435	410857	418548	413236	380857	387807	410876	418380	380753	381002	381145

1	1	r	2	3	1	4	1	+	2	+	1	2	4	4	1	.	1
.	.	1	+	.	+	.	.	.	.	+	1	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.	.	.	+	1	.	.	.	+
.	+
+
.
2	4	+	.	.	1	2	.	.	.	+	.	.	1	+	.	.	1
1	+	.	.	+	+	.	.	.	1	.	.	.	+	.	.	.	r
3	2	.	.	.	.	+	.	.	.	.	1	2	.	.	1	.	2
2	+	.	.	+	.	.	+	.	.	.	.	.	.	.	.	.	.
r	.	.	.	.	.	1	.	.	1	.	.	.	.	.	.	.	.
2	.	.	+	.	.	.	.	.	.	.	.	.	.	+	.	.	.
+	+	.	.	+
1	1	.	.	+	.	.	+	.	.	.	.	.	.	.	.	.	.

Pr.	Fr.
27	96
10	36
8	29
6	21
6	21
6	21
4	14
3	11
18	64
14	50
12	43
8	29
8	29
7	25
7	25
8	29

Number of relevé (Zaporedna številka popisa)		1	2	3	4	5	6	7	8	9	10
QP	<i>Ostrya carpiniifolia</i>	E2b	.	.	.	.	+	.	+	+	.
QP	<i>Ostrya carpiniifolia</i>	E2a	.	.	.	.	.	.	.	+	+
QP	<i>Ostrya carpiniifolia</i>	E1	.	.	.	.	.	.	.	.	1
AF	<i>Knautia drymeia</i>	E1	.	.	.	.	.	1	+	+	.
TR	<i>Astrantia carniolica</i>	E1	.	.	.	.	1	1	+	.	.
MuA	<i>Salix appendiculata</i>	E2b	+	.	.	.	.	.	+	1	.
MuA	<i>Salix appendiculata</i>	E2a	+	1	.	1	+	.	.	.	1
PC	<i>Paederota lutea</i>	E1	1	+	1	+	1	.	1	.	.
AF	<i>Cardamine trifolia</i>	E1	.	.	.	+	.	.	.	.	.
AT	<i>Polypodium vulgare</i>	E1	.	.	.	.	+	.	.	.	.
TA	<i>Dryopteris remota</i>	E1	.	.	.	.	.	.	.	.	.
TA	<i>Phyllitis scolopendrium</i>	E1	.	.	.	.	.	.	.	.	.
BA	Betulo-Alnetea viridis										
	<i>Ribes alpinum</i>	E2a	.	.	.	.	.	.	.	.	.
	<i>Sorbus chamaemespilus</i>	E2	.	.	.	.	.	.	.	.	.
	<i>Juniperus alpina</i>	E2a	.	.	.	.	.	.	.	.	.
	<i>Alnus viridis</i>	E2a	.	.	.	.	.	.	.	.	.
MuA	Mulgedio-Aconitetea										
	<i>Viola biflora</i>	E1	.	1	1	+	1	.	.	.	.
	<i>Veratrum album</i> subsp. <i>lobelianum</i>	E1	.	.	.	.	.	.	.	+	.
	<i>Athyrium filix-femina</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Geranium sylvaticum</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Polygonatum verticillatum</i>	E1	+	.	.	.	.	.	.	.	.
	<i>Ranunculus platanifolius</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Doronicum austriacum</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Aconitum lycoctonum</i> agg. (<i>A. lupicida</i>)	E1	.	.	.	.	.	.	.	.	.
	<i>Saxifraga rotundifolia</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Hypericum maculatum</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Senecio cacaliaster</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Crepis paludosa</i>	E1	.	.	.	.	.	.	.	+	.
	<i>Peucedanum ostruthium</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Epilobium alpestre</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Allium victorialis</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Chaerophyllum hirsutum</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Pleurospermum austriacum</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Adenostyles alliariae</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Geum rivale</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Chaerophyllum villarsii</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Silene dioica</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Pedicularis hacquetii</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Carduus personata</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Myrrhis odorata</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Phyteuma ovatum</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Silene vulgaris</i> subsp. <i>antelopum</i>	E1	.	.	.	.	.	.	.	.	.
RE	Rhododendro hirsuti-Ericetalia carnea										
	<i>Pinus mugo</i>	E2	.	.	.	.	+	+	.	.	.
CFir	Caricion firmae										
	<i>Carex firma</i>	E1	.	.	.	.	.	+	+	.	.
CA	Caricion austroalpinae										
	<i>Laserpitium peucedanoides</i>	E1	.	.	.	.	.	.	1	.	.

11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	Pr.	Fr.
+	+	5	18
+	3	11
.	1	4
+	4	14
.	3	11
.	+	4	4	3	4	4	4	4	4	4	1	4	4	3	4	4	4	20	71
.	.	+	.	1	.	.	+	.	1	.	.	.	.	.	.	.	.	10	36
.	.	.	.	1	+	+	1	+	+	+	.	+	1	.	.	.	.	15	54
.	+	1	.	2	3	2	.	.	.	+	+	.	8	29
.	2	3	1	4	14
.	+	+	+	3	11
.	+	+	.	2	7
.	+	.	+	+	+	+	5	18
.	.	.	r	.	.	1	1	.	.	.	.	.	.	1	.	.	.	4	14
.	.	.	1	.	.	.	.	.	.	.	.	.	.	1	.	.	.	2	7
.	2	.	.	.	1	4
.	.	+	1	.	+	+	+	+	+	+	2	+	.	.	.	.	.	14	50
.	.	1	1	.	+	1	2	1	+	.	.	+	.	1	.	+	.	11	39
.	+	1	1	1	+	2	1	.	.	+	.	.	.	8	29
.	.	.	+	+	+	+	+	.	.	.	+	6	21
.	1	1	+	.	.	.	1	.	1	.	.	.	6	21
.	+	1	+	+	.	.	+	.	1	.	.	.	6	21
.	1	1	2	2	.	.	.	.	.	+	.	.	.	5	18
.	.	2	1	.	.	.	.	.	.	.	.	+	.	1	.	.	.	4	14
.	.	.	+	.	1	.	1	.	.	.	.	.	.	+	.	.	.	4	14
.	.	1	+	.	.	.	.	.	.	.	.	.	.	+	.	.	.	3	11
.	.	+	1	.	.	.	.	.	.	.	.	.	.	+	.	.	.	3	11
.	+	.	.	.	2	7
.	.	3	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	7
.	.	+	.	.	+	2	7
.	.	+	+	.	.	.	2	7
.	.	+	+	.	.	.	2	7
.	+	1	.	.	.	2	7
.	+	.	.	.	+	.	.	.	2	7
.	+	.	.	1	.	.	.	2	7
.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
.	+	1	4
.	1	.	.	.	1	4
.	+	.	.	.	1	4
.	+	.	.	.	1	4
.	+	.	.	.	1	4
.	+	.	.	.	1	4
.	+	.	+	4	14
.	2	7
1	+	.	+	.	.	+	+	.	.	.	6	21

Number of relevé (Zaporedna številka popisa)		1	2	3	4	5	6	7	8	9	10
	<i>Festuca calva</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Carduus crassifolius</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Centaurea haynaldii</i> subsp. <i>julica</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Gentiana lutea</i> subsp. <i>symphyandra</i>	E1	.	.	.	.	.	.	.	.	.
CF	Caricion ferrugineae										
	<i>Knautia longifolia</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Malaxis monophyllos</i>	E1	.	.	.	.	+	.	.	.	.
	<i>Serratula macrocephala</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Lathyrus occidentalis</i> var. <i>montanus</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Cerastium subtriflorum</i>	E1	.	.	.	.	.	.	.	.	.
SV	Seslerietalia coeruleae										
	<i>Erigeron glabratus</i>	E1	.	.	.	+	.	.	.	.	.
	<i>Gentiana clusii</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Leucanthemum heterophyllum</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Leontopodium alpinum</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Galium anisophyllum</i>	E1	.	.	.	.	.	.	.	.	.
ES	Elyno-Seslerietea										
	<i>Aster bellidiastrum</i>	E1	+	.	.	1	+	.	+	.	.
	<i>Campanula witasekiana</i>	E1	+	.	.	+	+	+	+	.	.
	<i>Phyteuma orbiculare</i>	E1	.	.	.	.	.	+	.	.	.
	<i>Hieracium villosum</i>	E1	+	.	.	+	.	.	.	.	.
	<i>Scabiosa lucida</i> subsp. <i>stricta</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Polygonum viviparum</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Thymus praecox</i> subsp. <i>polytrichus</i>	E1	.	.	.	+	.	.	.	.	.
	<i>Selaginella selaginoides</i>	E1	.	.	.	.	.	+	.	.	.
	<i>Senecio abrotanifolius</i>	E1	.	.	.	.	.	.	+	.	.
	<i>Hieracium pilosum</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Carex sempervirens</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Myosotis alpestris</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Ranunculus montanus</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Astrantia bavarica</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Euphrasia salisburgensis</i>	E1	.	.	.	.	.	.	.	.	.
NS	Nardion strictae										
	<i>Potentilla erecta</i>	E1	.	.	.	.	.	.	.	.	.
JT	Juncetea trifidi										
	<i>Campanula scheuchzeri</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Botrychium lunaria</i>	E1	.	.	.	.	.	.	.	.	.
AC	Arabidetalia caeruleae										
	<i>Salix serpyllifolia</i>	E1	.	.	.	.	3	.	.	.	.
	<i>Soldanella minima</i>	E1	.	.	.	.	.	.	+	.	.
	<i>Soldanella alpina</i>	E1	.	.	.	.	.	.	.	.	.
TR	Thlaspietea rotundifolii										
	<i>Adenostyles glabra</i>	E1	.	.	.	.	.	.	r	3	3
	<i>Gymnocarpium robertianum</i>	E1	.	.	.	.	.	.	+	1	3
	<i>Hieracium bifidum</i>	E1	.	.	.	.	.	.	.	.	1
	<i>Dryopteris villarii</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Festuca nitida</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Molopospermum peloponnesiacum</i> subsp. <i>baubinii</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Campanula cochlearifolia</i>	E1	.	+	.	.	.	.	.	.	.
	<i>Campanula cespitosa</i>	E1	.	.	.	.	.	.	+	.	+

11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	Pr.	Fr.
.	.	.	+	.	.	.	.	.	.	.	1	.	.	.	.	.	.	2	7
.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
.	.	+	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	7
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	1	4
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	1	4
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	1	4
+	.	.	.	.	.	+	.	.	+	.	.	1	.	+	.	.	.	9	32
.	+	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	7	25
.	+	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	1	4	14
.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	3	11
.	+	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	2	7
.	.	.	.	.	.	.	.	.	.	.	+	.	.	1	.	.	.	2	7
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	1	4
.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	1	4
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	1	4
.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
.	.	.	+	.	.	.	.	.	.	.	+	+	.	.	.	.	.	3	11
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	1	4
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	1	4
+	.	.	.	1	.	1	.	+	.	+	.	+	.	+	.	.	r	12	43
.	.	.	1	.	.	.	.	r	.	.	+	.	.	.	.	.	+	8	29
+	.	.	.	r	.	.	.	.	.	.	+	.	+	.	.	.	.	5	18
.	.	+	.	.	.	+	+	.	.	.	+	+	.	.	.	.	.	5	18
.	.	+	1	.	.	.	.	.	.	.	.	.	.	+	.	.	.	3	11
.	.	.	.	.	.	.	.	.	.	.	1	1	.	.	.	.	+	3	11
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	2	7
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	7

Number of relevé (Zaporedna številka popisa)		1	2	3	4	5	6	7	8	9	10
	<i>Petasites paradoxus</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Valeriana montana</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Rhodiola rosea</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Cystopteris montana</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Geranium macrorrhizum</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Rumex scutatus</i>	E1	.	.	.	.	.	+	.	.	.
	<i>Heliosperma alpestre</i>	E1	.	.	.	.	.	+	.	.	.
	<i>Saxifraga caesia</i>	E1	.	.	.	.	.	.	+	.	.
	<i>Hieracium porrifolium</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Aquilegia einseleana</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Arabis alpina</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Hieracium caesium</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Ligusticum seguieri</i>	E1	.	.	.	.	.	.	.	.	.
PS	Physoplexido-Saxifragion petraeae										
	<i>Campanula carnica</i>	E1	.	.	.	.	.	+	.	.	.
	<i>Phyteuma scheuchzeri</i> subsp. <i>columnae</i>	E1	+	.	.	.	.	.	.	.	.
	<i>Saxifraga crustata</i>	E1	.	.	.	.	.	.	.	.	.
PC	Potentilletalia caulescentis										
	<i>Valeriana saxatilis</i>	E1	1	1	2	+	+	+	1	.	2
	<i>Primula auricula</i>	E1	.	2	.	.	.	.	.	.	.
Cy	Cystopteridion fragilis										
	<i>Cystopteris fragilis</i>	E1	+	+	.	.	.	.	.	.	.
	<i>Cystopteris regia</i>	E1	.	.	.	.	+	.	.	.	.
	<i>Primula carniolica</i>	E1	.	.	+	.	.	.	.	.	.
	<i>Saxifraga petraea</i>	E1	.	.	.	.	.	.	.	.	.
AT	Asplenietea trichomanis										
	<i>Asplenium viride</i>	E1	+	.	.	+	+	.	+	+	.
	<i>Valeriana tripteris</i>	E1	.	.	.	.	.	.	+	.	.
	<i>Asplenium ruta-muraria</i>	E1	+	.	.	+	+	.	.	.	.
	<i>Asplenium trichomanes</i>	E1	.	.	.	.	+	.	.	.	.
	<i>Moebria muscosa</i>	E1	.	.	.	+	.	.	.	.	.
	<i>Polypodium interjectum</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Hieracium glaucum</i>	E1	.	.	.	.	.	.	.	.	r
	<i>Micromeria thymifolia</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Ceterach javorkeanum</i>	E1	.	.	.	.	.	.	.	.	.
CD	Caricetalia davallianae										
	<i>Parnassia palustris</i>	E1	+	+	.	+	.	1	+	+	.
	<i>Pinguicula alpina</i>	E1	1	.	.	.	.	.	+	.	.
	<i>Tofieldia calyculata</i>	E1	+	.	.	.	.	.	+	.	+
PoT	Poo alpinae-Trisetetalia										
	<i>Poa alpina</i>	E1	.	+	.	.	+	.	.	.	.
	<i>Ranunculus nemorosus</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Trollius europaeus</i>	E1	.	.	.	.	.	.	.	.	.
MA	Molinio-Arrhenatheretea										
	<i>Dactylis glomerata</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Lotus corniculatus</i>	E1	.	.	.	.	.	+	+	.	.
	<i>Leontodon hispidus</i>	E1	.	.	.	.	.	+	.	.	.
	<i>Deschampsia cespitosa</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Angelica sylvestris</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Trifolium pratense</i>	E1	.	.	.	.	.	.	.	.	.

11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	Pr.	Fr.
+	+	2	7
.	.	+	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	7
.	.	+	1	.	.	.	2	7
.	+	+	2	7
.	1	.	.	.	3	.	.	2	7
.	1	4
.	1	4
.	1	4
+	1	4
.	+	1	4
.	+	1	4
.	+	1	4
.	r	1	4
.	+	2	7
.	1	4
.	r	.	.	.	.	.	.	.	.	.	.	.	1	4
1	+	+	.	.	+	+	.	.	1	.	.	.	.	14	50
.	1	.	.	.	.	.	2	7
.	.	+	+	+	+	+	+	+	9	32
.	.	1	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	3	11
.	r	.	.	.	.	.	.	.	.	.	.	.	2	7
.	r	1	4
.	.	.	+	.	+	+	+	+	+	+	1	+	1	.	.	.	+	16	57
.	1	1	+	1	.	1	1	+	.	.	.	+	9	32
.	.	.	.	+	1	5	18
.	+	+	+	5	18
.	+	2	7
.	+	+	2	7
.	1	4
.	+	1	4
.	r	1	4
+	7	25
+	r	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	5	18
1	+	5	18
.	+	.	+	+	.	.	.	5	18
.	+	.	.	.	1	4
.	+	.	.	.	1	4
.	.	.	+	2	7
.	2	7
.	1	4
.	.	.	+	1	4
.	1	4
.	+	.	.	.	1	4
.	+	.	.	.	1	4

Number of relevé (Zaporedna številka popisa)		1	2	3	4	5	6	7	8	9	10
	<i>Taraxacum officinale</i>	E1	.	.	.	.	.	.	.	.	.
FB	Festuco-Brometea										
	<i>Gymnadenia conopsea</i>	E1	.	.	.	.	+	+	.	.	+
	<i>Carlina acaulis</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Bromopsis transsilvanica</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Carex humilis</i>	E1	.	.	.	.	.	.	.	.	+
	<i>Brachypodium rupestre</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Linum catharticum</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Galium verum</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Koeleria pyramidata</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Galium lucidum</i>	E1	.	.	.	.	.	.	.	.	.
TG	Trifolio-Geranietea										
	<i>Grafia golaka</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Lilium carniolicum</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Polygonatum odoratum</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Laserpitium latifolium</i>	E1	.	.	.	.	.	.	.	.	.
GU	Galio-Urticetea										
	<i>Urtica dioica</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Lamium maculatum</i>	E1	.	.	.	.	.	.	.	.	.
SSC	Sambuco-Salicion capreae, Rhamno-Prunetea										
	<i>Sorbus aucuparia</i>	E3a	.	.	.	.	.	.	.	.	.
	<i>Sorbus aucuparia</i>	E2b	+	.	.	.	+	+	.	.	.
	<i>Sorbus aucuparia</i>	E2a	.	.	.	.	.	.	.	.	.
	<i>Sorbus aucuparia</i>	E1	+	.	.	.	.	.	.	.	.
	<i>Juniperus communis</i>	E2a	.	.	.	.	.	.	.	.	.
EA	Epilobietea angustifolii										
	<i>Rubus idaeus</i>	E2a	.	.	.	.	.	.	.	.	.
	<i>Fragaria vesca</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Sambucus racemosa</i>	E2	.	.	.	.	.	.	.	.	.
	<i>Hypericum hirsutum</i>	E1	.	.	.	.	.	.	.	.	.
EP	Erico-Pinetea										
	<i>Rubus saxatilis</i>	E1	1	+	+	+	+	.	1	1	1
	<i>Cirsium erisithales</i>	E1	.	.	.	.	.	.	1	1	.
	<i>Carex ornithopoda</i>	E1	+	.	+	+	+	.	.	+	+
	<i>Buphthalmum salicifolium</i>	E1	.	.	.	.	.	.	+	+	.
	<i>Polygala chamaebuxus</i>	E1	.	.	.	.	.	.	+	.	1
	<i>Molinia caerulea</i> subsp. <i>arundinacea</i>	E1	.	.	.	.	.	.	1	+	.
	<i>Amelanchier ovalis</i>	E2	.	.	.	.	.	+	.	.	.
	<i>Allium ericetorum</i>	E1	.	.	.	.	.	.	+	.	.
	<i>Chamaecytisus hirsutus</i>	E1	.	.	.	.	.	.	.	.	r
	<i>Aquilegia nigricans</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Pinus nigra</i>	E2a	.	.	.	.	.	.	r	.	.
	<i>Leontodon incanus</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Asperula aristata</i>	E1	.	.	.	.	.	.	.	.	.
VP	Vaccinio-Picetea										
	<i>Clematis alpina</i>	E2a	1	+	1	+	+	1	1	+	+
	<i>Rosa pendulina</i>	E2a	.	.	.	.	.	+	+	+	+
	<i>Gentiana asclepiadea</i>	E1	.	.	.	.	.	+	1	+	+
	<i>Vaccinium myrtillus</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Phegopteris connectilis</i>	E1	+	.	+	.	.	.	+	.	.

11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	Pr.	Fr.
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	1	4
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	11
+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	7
.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	2	7
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	1	4
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	1	4
.	+	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	2	7
.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
.	.	.	.	.	+	.	.	+	.	1	2	.	.	.	+	+	.	6	21
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	1	4
.	.	.	.	.	.	1	.	.	3	2	.	.	.	.	.	.	.	3	11
.	.	.	+	.	1	1	+	.	.	.	1	+	.	2	.	+	.	11	39
.	.	.	.	.	.	+	.	.	.	.	.	+	.	+	.	.	r	4	14
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	2	7
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	1	4
.	.	.	.	.	+	.	1	+	+	2	1	1	.	.	+	+	+	10	36
.	.	.	.	.	.	.	.	+	.	.	+	.	+	.	.	.	.	3	11
.	.	.	.	.	.	.	+	.	+	.	.	.	.	.	.	.	.	2	7
.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	1	4
.	.	.	.	+	+	1	.	.	+	.	+	2	1	1	.	.	+	17	61
+	1	.	.	+	.	.	+	.	+	.	.	+	.	+	.	.	.	9	32
.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	7	25
1	+	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	5	18
1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	11
.	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	11
1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	7
.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	7
.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	7
.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	r	2	7
.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	4
.	.	.	.	.	+	1	1	1	2	+	2	1	2	+	.	.	1	20	71
+	.	.	.	1	1	1	1	2	1	1	1	1	1	1	.	.	.	16	57
.	.	.	.	+	+	1	1	1	+	+	.	1	.	+	.	.	.	13	46
.	.	1	.	.	+	1	+	+	2	+	+	+	.	1	.	3	r	13	46
.	.	.	.	.	2	2	1	2	3	+	3	+	.	+	.	.	.	13	46

Number of relevé (Zaporedna številka popisa)		1	2	3	4	5	6	7	8	9	10
	<i>Lonicera caerulea</i>	E2a	1	.	+	+	+	.	.	.	.
	<i>Vaccinium vitis-idaea</i>	E1	2	+	1	2	+	.	.	.	.
	<i>Picea abies</i>	E3a	.	.	.	.	.	.	.	.	.
	<i>Picea abies</i>	E2b	.	.	.	.	.	.	.	.	.
	<i>Picea abies</i>	E2a	+	+	+	.	.	.	.	.	1
	<i>Picea abies</i>	E1	.	.	.	.	.	.	.	.	+
	<i>Calamagrostis arundinacea</i>	E1	.	.	.	+	.	.	.	.	.
	<i>Solidago virgaurea</i>	E1	1	.	.	+	.	.	.	.	.
	<i>Dryopteris dilatata</i>	E1	.	.	.	+	.	.	.	.	.
	<i>Gymnocarpium dryopteris</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Huperzia selago</i>	E1	.	.	1	+	.	.	.	.	.
	<i>Lycopodium annotinum</i>	E1	.	.	1	.	.	.	.	.	.
	<i>Abies alba</i>	E2b	.	.	.	.	.	.	.	.	.
	<i>Abies alba</i>	E2a	.	.	.	.	.	r	.	.	.
	<i>Abies alba</i>	E1	.	+	.	.	.	.	.	.	.
	<i>Pyrola rotundifolia</i>	E1	.	1	+	.	.	.	.	.	.
	<i>Calamagrostis villosa</i>	E1	.	.	.	+	.	.	.	.	.
	<i>Veronica urticifolia</i>	E1	.	.	.	.	.	+	.	.	.
	<i>Polystichum lonchitis</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Aposeris foetida</i>	E1	.	.	.	.	.	+	.	.	.
	<i>Luzula sylvatica</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Dryopteris expansa</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Lonicera nigra</i>	E2a	.	.	.	.	.	.	.	.	.
	<i>Saxifraga cuneifolia</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Hienacium murorum</i>	E1	.	.	.	.	.	+	+	.	.
	<i>Maianthemum bifolium</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Larix decidua</i>	E2a	.	.	.	.	.	.	.	.	+
	<i>Luzula luzulina</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Luzula luzuloides</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Melampyrum sylvaticum</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Luzula pilosa</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Homogyne alpina</i>	E1	.	.	.	.	.	.	.	.	.
TA	Tilio-Acerion										
	<i>Acer pseudoplatanus</i>	E3a	.	.	.	.	.	.	.	.	.
	<i>Acer pseudoplatanus</i>	E2b	.	.	.	.	.	.	+	+	.
	<i>Acer pseudoplatanus</i>	E2a	.	.	.	.	.	.	.	+	.
	<i>Acer pseudoplatanus</i>	E1	+	.	.	+	.	.	+	+	+
	<i>Adoxa moschatellina</i>	E1	.	.	+	.	.	.	.	.	.
	<i>Thalictrum aquilegifolium</i>	E1	.	.	.	.	.	.	+	.	.
	<i>Chrysosplenium alternifolium</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Aruncus dioicus</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Polystichum aculeatum</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Tilia platyphyllos</i>	E3a	.	.	.	.	.	.	.	.	.
	<i>Polystichum braunii</i>	E1	.	.	.	.	.	.	.	.	.
AF	Aremonio-Fagion										
	<i>Omphalodes verna</i>	E1	.	.	.	.	.	.	+	.	.
	<i>Rhannus fallax</i>	E2	.	.	.	.	.	.	+	1	.
	<i>Anemone trifolia</i>	E1	.	.	.	.	.	+	.	.	.
	<i>Helleborus niger</i>	E1	.	.	.	.	.	.	1	.	.
	<i>Cardamine enneaphyllos</i>	E1	.	.	.	.	.	.	.	.	.

Number of relevé (Zaporedna številka popisa)		1	2	3	4	5	6	7	8	9	10
FS	Fagetalia sylvaticae										
	<i>Lonicera alpigena</i>	E2a	.	.	.	.	.	.	+	+	.
	<i>Paris quadrifolia</i>	E1	.	.	.	.	.	.	+	.	.
	<i>Dryopteris filix-mas</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Daphne mezereum</i>	E2a	.	.	.	.	.	+	.	.	.
	<i>Melica nutans</i>	E1	.	.	.	.	+	.	.	.	.
	<i>Fagus sylvatica</i>	E2a	.	.	.	.	.	+	.	.	r
	<i>Mercurialis perennis</i>	E1	.	.	.	.	+	.	+	+	.
	<i>Poa nemoralis</i>	E1	.	.	.	+	.	.	.	.	.
	<i>Actaea spicata</i>	E1	.	.	.	.	.	.	.	+	.
	<i>Symphytum tuberosum</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Fagus sylvatica</i>	E2b	.	.	.	.	+	.	+	+	.
	<i>Fagus sylvatica</i>	E1	.	.	.	.	.	+	.	.	.
	<i>Epilobium montanum</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Galeobdolon flavidum</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Pulmonaria officinalis</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Myosotis sylvatica</i> agg.	E1	.	.	.	.	.	.	.	.	.
	<i>Lilium martagon</i>	E1	.	.	.	.	.	.	+	.	.
	<i>Viola reichenbachiana</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Galium laevigatum</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Luzula nivea</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Laburnum alpinum</i>	E2	.	.	.	.	.	.	.	.	.
	<i>Phyteuma spicatum</i> subsp. <i>coeruleum</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Asarum europaeum</i> subsp. <i>caucasicum</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Scrophularia nodosa</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Lathyrus vernus</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Festuca altissima</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Fraxinus excelsior</i>	E1	.	.	.	.	.	.	.	.	.
QP	Quercetalia pubescenti-petraeae										
	<i>Oxalis acetosella</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Convallaria majalis</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Sorbus aria</i>	E2	.	.	.	.	+	.	.	.	.
	<i>Melittis melissophyllum</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Fraxinus ornus</i>	E2a	.	.	.	.	.	.	.	.	.
QF	Quercus-Fagetea										
	<i>Anemone nemorosa</i>	E1	.	.	.	.	.	+	.	.	.
	<i>Hepatica nobilis</i>	E1	.	.	.	.	+	1	.	.	.
	<i>Lonicera xylosteum</i>	E2a	.	.	.	.	.	.	.	.	.
	<i>Corylus avellana</i>	E2a	.	.	.	.	.	.	.	.	.
	<i>Listera ovata</i>	E1	.	.	.	.	.	.	.	.	.
	<i>Carex digitata</i>	E1	.	.	.	.	.	.	.	.	.
O	Other species (Druge vrste)										
	<i>Hieracium</i> sp.	E1	+	.	.	.	.	.	.	.	.
	<i>Festuca</i> sp.	E1	.	.	.	.	.	.	.	.	.
ML	Mosses and lichens (Mahovi in lišaji)										
	<i>Tortella tortuosa</i>	E0	1	1	.	+	1	.	+	+	+
	<i>Ctenidium molluscum</i>	E0	.	+	.	+	.	.	+	.	.
	<i>Rhytidiadelphus triquetrus</i>	E0	+	+	1	1	1	.	1	+	.
	<i>Hylocomium splendens</i>	E0	.	1	1	.	.	.	1	.	.
	<i>Dicranum scoparium</i>	E0	.	1	1	+	.	.	.	.	.
	<i>Orthothecium rufescens</i>	E0	.	1	1	+	+	.	+	.	.
	<i>Sanionia uncinata</i>	E0	1	1	1	2	1	.	.	.	.

11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	Pr.	Fr.
.	.	.	.	+	+	+	1	+	2	+	.	+	.	.	+	+	.	12	43
.	+	.	+	1	+	+	+	.	.	.	.	.	.	8	29
.	.	.	.	r	.	+	+	1	+	1	1	.	.	.	.	.	+	8	29
.	.	1	+	.	.	+	.	+	.	.	.	.	+	+	.	.	.	7	25
.	.	.	+	.	.	+	+	+	.	.	+	.	.	1	.	.	.	7	25
+	.	.	.	+	.	+	+	6	21
.	1	.	.	.	.	.	.	.	+	.	.	.	.	1	.	.	.	6	21
.	+	+	.	+	4	14
.	.	.	.	+	.	.	1	+	.	.	.	.	.	.	.	.	.	4	14
.	+	.	.	+	.	+	+	4	14
.	3	11
.	1	4
.	+	.	.	.	+	+	3	11
.	.	.	1	.	.	.	1	1	.	.	.	.	.	.	.	.	.	3	11
.	+	+	+	3	11
.	+	+	+	3	11
.	+	2	7
.	.	.	.	+	r	2	7
.	1	.	+	.	.	.	2	7
.	+	+	2	7
+	1	4
.	+	1	4
.	+	1	4
.	1	4
.	1	4
.	+	1	4
.	+	1	4
.	1	4
.	9	32
+	1	.	.	.	.	.	+	.	.	.	.	.	.	+	.	.	.	4	14
.	+	2	7
.	.	.	.	+	1	4
.	r	1	4
.	1	1	1	1	1	.	.	+	+	.	.	.	.	8	29
.	+	.	+	.	+	5	18
.	+	1	.	2	7
.	+	.	+	2	7
.	.	.	+	1	4
.	+	1	4
.	2	7
.	+	1	4
.	2	7
.	19	68
+	.	.	.	+	+	+	.	.	+	+	+	+	+	.	.	.	1	17	61
+	.	.	.	+	+	1	1	1	2	+	1	+	+	.	1	+	1	17	61
.	2	.	1	2	.	1	+	1	1	1	2	2	10	36
.	2	.	1	1	+	.	+	2	3	8	29
.	+	+	+	1	+	8	29
.	1	.	+	.	.	.	.	.	.	.	.	+	8	29
.	1	.	.	.	.	+	+	8	29

Number of relevé (Zaporedna številka popisa)	1	2	3	4	5	6	7	8	9	10
<i>Fissidens dubius</i>	E0	.	.	.	.	.	+	+	+	+
<i>Schistidium apocarpum</i>	E0	+	.	.	+	+	.	.	.	.
<i>Peltigera canina</i>	E0	.	.	.	+	.	.	.	.	.
<i>Polytrichum formosum</i>	E0	.	.	.	+	.	.	.	.	.
<i>Hypnum cupressiforme</i>	E0	.	.	.	+	.	.	.	.	.
<i>Marchantia polymorpha</i>	E0	.	.	.	.	.	.	+	+	.
<i>Mnium</i> sp.	E0	+	.	.	.	.	.	.	.	.
<i>Peltigera leucophlebia</i>	E0	.	+	.	.	.	.	.	.	.
<i>Rhytidiadelphus loreus</i>	E0	.	.	.	.	.	.	.	.	.
<i>Plagiomnium undulatum</i>	E0	.	.	.	.	.	.	.	.	.
<i>Encalypta streptocarpa</i>	E0	+	.	.	.	.	.	.	.	.
<i>Plagiochila porelloides</i>	E0	.	.	.	+	.	.	+	.	.
<i>Conocephalum conicum</i>	E0	.	.	.	.	.	.	.	.	.
<i>Pseudoleskeella catenulata</i>	E0	.	.	.	.	.	.	.	.	.
<i>Rhizomnium punctatum</i>	E0	.	.	.	.	.	.	.	.	.
<i>Mnium thomsonii</i>	E0	.	.	.	.	.	.	.	.	.
<i>Solorina saccata</i>	E0	.	.	.	.	.	.	.	.	.
<i>Neckera crispa</i>	E0	.	.	.	.	.	.	.	.	.
<i>Polytrichum</i> sp.	E0	+	.	.	.	.	.	.	.	.
<i>Musci</i> sp.	E0	.	.	.	.	1	.	.	.	.
<i>Bryum capillare</i>	E0	.	.	.	.	.	.	.	.	.
<i>Eurhynchium zetterstedtii</i>	E0	.	.	.	.	.	.	.	.	.
<i>Plagiothecium undulatum</i>	E0	.	.	.	.	.	.	.	.	.
<i>Thuidium tamariscinum</i>	E0	.	.	.	.	.	.	.	.	.
<i>Cladonia</i> sp.	E0	.	.	.	.	.	.	.	.	.
<i>Cladonia pyxidata</i>	E0	.	.	.	.	.	.	.	.	.
<i>Ditrichum flexicaule</i>	E0	.	.	.	.	.	.	.	.	.
<i>Homalothecium philippeanum</i>	E0	.	.	.	.	.	.	.	.	.
<i>Bryum</i> sp.	E0	.	.	.	.	.	.	.	.	.
<i>Dicranum</i> sp.	E0	.	.	.	.	.	.	.	.	.
<i>Homalothecium lutescens</i>	E0	.	.	.	.	.	.	.	.	.
<i>Radula</i> sp.	E0	.	.	.	.	.	.	.	.	.
<i>Cetraria islandica</i>	E0	.	.	.	.	.	.	.	.	.
<i>Cladonia fimbriata</i>	E0	.	.	.	.	.	.	.	.	.
<i>Cladonia furcata</i>	E0	.	.	.	.	.	.	.	.	.
<i>Squamarina</i> sp.	E0	.	.	.	.	.	.	.	.	.

Legend – Legenda

1–5 *Heliospermo pusillae-Rhododendretum hirsuti*

6–12 *Homogyno sylvestris-Salicetum glabare*

13–28 *Rhododendro hirsuti-Salicetum appendiculatae*

Pr. Presence (number of relevés in which the species is presented) – število popisov, v katerih se pojavlja vrsta

Fr. Frequency in % – frekvenca v %

E2a Lower shrub layer – spodnja grmovna plast

E2b Upper shrub layer – zgornja grmovna plast

ID Igor Dakskobler

A Limestone – apnenec

D Dolomite – dolomit

Gr Gravel – grušč

Li Lithosol – kamnišče

Re Rendzina – rendzina

11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	Pr.	Fr.
+	+	6	21
+	+	1	6	21
.	+	.	+	.	.	+	+	.	6	21
.	+	1	.	.	.	.	.	+	1	.	5	18
.	+	+	+	4	14
.	+	+	4	14
.	1	.	.	.	.	.	.	1	.	3	11
.	+	.	.	.	1	.	.	.	.	.	.	3	11
.	1	.	.	.	.	.	+	.	1	3	11
.	2	1	+	3	11
.	+	2	7
.	2	7
.	+	.	.	+	2	7
.	1	.	.	1	.	.	.	.	.	.	.	2	7
.	+	+	2	7
.	1	.	.	.	.	.	+	2	7
.	+	+	2	7
.	+	.	+	2	7
.	1	4
.	1	4
.	+	1	4
.	+	1	4
.	+	1	4
.	+	.	.	1	4
.	+	.	.	1	4
.	1	1	4
.	1	1	4
.	1	1	4
.	+	1	4
.	+	1	4
.	+	1	4
.	+	1	4
.	+	1	4
.	+	1	4
.	+	1	4
.	+	1	4

Table 5: Synthetic table of *Rhododendron hirsutum* and *Salix* spp. dominated subalpine shrubs in (SE)Alps and Dinaric Alps
Tabela 5: Sintezna preglednica subalpskih grmišč s prevladujočimi vrstami *Rhododendron hirsutum* in *Salix* spp. v (Jugovzhodnih) Alpah in Dinarskem gorstvu

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
	Successive number (Zaporedna številka)																		
	Author of relevés (Avtor popisov)																		
	Sign for syntaxa (Oznaka sintakonov)																		
	Number of relevés (Število popisov)																		
RE	<i>Rhododendro hirsuti-Ericetalia carnea</i>																		
	<i>Rhododendron hirsutum</i>																		
	<i>Rhodothamnus chamaecistus</i>																		
	<i>Erica carnea</i>																		
	<i>Pinus mugo</i>																		
	<i>Rhododendron x intermedium</i>																		
BA	<i>Betulo-Alnetea viridis</i>																		
	<i>Salix glabra</i>																		
	<i>Juniperus alpina</i>																		
	<i>Salix waldsteiniana</i>																		
	<i>Sorbus chamaemespilus</i>																		
	<i>Salix foetida</i>																		
	<i>Salix appendiculata</i>																		
	<i>Alnus viridis</i>																		
	<i>Pedicularis recutita</i>																		
	<i>Ribes petraeum</i>																		
	<i>Ribes alpinum</i>																		
CFir	<i>Caricion firmae</i>																		
	<i>Dryas octopetala</i>																		
	<i>Carex firma</i>																		
	<i>Ranunculus hybridus</i>																		
	<i>Silene acaulis</i>																		
	<i>Pedicularis rostratocapitata</i>																		
	<i>Sesleria sphaerocephala</i>																		
	<i>Phyteuma sieberi</i>																		
	<i>Festuca quadriflora</i>																		
	<i>Helianthemum alpestre</i>																		
	<i>Oxytropis neglecta</i>																		
	E2a	100	100	100	90	100	57	89	79	57	100	94	30	33	100	100	20		
	E1	100	100	100	50	79	21	44							60	43			
	E1	46			30	64		33		57		19	10			71	82	20	
	E2	15	18	22	40	14		44	29	14		6	30		20	29	14	20	
	E1			11	10														
	E2	62			20	29	57	100	14	100	44			22	80	100	20		
	E2a	46		22	40	100	14	44	14										
	E2a	15		78	60	50	100	100	100	43	8	13	70				100		
	E2	8		11	70	86	29	11	36		17	25							
	E2	8																	
	E2b			11	20	14	50	89	21		8	100	100	100	80	71	100	0	100
	E2a				10		21	22	29			6		11			20	67	0
	E1						7	11											
	E2a								7					11					
	E2a											31	30						
	E1	85	82	44		7	7	44			25						20		14
	E1	31	100	22			21	22			25					29			
	E1	8		22			21	11											
	E1	8	27																
	E1		73	33			14	22											
	E1		55																
	E1		45				14												
	E1		27	11															
	E1		27			7		33											
	E1		27																

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Succesive number (Zaporedna številka)																			
E1	9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Nigritella bicolor</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
E1	.	.	78	20	.	21	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Ranunculus carinthiacus</i>	.	.	44	.	.	29	.	.	.	.	.	.	.	.	.	.	.	.	.
E1	.	.	11	10	.	14	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Potentilla crantzii</i>	.	.	11	.	.	7	.	.	.	.	.	.	.	.	.	.	.	.	.
E1	.	.	11	.	.	7	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Helictotrichon parlatorei</i>	.	.	.	.	.	7	.	.	.	.	.	.	.	.	.	.	.	.	.
E1	.	.	.	.	.	7	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Saussurea discolor</i>	.	.	.	.	.	7	.	.	.	.	.	.	.	.	.	.	.	.	.
E1	.	.	.	.	.	7	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Genanium argenteum</i>	.	.	.	.	.	7	.	.	.	.	.	.	.	.	.	.	.	.	.
E1	.	.	.	.	.	7	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Leucanthemum atratum</i>	.	.	.	.	.	14	.	.	.	.	.	.	.	.	.	.	.	.	.
E1	.	.	.	.	.	14	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Erigeron glabratus</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	20	.	.	.	.	.
E1	.	.	.	.	.	.	.	.	.	.	.	.	.	20	.	.	.	.	.
<i>Helianthemum nitidum</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SJ																			
<i>Seslerietalia juncifoliae</i>																			
E1	.	.	.	.	.	.	.	.	.	.	.	30	.	.	.	.	.	.	.
<i>Festuca pungens</i>	.	.	.	.	.	.	.	.	.	.	.	30	.	.	.	.	.	.	.
E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Sesleria juncifolia</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	54	.	.	.
E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	54	.	.	.
<i>Scabiosa cinerea</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.
E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.
<i>Ranunculus scutatus</i> (R. thoma)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	80	.
E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	80	.
<i>Alchemilla velebitica</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	60	.
E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	60	.
<i>Knautia dimarica</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	40	.
E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	40	.
<i>Agrostis vranicensis</i> (A. rupestris agg.)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	20	.
E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	20	.
<i>Abyssum bosniacum</i> (A. scardicum)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	20	.
E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	20	.
<i>Linum extraxillare</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	20	.
E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	20	.
<i>Myosotis suaveolens</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	20	.
E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	20	.
ES																			
<i>Elyno-Seslerietea</i>																			
E1	69	64	89	30	36	50	44	.	29	.	13	.	.	.	.	.	.	.	.
<i>Polygonum viviparum</i>	69	64	89	30	36	50	44	.	29	.	13	.	.	.	.	.	.	.	.
E1	54	45	100	40	14	14	33	.	.	.	.	.	.	.	.	.	.	.	.
<i>Bartsia alpina</i>	54	45	100	40	14	14	33	.	.	.	.	.	.	.	.	.	.	.	.
E1	54	73	100	70	64	21	56	14	.	75	31	.	.	.	100	.	.	.	.
<i>Sesleria caerulea</i>	54	73	100	70	64	21	56	14	.	75	31	.	.	.	100	.	.	.	.
E1	46	91	89	.	7	50	67	36	43	67	25	70	22	60	29	64	.	.	.
<i>Aster bellidiastrum</i>	46	91	89	.	7	50	67	36	43	67	25	70	22	60	29	64	.	.	.
E1	46	73	78	10	7	50	22	.	.	.	.	.	.	.	14	.	20	.	.
<i>Selaginella selaginoides</i>	46	73	78	10	7	50	22	.	.	.	.	.	.	.	14	.	20	.	.
E1	38	27	11	.	.	.	11	.	.	42	.	.	.	.	.	.	20	.	.
<i>Anthyllis vulneraria</i> subsp. <i>alpestris</i>	38	27	11	.	.	.	11	.	.	42	.	.	.	.	.	.	20	.	.
E1	31	.	.	.	.	.	22	.	.	.	.	.	.	.	14	.	.	.	.
<i>Senecio abrotanifolius</i>	31	.	.	.	.	.	22	.	.	.	.	.	.	.	14	.	.	.	.
E1	23	18	.	.	.	.	.	.	.	.	6	.	.	.	.	.	.	.	.
<i>Euphrasia salisburgensis</i>	23	18	.	.	.	.	.	.	.	.	6	.	.	.	.	.	.	.	.
E1	23	.	22	10	7	29	22	.	14	67	.	.	.	.	.	.	.	.	.
<i>Lotus alpinus</i>	23	.	22	10	7	29	22	.	14	67	.	.	.	.	.	.	.	.	.
E1	15	18	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Agrostis alpina</i>	15	18	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
E1	15	.	.	.	14	.	11	21	43	17	.	.	.	.	.	.	.	.	.
<i>Carduus defloratus</i> agg.	15	.	.	.	14	.	11	21	43	17	.	.	.	.	.	.	.	.	.
E1	15	.	.	.	7	.	22	.	.	.	.	.	.	.	.	.	.	.	.
<i>Globularia coratifolia</i>	15	.	.	.	7	.	22	.	.	.	.	.	.	.	.	.	.	.	.
E1	15	45	33	.	.	14	.	.	.	.	.	.	.	.	.	.	.	80	.
<i>Homogyne discolor</i>	15	45	33	.	.	14	.	.	.	.	.	.	.	.	.	.	.	80	.
E1	15	.	.	.	.	7	11	36	43	36	6	.	.	.	.	.	.	20	.
<i>Ranunculus montanus</i>	15	.	.	.	.	7	11	36	43	36	6	.	.	.	.	.	.	20	.
E1	15	9	.	.	.	7	.	29	25	.	.	.	.	.	.	.	.	.	.
<i>Thesium alpinum</i>	15	9	.	.	.	7	.	29	25	.	.	.	.	.	.	.	.	.	.
E1	15	9	22	10	7	7	22	7	.	25	.	.	.	20	.	.	.	.	.
<i>Thymus praecox</i> subsp. <i>polytrichus</i>	15	9	22	10	7	7	22	7	.	25	.	.	.	20	.	.	.	.	.
E1	8	.	.	.	.	14	22	.	.	.	6	.	.	.	.	.	.	.	.
<i>Myosotis alpestris</i>	8	.	.	.	.	14	22	.	.	.	6	.	.	.	.	.	.	.	.

E1	8	18	22	10	7	21	44	36	67	13	11	29	60	.
E1	8	9	11	.	.	14	11	14	.	.	.	5	.	.
E1	8	.	.	.	.	14	.	29	.	.	.	.	.	.
E1	.	18	78	30	.	64	56	.	.	6	.	.	.	.
E1	.	9	22	.	.	29	.	.	.	.	.	.	.	.
E1	.	9	11	30	36	43	67	14	58	13	.	86	.	20
E1	.	9	56	20	29	29	11	.	.	.	.	14	.	.
E1	.	9	.	.	14	.	11	.	.	.	.	.	.	.
E1	.	9	.	.	.	7	11	.	.	.	.	.	.	.
E1	.	9	33	.	.	7	.	.	.	.	.	.	.	.
E1	.	9	33	.	.	.	.	.	.	.	.	.	.	.
E1	.	.	56	.	14	29	11	.	.	.	.	.	60	.
E1	.	.	44	20	.	14	11	.	.	6	.	40	.	.
E1	.	.	22	.	14	7	.	.	33	.	.	.	.	.
E1	.	.	11	.	.	36	.	.	.	.	.	.	.	.
E1	.	.	11	.	.	.	.	.	.	.	.	.	.	.
E1	.	.	11	.	.	.	.	.	.	.	.	14	.	.
E1	.	.	.	20	.	7	.	.	.	6	.	60	43	.
E1	.	.	.	20	.	.	.	.	.	.	.	.	.	.
E1	.	.	.	10	.	.	.	.	.	.	.	.	.	.
E1	.	.	.	10	.	.	.	.	.	.	.	.	.	.
E1	.	.	.	10	7	7	11	21	71	42	.	11	.	.
E1	.	.	.	.	.	.	22	.	50	.	.	.	.	.
E1	.	.	.	.	.	.	.	25	.	.	.	.	.	.
E1	.	.	.	.	.	.	21	29	8	.	11	.	.	.
E1	.	.	.	.	.	.	.	29	33	.	.	.	.	.
E1	.	.	.	.	.	.	.	.	25	.	.	.	.	.
E1	.	.	.	.	.	.	.	.	.	6	.	14	.	.
E1	.	.	.	.	.	.	.	.	.	.	20	.	.	.
CD														
E1	69	55	44	.	7	21	33	7	29	50	.	20	57	.
E1	15	27	56	10	.	57	22	.	43	.	.	60	57	20
E1	15	27	56	.	7	7	22	.	.	6	.	20	43	.
E1	8	.	.	.	.	.	.	.	.	.	.	.	.	.
E1	.	.	11	.	.	7	.	.	.	6	.	100	.	.
E1	.	.	.	.	.	7	.	.	.	.	.	.	.	.
MC														
E1	15	36	44	.	.	14	22	.	.	.	.	.	20	.
E1	.	.	.	.	.	.	.	.	.	.	.	.	.	86

- Phyteuma orbiculare*
Polygala alpestris
Rhinanthus glacialis
Astrantia bavarica
Alchemilla alpigena
Betonica alopecurus
Carex sempervirens
Daphne striata
Gentianella anisodonta
Linum julicum
Pedicularis verticillata
Anemone narcissiflora
Hieracium villosum
Helianthemum nummularium subsp. *grandiflorum*
Alchemilla fallax
Gentiana verna
Hieracium pilosum
Campanula ulsiacekiana
Nigritella rhellicani
Cerastium strictum
Hieracium valdepilosum
Scabiosa lucida subsp. *lucida*
Acinos alpinus
Alchemilla boppeana
Ligusticum mutellina
Globularia nudicaulis
Polygala amara
Scabiosa lucida subsp. *stricta*
Viola zoysii
CD
Caricetalia davallianae
Tofieldia calyculata
Parnassia palustris
Pinguicula alpina
Pinguicula leptoceras
Carex capillaris
Sesleria uliginosa
MC
Montio-Cardaminetea
Saxifraga aizoides
Cardamine amara

MuA	Successive number (Zaporedna številka)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
MuA	Mulgedio-Aconitetea																				
	<i>Geranium sylvaticum</i>	E1	8	.	11	40	43	36	78	93	71	33	38	.	89	.	.	80	8	.	
	<i>Viola biflora</i>	E1	8	18	89	40	36	71	78	100	100	83	63	50	44	80	.	5	.	33	
	<i>Aconitum angustifolium</i>	E1	.	.	11	10	.	43
	<i>Veratrum album</i> s. lat.	E1	.	.	22	30	.	79	55	57	14	.	63	90	44	.	14	5	40	.	
	<i>Aconitum lycoctonum</i> agg. (<i>A. lupicida</i>)	E1	.	.	11	30	.	50	78	21	29	42	25	50	67	.	.	5	.	50	
	<i>Abryrium flix-femina</i>	E1	.	.	11	10	.	14	44	21	.	50	.	11	.	.	.	.	.	42
	<i>Hypericum maculatum</i>	E1	.	.	.	30	29	36	67	57	43	25	19	.	33	.	.	5	.	25	
	<i>Chaerophyllum hirsutum</i>	E1	.	.	.	20	.	7	67	21	14	42	13	.	.	.	.	.	.	.
	<i>Peucedanum ostruthium</i>	E1	.	.	.	20	14	7	.	21	.	8	13	.	11	.	.	9	.	17	
	<i>Ranunculus platanifolius</i>	E1	.	.	.	20	.	21	44	.	.	38	10	22	.	.	.	.	33	29
	<i>Poa hybrida</i>	E1	.	.	.	10	.	7	.	.	14	8	.	44	.	.	.	.	.	.
	<i>Polygonatum verticillatum</i>	E1	.	.	.	10	.	7	33	29	.	17	31	50	89	20	.	.	20	.	
	<i>Rumex arifolius</i> (<i>R. alpestris</i>)	E1	.	.	.	10	7	43	.	21	.	.	.	33	.	.	.	.	20	17
	<i>Senecio cacaliaster</i>	E1	.	.	.	10	.	14	.	.	.	19	.	.	.	.	.	.	.	58
	<i>Aconitum tauricum</i>	E1	.	.	.	.	21	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Saxifraga rotundifolia</i>	E1	.	.	.	.	14	50	33	86	14	17	25	.	56	.	.	.	20	58
	<i>Chaerophyllum villarsii</i>	E1	.	.	.	.	7	64	.	14	14	6	.	.	.	.	.	.	.	.
	<i>Geum rivale</i>	E1	.	.	.	.	7	36	56	36	.	13	.	56	.	.	.	.	.	14
	<i>Heracleum spondylium</i> subsp. <i>montanum</i> (inc. subsp. <i>H. pollinianum</i>)	E1	.	.	.	.	.	50	22	.	8	.	8	.	78	.	.	.	.	8
	<i>Primula elatior</i>	E1	.	.	.	.	.	43	11	14	29	8	.	44	.	.	.	.	20	.
	<i>Pleurospermum austriacum</i>	E1	.	.	.	.	.	29	22	.	.	13	.	.	.	.	.	5	.	.
	<i>Adenostyles alliariae</i>	E1	.	.	.	.	.	21	44	50	.	50	13	10	89	.	.	.	.	.
	<i>Crepis pyrenaica</i>	E1	.	.	.	.	.	14	.	7	14	8	.	22	.	.	.	.	.	.
	<i>Epilobium alpestre</i>	E1	.	.	.	.	.	14	11	21	.	13	.	11	.	.	.	.	.	.
	<i>Hieracium prenanthoides</i>	E1	.	.	.	.	.	14	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Senecio ovatus</i>	E1	.	.	.	.	.	14	44	21	14	8	.	56	.	.	.	.	.	58
	<i>Aconitum degenii</i> subsp. <i>paniculatum</i>	E1	.	.	.	.	.	7	.	.	.	.	.	0	.	.	.	.	.	.
	<i>Carduus personata</i>	E1	.	.	.	.	.	7	.	.	.	6	.	11	.	.	.	.	.	50
	<i>Crepis paludosa</i>	E1	.	.	.	.	.	7	11	.	14	6	.	78	.	14	.	.	.	17
	<i>Eryngium alpinum</i>	E1	.	.	.	.	.	7	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Silene vulgaris</i> subsp. <i>antelopum</i>	E1	.	.	.	.	.	7	.	29	14	58	6	.	.	.	.	.	.	17
	<i>Tephrosiopsis longifolia</i>	E1	.	.	.	.	.	7	33	.	.	.	.	.	.	.	.	5	.	.
	<i>Abryrium distentifolium</i>	E1	.	.	.	.	.	7	.	7	14	.	.	.	11	.	.	.	.	.
	<i>Centaurea montana</i>	E1	.	.	.	.	.	.	33	7	14	.	.	22	.	.	.	.	.	.
	<i>Dononiscum austriacum</i>	E1	.	.	.	.	.	.	33	.	.	.	31	50	.	.	.	.	.	25
	<i>Cicerbita alpina</i>	E1	.	.	.	.	.	.	22	7	.	.	.	22	.	.	.	.	.	25
	<i>Cirsium uladsteinii</i>	E1	.	.	.	.	.	.	22	.	.	.	.	.	.	.	.	.	.	20

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Successive number (Zaporedna številka)																				
IV	Loiseleurio- Vaccinietea																			
	<i>Arctostaphylos alpinus</i>	E1	38	82	44	20	14													
	<i>Vaccinium gaultherioides</i>	E1	18	11	30	14														
	<i>Empetrum hermaphroditum</i>	E1				30														
AC	Arabidetalia caeruleae (inc. Salicetea herbaceae)																			
	<i>Soldanella alpina</i>	E1	23	27	22	10	43	11	43	57	75	6	11							
	<i>Alchemilla oxyloba</i>	E1	15																	40
	<i>Soldanella minima</i>	E1	15	9											14					
	<i>Salix retusa</i>	E1	8	18	56	7	11							60						20
	<i>Ranunculus traunfelteri</i>	E1	27	11																
	<i>Trifolium pallescens</i>	E1	9		10	7														
	<i>Carex ornithopodoides</i>	E1	9																	
	<i>Doronicum glaciale</i>	E1	9	11																
	<i>Salix serpyllifolia</i>	E1	9											20						
	<i>Thlaspi minimum (T. kernerii)</i>	E1	9																	
	<i>Salix reticulata</i>	E1			11															
	<i>Alchemilla fissa</i>	E1				10														
	<i>Potentilla brauneana</i>	E1					7													
	<i>Sedum megellense</i>	E1																		40
TR	Thlaspietea rotundifolii																			
	<i>Biscutella laevigata</i>	E1	38	9	22	10	7	14	11	7	67									
	<i>Hieracium bifidum</i>	E1	31			10	29	7			33	19				29				
	<i>Adenostyles glabra</i>	E1	8				14	71	78	14	57	44	44			71	36			
	<i>Abamania cretensis</i>	E1	8	18				7	22								45			
	<i>Crepis froelichiana</i>	E1	8																	
	<i>Rumex scutatus</i>	E1	8	9					33		42					14				
	<i>Aquilegia einseleana</i>	E1	18													14				
	<i>Heliosperma alpestre</i>	E1	9	22	40	21	44	14							14					
	<i>Armeria alpina</i>	E1	9	11																
	<i>Festuca laxa</i>	E1	9																	
	<i>Rhodiola rosea</i>	E1		22	10	50	22					13								
	<i>Campanula cochlearifolia</i>	E1		11		7	7	33				6		20						
	<i>Festuca nitida</i>	E1		11	10		36					19					5			
	<i>Gymnocarpium robertianum</i>	E1		11			7					25	33			57	54			14
	<i>Molopospermum peloponnesiacum</i> subsp. <i>baubini</i>	E1				20						19								
	<i>Pimpinella alpina</i>	E1				10	21	7												
	<i>Valeriana montana</i>	E1				10	7	21	64	71	50	13	11				14	80		
	<i>Dryopteris villarii</i>	E1					7	7				31								

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Successive number (Zaporedna številka)																				
	<i>Primula carniolica</i>	E1	.	.	.	.	.	.	.	.	.	6	.	.	20	.	.	.	.	.
	<i>Saxifraga petraea</i>	E1	.	.	.	.	.	.	.	.	.	6	.	.	.	.	.	.	.	.
AT	<i>Asplenetea trichomanis</i>																			
	<i>Valeriana tripteris</i>	E1	23	.	11	10	43	50	78	14	14	42	50	30	11	.	14	27	20	.
	<i>Asplenium viride</i>	E1	15	9	44	.	.	29	22	21	29	8	69	30	11	60	29	18	.	.
	<i>Saxifraga paniculata</i>	E1	8	9	.	.	.	.	.	.	.	.	.	.	.	.	.	20	.	.
	<i>Asplenium ruta-muraria</i>	E1	8	.	.	.	.	.	.	.	.	.	13	.	.	60	.	27	.	.
	<i>Asplenium trichomanes</i>	E1	8	.	.	.	.	22	.	.	.	.	25	.	20	.	.	.	.	.
	<i>Silene rupestris</i>	E1	.	.	.	.	.	11	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Polypodium vulgare</i>	E1	.	.	.	.	.	.	.	.	.	.	19	.	20	.	.	.	.	.
	<i>Polypodium interjectum</i>	E1	.	.	.	.	.	.	.	.	.	.	13	.	.	.	.	.	.	.
	<i>Moehringia muscosa</i>	E1	.	.	.	.	.	.	.	.	.	6	.	.	20	.	.	.	.	.
	<i>Micromeria thymifolia</i>	E1	.	.	.	.	.	.	.	.	.	6	.	.	.	.	.	.	.	.
	<i>Ceterach javorkeanum</i>	E1	.	.	.	.	.	.	.	.	.	6	.	.	.	.	.	.	.	.
	<i>Hieracium glaucum</i>	E1	.	.	.	.	.	.	.	.	.	6	.	.	.	.	14	.	.	.
	<i>Hieracium bupleuroides</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	9	.	.
	<i>Kernera saxatilis</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	5	.	.	.
	<i>Sedum hispanicum</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	20	.	.
	<i>Cardaminopsis arenosa</i>	E1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	43
PoT	<i>Poo alpinae-Trisetalia</i>																			
	<i>Alchemilla monticola</i>	E1	23	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Poa alpina</i>	E1	15	18	33	10	7	59	44	21	.	33	19	10	.	40	.	.	8	.
	<i>Crocus albiflorus</i>	E1	8	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Euphasia picta</i>	E1	.	.	11	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Phleum rhaeticum</i>	E1	.	.	11	10	.	36	11	.	.	.	.	.	.	.	.	.	.	.
	<i>Trollius europaeus</i>	E1	.	.	11	40	7	36	44	7	14	25	6	.	11	.	.	.	8	.
	<i>Alchemilla xanthochlora</i>	E1	.	.	.	10	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Ranunculus nemorosus</i>	E1	.	.	.	10	.	.	22	29	14	58	6	.	11	.	.	.	8	.
	<i>Cardaminopsis halleri</i> s. lat.	E1	.	.	.	.	.	14	11	.	14	.	.	.	.	.	.	.	.	.
	<i>Pimpinella major</i> (inc. subsp. <i>rubra</i>)	E1	.	.	.	.	.	7	.	.	71	.	.	.	.	.	.	.	.	.
	<i>Astrantia major</i>	E1	.	.	.	.	.	.	.	.	43	8	.	.	33	.	.	20	.	14
	<i>Polygonum bistorta</i>	E1	.	.	.	.	.	.	.	.	.	.	.	22	.	.	.	.	.	.
MA	<i>Molinio-Arrhenatheretea</i>																			
	<i>Trifolium pratense</i>	E1	8	.	.	10	.	21	.	7	14	25	6	.	.	.	.	.	.	.
	<i>Leontodon hispidus</i>	E1	.	.	11	.	.	7	33	.	43	50	.	.	.	14	5	.	.	.
	<i>Trifolium repens</i>	E1	.	.	11	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Veronica chamaedrys</i>	E1	.	.	11	.	.	7	.	11	7	.	.	11	.	.	.	20	25	.
	<i>Lathyrus pratensis</i>	E1	.	.	.	20	.	14	.	.	.	.	.	.	.	.	.	.	.	.

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Successive number (Zaporedna številka)																				
	<i>Grafia golaka</i>	.	.	.	.	.	.	.	.	.	.	6	.	.	.	14	.	.	.	.
	<i>Laserpitium latifolium</i>	.	.	.	.	.	.	.	.	29	.	6	.	.	.	.	18	.	.	.
	<i>Lilium carnioolicum</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	14	.	.	.	.
	<i>Ruta divaricata</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	5	.	.	.
SS	Sambuco-Salicion capreae, Rhamno-Prunetea																			
	<i>Rubus idaeus</i>	.	.	11	10	.	.	22	7	.	.	63	.	22	.	.	.	.	75	.
	<i>Sorbus aucuparia</i>	.	.	.	.	.	.	.	.	.	.	19	.	.	.	.	.	.	.	.
	<i>Sorbus aucuparia</i>	.	.	22	10	14	7	11	29	.	.	56	50	89	40	14	.	.	67	14
	<i>Juniperus communis</i>	.	.	.	.	.	.	.	.	.	.	6	.	.	.	.	.	.	.	.
	<i>Sambucus racemosa</i>	.	.	.	.	.	.	.	.	.	.	13	.	11	.	.	.	.	50	.
	<i>Betula pendula</i>	.	.	.	.	.	.	.	.	.	.	.	.	11	.	.	.	.	33	.
	<i>Cotoneaster integerrimus</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	49	.	.	.
FC	Filipendulo-Convolutetea																			
	<i>Angelica arhangolica</i>	.	.	.	.	.	.	.	.	.	.	.	50	.	.	.	.	.	.	.
	<i>Mentha longifolia</i>	.	.	.	.	.	.	.	.	.	.	.	.	56	.	.	.	.	43	.
	<i>Phalaris arundinacea</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	71	.
	<i>Epilobium roseum</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	29	.
GU	Galio-Urticetea, Stellarietea mediae																			
	<i>Urtica dioica</i>	.	.	.	.	.	7	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Lamium maculatum</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Galeopsis tetrahit</i>	.	.	.	.	.	.	.	.	.	.	6	.	.	.	.	.	.	25	.
	<i>Petasites hybridus</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	71
EA	Epilobietea angustifolii																			
	<i>Fragaria vesca</i>	8	.	.	10	.	.	11	21	.	.	19	.	11	.	14	.	42	.	.
	<i>Bromus ramosus</i>	.	.	.	.	.	.	11	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Tussilago farfara</i>	.	.	.	.	.	.	.	7	.	.	.	.	.	.	.	.	8	.	.
	<i>Hypericum hirsutum</i>	.	.	.	.	.	.	.	.	.	.	6	.	.	.	.	.	.	.	.
	<i>Eupatorium cannabinum</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	29
EP	Erico-Pinetea																			
	<i>Calamagrostis varia</i>	31	.	.	.	43	7	.	43	57	17	31	.	56	40	100	100	.	.	.
	<i>Rubus saxatilis</i>	31	.	11	20	36	29	33	29	43	25	56	.	67	100	43	59	40	.	.
	<i>Carex ornithopoda</i>	15	18	44	10	.	14	.	.	.	.	6	.	.	80	29	.	.	.	.
	<i>Chamaecytisus hirsutus</i>	.	.	.	10	.	.	.	.	.	.	.	.	56	.	29	.	.	33	86
	<i>Molinia caerulea</i> subsp. <i>arundinacea</i>	.	.	.	10	.	.	11	.	.	.	.	.	11	.	43	.	.	.	.
	<i>Carex alba</i>	.	.	.	.	9	.	.	.	.	.	.	10	.	.	.	.	.	.	.
	<i>Crepis slovenica</i>	.	.	.	.	7	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>Cirsium erisibales</i>	.	.	.	.	.	21	33	.	.	.	31	30	.	.	57	59	.	.	.
	<i>Buphthalmum salicifolium</i>	.	.	.	.	.	14	44	.	29	.	6	.	.	57	45	.	.	.	.

E1	<i>Aquilegia nigricans</i>	.	.	.	.	7	33	.	.	13	90	.	.	23	20	.	.
E1	<i>Peucedanum ausiriacum</i> s. lat.	.	.	.	.	.	.	.	.	.	.	.	.	.	5	.	.
E1	<i>Aquilegia atrata</i>	.	.	.	.	.	.	.	22	.	.	.	.	.	.	.	.
E1	<i>Polygala chamaebuxus</i>	.	.	.	.	.	.	.	.	.	.	.	43	.	.	.	.
E1	<i>Allium ericetorum</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	29	86	.
E2	<i>Amelanchier ovalis</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	29	23	.
E1	<i>Asperula aristata</i>	.	.	.	.	.	.	.	.	.	.	.	14	.	.	.	.
E1	<i>Leontodon incanus</i>	.	.	.	.	.	.	.	.	.	.	.	14	.	.	.	.
E2a	<i>Pinus nigra</i>	.	.	.	.	.	.	.	.	.	.	.	14	.	.	.	.
E2	<i>Cotoneaster tomentosus</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	9	.	.
E1	<i>Arctostaphylos uva-ursi</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	5	.
VP	Vaccinio-Piceetea	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
E1	<i>Homogyne alpina</i>	31	27	67	90	64	.	33	43	14	67	6	.	11	.	.	20
E2a	<i>Larix decidua</i>	31	.	.	20	7	7	22	21	.	8	.	.	.	14	.	17
E2a	<i>Clematis alpina</i>	15	.	44	30	36	14	56	.	.	69	50	33	100	57	64	8
E1	<i>Luzula sylvatica</i> s. lat.	15	.	22	80	14	36	56	43	43	42	19	30	67	.	5	100
E1	<i>Hieracium murorum</i>	8	.	.	10	.	7	33	14	.	8	.	30	.	29	45	.
E1	<i>Orbitelia secunda</i>	8	.	.	.	.	.	.	.	.	.	.	10	.	.	.	.
E1	<i>Pyrola minor</i>	8	.	11	.	7	7	.	.	.	.	.	.	.	.	.	.
E1	<i>Hyperzia selago</i>	.	18	11	10	7	7	11	.	.	.	19	10	.	40	.	5
E1	<i>Vaccinium vitis-idaea</i>	.	9	44	70	79	7	33	.	.	44	.	11	100	.	9	20
E1	<i>Vaccinium myrtillus</i>	.	.	44	90	86	14	44	36	14	8	75	90	33	20	.	60
E1	<i>Picea abies</i>	.	.	22	10	29	14	.	.	14	.	6	.	.	14	68	.
E1	<i>Luzula luzulina</i>	.	.	11	.	.	.	11	.	.	.	6	30	.	.	.	.
E1	<i>Matianthemum bifolium</i>	.	.	11	40	7	14	.	.	.	.	13	30	22	.	.	.
E1	<i>Oxalis acetosella</i>	.	.	11	.	21	.	33	.	.	56	30	56	.	.	.	75
E1	<i>Rhododendron ferrugineum</i>	.	.	11	10	29	.	.	7	.	.	.	.	.	.	.	.
E2a	<i>Rosa pendulina</i>	.	.	11	60	50	36	56	14	.	.	69	90	78	.	86	40
E1	<i>Dryopteris dilatata</i>	.	.	11	.	.	.	.	.	14	8	31	.	33	20	.	25
E1	<i>Dryopteris expansa</i>	.	.	11	10	.	14	.	.	.	8	19	.	.	.	.	25
E1	<i>Lycopodium annotinum</i>	.	.	11	20	14	.	11	7	.	25	25	.	20	.	.	8
E1	<i>Polystichum lonchitis</i>	.	.	11	20	7	29	44	57	14	33	25	50	56	.	14	20
E1	<i>Calamagrostis villosa</i>	.	.	.	30	7	.	11	14	.	.	19	.	20	.	.	42
E1	<i>Apoeris foetida</i>	.	.	.	20	7	14	67	.	.	42	13	.	11	.	14	.
E2a	<i>Lonicera caerulea</i>	.	.	.	20	14	7	22	14	.	.	50	70	11	80	.	50
E1	<i>Luzula luzuloides</i> s. lat.	.	.	.	20	7	7	22	.	.	.	6	.	.	.	.	42
E1	<i>Melampyrum sylvaticum</i>	.	.	.	20	.	7	.	.	.	.	6	.	.	.	5	20
E1	<i>Calamagrostis arundinacea</i>	.	.	.	10	.	7	44	.	.	.	50	90	.	20	.	20
E1	<i>Saxifraga cuneifolia</i>	.	.	.	10	.	.	11	.	.	.	19	.	.	.	.	.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Succesive number (Zaporedna številka)																			
<i>Gymnocarpium dryopteris</i>																			
E1	.	.	.	10	14	.	11	21	.	.	38	.	11	.	.	.	.	.	33
E3a	6	.	.	.	.	.	.	.	.
E2a	29	.	56	.	14	8	38	90	11	60	29	68	20	67	.
E1	21	67	7	.	.	56	90	22	.	57	.	.	8	.
E1	33	7	.	.	19	30	44	.	14	45	20	42	.
E1	21	56	.	.	.	19	70	.	.	71	59	.	.	.
E2b	7	22	.	.	.	25	70	33	.	29	50	.	.	.
E1	6	.	.	20	14	.	.	.	.
E1	7	22	.	.	.	13	.	.	40	.	.	.	.	.
E1	22	36	.	17	25	50	56	40	.	.	.	17	.
E1	11	7	.	.	56	70	11	40	29	.	.	50	.
E2a	21	.	.	19	30	22	.	.	.	.	.	.
E1	6	.	.	.	.	.	.	.	.
E1	8
TA																			
Tilio-Acerion																			
<i>Thalictrum aquilegifolium</i>																			
E1	.	.	11	10	.	43	67	21	57	8	31	.	89	.	14	.	.	25	.
E3a	6	.	.	.	.	.	.	.	.
E2b	22	29	.	17	13	.	89	.	57	5	.	25	.
E1	.	.	.	20	.	14	.	43	.	.	19	.	.	40	57	.	.	.	.
E1	7	.	.	.	.	.	13	.	.	.	.	.	.	.	.
E1	21	11	14	.	.	31	.	.	.	.	.	.	25	.
E1	7	.	.	.	.	31	.	.	20	.	.	.	.	.
E1	11	.	.	.	.	.	.	.	.	.	.	.	.
E1	25	.	33	.	.	.	.	17	14
E1	19	.	.	.	.	.	.	.	.
E1	13	.	.	.	.	.	.	.	.
E1	6	.	.	.	.	.	.	25	.
E3a	6	.	.	.	.	.	.	.	.
E1	10	.	.	.	.	.	.	.	.
E1	42	.
E1	14
AF																			
Aremonio-Fagion																			
<i>Anemone trifolia</i>																			
E1	.	.	.	30	14	.	.	.	.	.	.	.	.	.	14	.	.	.	.
E1	14	.	22	.	.	.	6	.	.	.	86	90	.	.	.
E1	7	7	56	.	.	.	.	.	.	.	57	.	.	.	.
E1	7	.	.	.	.	.	31	.	.	.	14	.	.	.	.
E1	14	22	21	.	8	6	50	11	.	.	.	.	17	.
<i>Cardamine enneaphyllos</i>																			

Successive number (Zaporedna številka)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
<i>Scrophularia nodosa</i>	E1	.	.	.	.	.	.	.	.	.	6	.	.	.	.	5	.	.	.
<i>Prenanthes purpurea</i>	E1	.	.	.	.	.	.	.	.	.	.	10	22	.	.	.	.	.	.
<i>Euphorbia dulcis</i>	E1	.	.	.	.	.	.	.	.	.	.	.	33	.	.	.	20	.	.
<i>Laburnum alpinum</i>	E2	.	.	.	.	.	.	.	.	.	.	.	.	.	14	.	.	.	.
<i>Mycelis muralis</i>	E1	17	29
QP																				
Quercetalia pubescenti-petrucae																				
<i>Convallaria majalis</i>	E1	.	.	.	.	7	.	.	.	.	13	.	.	.	29	.	.	.	.
<i>Primula veris</i> subsp. <i>colonnae</i>	E1	.	.	.	.	7	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Sorbus aria</i>	E2	.	.	.	.	.	22	.	.	.	.	10	33	.	29	.	.	.	.
<i>Carex flacca</i>	E1	.	.	.	.	.	11	.	.	.	.	.	.	.	.	.	.	.	.
<i>Ostrya carpinifolia</i>	E2	.	.	.	.	.	.	.	.	.	6	.	.	.	71	.	.	.	.
<i>Fraxinus ornus</i>	E2a	.	.	.	.	.	.	.	.	.	6	.	.	.	.	.	.	.	.
<i>Melittis melissophyllum</i>	E1	.	.	.	.	.	.	.	.	.	6	.	.	.	.	.	.	.	.
QF																				
Quercus-Fageteta																				
<i>Dactylorhiza fuchsii</i>	E1	8	.	.	10	.	.	11	.	8	.	.	22	.	.	.	.	.	.
<i>Melampyrum pratense</i>	E1	.	.	.	.	7	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Hepatica nobilis</i>	E1	.	.	.	20	.	.	.	.	.	19	.	22	.	29	5	.	.	.
<i>Hieracium lachenalii</i>	E1	.	.	.	20	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Platanthera bifolia</i>	E1	.	.	.	10	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Carex digitata</i>	E1	.	.	.	.	7	.	.	.	.	6	.	44	.	41	.	.	.	.
<i>Anemone nemorosa</i>	E1	.	.	.	.	.	14	33	.	.	44	90	.	.	14	9	.	.	.
<i>Cruciatia glabra</i>	E1	.	.	.	.	.	33	.	.	.	.	.	.	.	.	.	.	.	.
<i>Corylus avellana</i>	E2a	.	.	.	.	.	.	14	.	17	13	.	.	.	.	.	.	.	.
<i>Listera ovata</i>	E1	.	.	.	.	.	.	7	.	8	6	.	22	.	.	.	.	.	.
<i>Pubmonaria officinalis</i>	E1	.	.	.	.	.	.	.	.	.	19	.	.	.	.	.	.	.	.
<i>Lonicera xylosteum</i>	E2a	.	.	.	.	.	.	.	.	.	13	.	.	.	.	.	.	.	.
SP																				
Salicetea purpureae																				
<i>Salix elaeagnos</i>	E2	43
<i>Salix purpurea</i>	E2	14
O																				
Other species (Druge vrste)																				
<i>Festuca sp.</i>	E1	.	9	11	.	.	29	.	.	.	6	.	.	.	.	.	.	.	.
<i>Vicia sp.</i>	E1	.	.	11	.	.	7	11	.	.	.	.	.	.	.	.	.	.	.
<i>Alchemilla sp. (inc. A. alpina)</i>	E1	.	.	.	.	.	7	67	50	29	8	.	22	.	.	.	40	8	.
<i>Hieracium sp.</i>	E1	.	.	.	.	.	7	.	.	.	6	.	.	20	.	.	.	.	.
<i>Minuartia sp.</i>	E1	.	.	.	.	.	7	.	.	.	.	.	.	.	.	.	.	.	.
<i>Thesium sp.</i>		.	.	.	.	.	.	.	.	.	.	30	.	.	.	.	.	.	.

ML Mosses and lichens (Mahovi in lišaji)

E0	38	9	22	.	.	.	.	44	.	.	63	10	.	80	71	.	.	.
E0	31	.	44	30	.	14	44	14	57	17	63	30	22	100	29	.	.	20
E0	23	.	.	.	.	.	11	.	.	.	6	.	.	.	.	.	.	20
E0	15	.	.	.	.	21	33	7	57	33	81	.	11	40	29	.	.	20
E0	8	.	56	30	.	.	33	21	29	17	44	.	22	40	14	.	.	20
E0	8	.	.	.	.	.	.	.	.	.	19	.	.	80	14	.	.	.
E0	.	18	.	.	.	14	.	.	.	.	.	.	.	.	.	.	.	.
E0	.	.	22	.	.	7	11	7	.	.	31	.	22	60	.	.	.	.
E0	.	.	22	.	.	.	.	.	.	.	13	.	.	20	.	.	.	.
E0	.	.	11	20	.	.	.	.	.	.	6	.	.	.	.	.	.	.
E0	.	.	11	.	.	.	11	.	.	.	19	.	.	.	.	.	.	.
E0	.	.	11	.	.	.	.	.	.	.	6	.	.	.	.	.	.	.
E0	.	.	11	.	.	.	.	.	.	.	6	.	.	.	.	.	.	.
E0	.	.	.	.	.	7	.	.	.	.	13	.	.	.	29	.	.	.
E0	.	.	.	.	.	7	.	.	.	.	13	.	.	.	.	.	.	.
E0	.	.	.	.	.	7	.	.	.	.	13	.	.	60	14	.	.	.
E0	.	.	.	.	.	7	.	22	.	29	17	.	11	.	71	.	.	25
E0	.	.	.	.	.	.	11	.	.	25	.	.	.	.	.	.	.	.
E0	.	.	.	.	.	.	.	.	29	.	6	.	.	.	.	.	.	.
E0	.	.	.	.	.	.	.	.	43	.	.	.	.	.	.	.	.	.
E0	.	.	.	.	.	.	.	.	28	.	.	.	.	.	.	.	.	.
E0	.	.	.	.	.	.	.	.	14	.	.	.	.	.	.	.	.	.
E0	.	.	.	.	.	.	.	.	14	.	.	.	.	.	.	.	.	.
E0	.	.	.	.	.	.	.	.	14	.	.	.	.	.	.	.	.	.
E0	.	.	.	.	.	.	.	.	14	.	.	.	.	.	.	.	.	.
E0	.	.	.	.	.	.	.	.	.	.	31	.	.	20	.	.	.	.
E0	.	.	.	.	.	.	.	.	.	.	25	.	.	20	.	.	.	52
E0	.	.	.	.	.	.	.	.	.	.	19	.	.	20	.	.	.	.
E0	.	.	.	.	.	.	.	.	.	.	19	.	.	.	.	.	.	.
E0	.	.	.	.	.	.	.	.	.	.	19	.	.	100	.	.	.	.
E0	.	.	.	.	.	.	.	.	.	.	13	.	.	.	.	.	.	.
E0	.	.	.	.	.	.	.	.	.	.	13	.	.	20	.	.	.	.
E0	.	.	.	.	.	.	.	.	.	.	13	.	.	.	.	.	.	.
E0	.	.	.	.	.	.	.	.	.	.	13	.	.	.	.	.	.	.
E0	.	.	.	.	.	.	.	.	.	.	13	.	.	.	.	.	.	.
E0	.	.	.	.	.	.	.	.	.	.	13	.	11	.	.	.	.	.
E0	.	.	.	.	.	.	.	.	.	.	13	.	.	.	.	.	.	.
E0	.	.	.	.	.	.	.	.	.	.	13	.	.	.	.	.	.	.

Successive number (Zaporedna številka)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
<i>Bryum capillare</i>	E0	.	.	.	.	.	.	.	.	.	6	.	.	.	.	.	.	.	.
<i>Bryum</i> sp.	E0	.	.	.	.	.	.	.	.	.	6	.	.	.	.	.	.	.	.
<i>Ditrichum flexicaule</i>	E0	.	.	.	.	.	.	.	.	.	6	.	.	.	.	.	.	.	.
<i>Encalypta streptocarpa</i>	E0	.	.	.	.	.	.	.	.	.	6	.	.	20	.	.	.	.	.
<i>Eurhynchium zetterstedtii</i>	E0	.	.	.	.	.	.	.	.	.	6	.	.	.	.	.	.	.	.
<i>Homalothecium lutescens</i>	E0	.	.	.	.	.	.	.	.	.	6	.	.	.	.	.	.	.	.
<i>Homalothecium philippianum</i>	E0	.	.	.	.	.	.	.	.	.	6	.	.	.	.	.	.	.	.
<i>Radula</i> sp.	E0	.	.	.	.	.	.	.	.	.	6	.	.	.	.	.	.	.	.
<i>Thuidium tamariscinum</i>	E0	.	.	.	.	.	.	.	.	.	6	.	.	.	.	.	.	.	.
<i>Cladonia fimbriata</i>	E0	.	.	.	.	.	.	.	.	.	6	.	.	.	.	.	.	.	.
<i>Cladonia</i> sp.	E0	.	.	.	.	.	.	.	.	.	6	.	.	.	.	.	.	.	.
<i>Squamarina</i> sp.	E0	.	.	.	.	.	.	.	.	.	6	.	.	.	.	.	.	.	.
<i>Drepanocladus uncinatus</i>	E0	.	.	.	.	.	.	.	.	.	.	22	.	.	.	.	.	.	.
<i>Plagiochila porelloides</i>	E0	.	.	.	.	.	.	.	.	.	.	.	20	14	.	.	.	.	.
<i>Polytrichum</i> sp.	E0	.	.	.	.	.	.	.	.	.	.	.	20	.	.	.	.	.	.
<i>Musci</i> sp.	E0	.	.	.	.	.	.	.	.	.	.	.	20	.	.	.	.	.	.
<i>Plagiothecium laetum</i>	E0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	58
<i>Lobaria pulmonaria</i>	E0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	33
<i>Plagiommium cuspidatum</i>	E0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	25
<i>Brachythecium rivulare</i>	E0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	43

Legend – Legend

- 1 *Dryado-Rhodobanquetum chamaecisti* – Dolomites
 - 2 *Dryado-Rhodobanquetum caricetosum firmae*
 - 3 *Dryado-Rhodobanquetum salicetosum waldsteinianae*
 - 4 *Rhododendretum hirsuti vaccinietosum myrtilli*
 - 5 *Rhodothamno chamaecisti-Juniperetum alpini*
 - 6 *Laserpitio peucedanoideis-Salicetum waldsteinianae*
 - 7 *Salicetum waldsteinianae* var. *gsogr.* *Homogyne sylvestris*
 - 8 *Salicetum waldsteinianae* – Austria
 - 9 *Salicetum glabrae* – NE Alps
 - 10 *Salix glabra* comm. (prov.) – Austria
 - 11 *Rhododendro hirsuti-Salicetum appendiculatae* – Slovenia
 - 12 *Rhododendro hirsuti-Salicetum appendiculatae* – Croatia
 - 13 *Aceri-Salicetum appendiculatae typicum*
 - 14 *Heliospermo pusillae-Rhododendretum hirsuti*
 - 15 *Homogyne sylvestris-Salicetum glabrae*
 - 16 *Rhododendro hirsuti-Juniperetum alpinae*
 - 17 *Scabioso cinerei-Salicetum waldsteinianae*
 - 18 *Aceri-Salicetum appendiculatae petasitetosum albi*
 - 19 *Aceri-Salicetum appendiculatae petasitetosum hybridi*
- ESP Erika and Sandro Pignatti
 ID Igor Dakskobler
 BS Boštjan Surina
 TW Tone Wraber
 LP Livio Poldini
 GO Giuseppe Oriolo
 CF C. Francescato
 MZ Mitja Zupančič
 VŽ Vinko Žagar
 PK Peter Karner
 IH Ivo Horvat
 RL Radomir Lakušić
 PE Peter Eggenberger
 HS Hans Smettan
 JG Josef Greimler

Table 6: Groups of diagnostic species in (altimontane)-subalpine communities with dominant *Rhododendron hirsutum* and (or) *Salix* spp. in (SE) Alps and Dinaric Alps (relative frequencies)

Preglednica 6: Skupine diagnostičnih vrst v združbah s prevladujočimi vrstami *Rhododendron hirsutum* in *Salix* spp. v (Jugovzhodnih) Alpah in Dinarskem gorstvu (relativne frekvence)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Successive number (Zaporedna številka)	13	11	9	10	14	14	9	14	7	12	16	10	9	5	7	22	5	12	7
Number of relevés (Število popisov)	13	11	9	10	14	14	9	14	7	12	16	10	9	5	7	22	5	12	7
Sign for syntaxa (Oznaka sintaksonov)	DRh	DRhcf	DRhsw	Rhvm	Rcja	LpSw	LpSw-hs	Sw-A	Sg-Ba	Sg-A	Rhsa	Rhsa	-Cr	HPRh	HoSg	Rhja	ScSw	ApSapa	ApSaph
<i>Rhododendro hirsuti-Ericetalia carneae</i>	11.5	9.34	6.09	6.67	11.4	1.92	3.46	4	4.23	3.25	2.46	2.4	0.8	5.06	6.07	7.73	2.05	0	0
<i>Betulo-Alnetea viridis</i>	6.12	0	3.19	6.67	12.4	6.86	6.21	8.19	4.73	4.58	5.17	8.56	5.38	7.3	4.28	7.88	4.79	5.95	8.1
<i>Caricion firmae</i>	5.81	21.8	4.06	0.3	0.93	2.08	2.36	0	0.00	1.62	0	0	0	0	1.07	0	0.68	0	1.13
<i>Oxytropido-Elynon</i>	0.35	0.39	1.45	0.3	0.62	0.35	0.36	0	0.00	0	0.26	0	0	2.25	0	0	0	0	0
<i>Caricion austroalpinae</i>	2.38	0.39	3.19	4.24	1.56	3.16	1.45	0.52	0.46	1.88	0.78	0	0	0	1.79	2.13	0.68	0	0
<i>Caricion ferrugineae</i>	1.36	1.17	2.61	0.91	2.54	2.97	1.65	2.63	2.84	6.2	0.91	0	0	2.81	2.14	0.35	0	0	0
<i>Seslerietalia coeruleae</i>	5.41	5.84	7.54	3.94	0.93	3.7	1.65	0.26	1.42	1.88	0.13	0	0	0.56	1.07	0	3.42	0	0
<i>Seslerietalia juncifoliae</i>	0	0	0	0	0	0	0	0	0.00	0	0	1.03	0	0	0	2.13	13.7	0	0
<i>Elyno-Seslerietea</i>	22.9	24.9	25.2	10.6	12.6	14.2	10.4	8.04	12.80	21.8	2.85	3.08	1.33	5.06	8.93	2.72	11.6	0	1.62
<i>Caricetalia davallianae</i>	4.71	4.67	4.35	0.3	0.93	2.27	1.27	0.26	2.38	1.62	0.26	0	0	5.62	3.93	0	0.68	0.28	0
<i>Montio-Cardaminetea</i>	0.66	1.56	1.16	0	0	0.35	0.36	0	0.00	0	0	0	0	0	0	0	0.68	0	6.96
<i>Mulgedio-Aconitetea</i>	0.7	0.78	4.06	8.79	7.92	20.6	16.2	31.4	19.28	14.8	11.1	15.4	30.7	2.81	0.71	1.54	15.1	24.9	16.2
<i>Nardion strictae</i>	1.72	1.95	1.45	3.33	1.56	0.35	1.27	1.56	1.42	1.33	0	0	0.27	0	0.36	0	1.37	0	0
<i>Juncetea trifidi</i>	2.38	1.17	2.32	6.97	1.87	1.78	1.1	1.59	1.88	1.62	0.52	0	0	0	0	0.71	3.42	0	0
<i>Loiselerio-Vaccinietea</i>	1.67	4.28	1.45	2.42	0.62	0.35	0	0	0.00	0	0	0	0	0	0	0	0	0	0
<i>Arabidietalia caeruleae</i> (inc. <i>Salicetea herbaceae</i>)	2.68	5.45	2.9	0.91	0.31	1.41	0.36	1.59	1.88	2.44	0.13	0	0.27	2.25	0.36	0	3.42	0	0
<i>Thlaspietea rotundifolii</i>	4.45	3.5	2.9	3.64	4.4	6.64	5.27	3.15	7.51	6.49	4.79	0	2.13	0.56	8.22	11.7	6.85	0	4.62
<i>Physoplexido comosae-Saxifragion petraeae</i>	0.7	1.95	0.87	0	0	0.69	1.63	0	0.00	0	1.42	0	0	3.37	0.71	1.81	0	0	0
<i>Potentilletalia caulescentis</i>	2.02	3.5	1.74	0	0	0.35	0.91	0	0.00	0	0.65	0	0	3.37	1.79	0	0	0	0
<i>Cystopteridion fragilis</i>	0	1.17	0	0	0	0.86	0.18	0	0.00	0	1.81	0	1.04	4.49	0.36	1.1	0.68	1.53	0
<i>Asplenietea trichomanis</i>	2.73	0.78	1.45	0.3	1.91	1.95	2.19	1.3	1.42	1.62	4.27	2.05	0.53	5.06	1.43	3.39	2.05	0	3.48
<i>Poo alpinae-Trisetetalia</i>	2.02	0.78	1.74	2.42	0.62	3.75	2.17	2.11	5.16	5.65	0.65	0.34	1.87	1.12	0	0	0.68	0.85	1.13
<i>Molinio-Arrhenatheretea</i>	0.35	0	0.87	1.52	0.31	2.93	2.17	1.56	3.31	2.69	0.78	0	2.13	0	1.07	0.55	4.11	5.34	15.1
<i>Festuco-Brometea</i>	2.02	0	0.29	0.3	0.62	0.17	1.09	0	0.46	0	0.39	0.34	0	0	3.57	4.69	2.05	0	0
<i>Trifolio-Geranietea</i>	0	0	0.87	0.61	0	0.35	0.36	0	0.96	0	0.26	0	0	0	1.07	2.17	0	0	0
<i>Sambuco-Salicion capreae, Rhamno-Prunetea</i>	0	0	0.87	0.61	0.62	0.17	0.54	1.33	0.00	0	3.23	1.71	3.23	1.12	0.36	1.93	0	8.01	1.13
<i>Filipendulo-Convolutetea</i>	0	0	0	0	0	0	0	0	0.00	0	0	1.71	1.36	0	0	0	0	0	11.6

Successive number (Zaporedna številka)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
<i>Gaulio-Urticetea, Stellarietea mediae</i>	0	0	0	0	0	0.17	0	0	0.00	0	0.91	0	0	0	0	0	0	0.89	5.75
<i>Epilobietea angustifolii</i>	0.35	0	0	0.3	0	0	0.36	1.04	0.00	0	0.52	0	0.27	0	0	0.55	0	1.78	2.35
<i>Erico-Pinetea</i>	3.39	0.78	1.45	1.52	4.23	2.44	2.54	2.67	4.27	1.36	2.98	4.45	5.14	6.18	12.5	16.3	2.05	1.17	6.96
<i>Vaccinio-Piceetea</i>	5.11	2.33	9.57	21.5	23.8	7.5	15.3	13.7	4.20	8.9	20.1	38	15.3	17.4	11.1	22.6	11.6	18.1	0
<i>Tilio-Acerion</i>	0	0	0.29	0.91	0.31	2.11	1.83	2.37	3.31	0.81	4.4	0.34	5.12	1.69	3.21	0.2	0	5.66	2.27
<i>Arenonio-Fagion</i>	0	0	0	0.91	1.87	0.69	2.55	0.78	0.00	0.26	1.81	3.42	0.27	0.56	5.36	3.94	2.05	0.61	0
<i>Fagetalia sylvaticae</i>	0.7	0	0	4.85	4.72	3.3	5.85	5.56	4.27	4.32	9.44	11.3	15.9	0.56	7.14	1.66	2.05	16.3	3.48
<i>Quercetalia pubescenti-petraeae</i>	0	0	0	0	0	0.35	0.54	0	0.00	0	0.65	0.34	0.8	0	3.2	0	0	0	0
<i>Quercio-Fagetea</i>	0.35	0	0	1.82	0.31	0.35	1.27	0.78	0.00	1.07	2.46	3.08	2.67	0	1.07	2.17	0	0	0
<i>Salicetea purpureae</i>	0	0	0	0	0	0	0	0	0.00	0	0	0	0	0	0	0	0	0	4.62
Other species (Druge vrste)	0	0.39	0.58	0	0	1.06	1.28	1.85	0.96	0.26	0.13	1.03	0.53	0	0	0	1.37	0.28	0
Mosses and lichens (Mahovi in lišaji)	5.41	1.17	5.51	2.42	0	1.9	3.8	1.82	10.85	3.54	13.8	1.37	2.93	20.8	7.14	0	2.74	8.37	3.48
Total (Skupaj)	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Legend – Legenda

- 1 *Dryado-Rhodothamnetum chamaecisti* – Dolomites
- 2 *Dryado-Rhodothamnetum caricetosum firmae*
- 3 *Dryado-Rhodothamnetum salicetosum waldsteinianae*
- 4 *Rhododendretum hirsuti vaccinietosum myrtilli*
- 5 *Rhodothamno chamaecisti-Juniperetum alpini*
- 6 *Lasertio peucedanoidis-Salicetum waldsteinianae*
- 7 *Salicetum waldsteinianae* var. geogr. *Homogyne sylvestris*
- 8 *Salicetum waldsteinianae* – Austria
- 9 *Salicetum glabrae* – NE Alps
- 10 *Salix glabra* comm. (prov.) – Austria
- 11 *Rhododendro hirsuti-Salicetum appendiculatae* – Slovenia
- 12 *Rhododendro hirsuti-Salicetum appendiculatae* – Croatia
- 13 *Aceri-Salicetum appendiculatae typicum*
- 14 *Heliospermo pusillae-Rhododendretum hirsuti*
- 15 *Homogyne sylvestris-Salicetum glabrae*
- 16 *Rhododendro hirsuti-Juniperetum alpinae*
- 17 *Scabioso cimerei-Salicetum waldsteinianae*
- 18 *Aceri-Salicetum appendiculatae petasitetosum albi*
- 19 *Aceri-Salicetum appendiculatae petasitetosum hybridi*