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# Contribution to the Knowledge of the Association Fraxino orni-Pinetum nigrae Martin-Bosse 1967

Beitrag zur Kenntnis der Gesellschaft Fraxino orni-Pinetum nigrae Martin-Bosse 1967

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## Abstract

The article phytosociologically describes natural stands of black pine (*Pinus nigra* Arnold) in the area of Govci on the northeastern edge of the Trnovski gozd plateau (western Slovenia). The author classified them in the association Fraxino orni-Pinetum nigrae Martin-Bosse 1967, and compared them with other forms of the same association and with the association Genisto januensis-Pinetum Tomažič 1940. He stated that these are, in spite of their floristic similarity, two well differentiated associations. He classified the *Pinus nigra* stands in the area of Govci as a new geographical variant Fraxino orni-Pinetum nigrae var. geogr. *Primula carniolica* var. geogr. nova.

**Key words:** Fraxino orni-Pinetum nigrae, Genisto januensis-Pinetum, the Trnovski gozd plateau, Slovenia.

## Zusammenfassung

Natürliche Bestände der Schwarzföhre (*Pinus nigra* Arnold) im Gebiet Govci oberhalb dem Trebuša-Tal (nordöstlicher Rand des Trnovski gozd, westliches Slowenien) wurden pflanzensoziologisch untersucht und in das Syntaxon Fraxino orni-Pinetum nigrae Martin-Bosse 1967 var. geogr. *Primula carniolica* var. geogr. nova rhododendretosum hirsuti eingereiht.

Mit der multivariaten Statistik (hierarchische Gruppierung, PCoA - Ordination) haben wir die bis jetzt beschriebenen Formen der Assoziationen Fraxino orni-Pinetum nigrae und Genisto januensis-Pinetum Tomažič 1940 verglichen. Es wurde festgestellt, daß diese zwei Gesellschaften, trotz der floristischen und ökologischen Ähnlichkeit zwei verhältnismäßig gut getrennte Assoziationen darstellen. Die Assoziation Fraxino orni-Pinetum nigrae unterscheidet sich vom Genisto januensis-Pinetum hauptsächlich durch alpine und teilweise alpin-nordillyrische Arten wie z. B. *Euphrasia cuspidata, Arctostaphylos uva-ursi, Rhodothamnus chamaecistus* u. a., (in den Karnischen und westlichen Julischen Alpen auch durch die

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Taxa *Euphorbia triflora* subsp. *kerneri* und *Bupleurum ranunculoides* subsp. *canalense*). Die Assoziation Genisto januensis-Pinetum ist durch illyrische bzw. südosteuropäische Arten wie *Genista januensis*, *Daphne blagayana* und *Potentilla carniolica* gekennzeichnet.

## 1. Introduction and Methods

According to data, known as yet, the association Fraxino orni-Pinetum nigrae (= Orno-Pinetum nigrae) Martin-Bosse 1967 is distributed in the area of the Southeastern Alps: the Karawanken (the Karavanke range), the Gailtaler Alps, the Julian Alps, the Carnic Alps and the Venetian (Belluno) Alps (AICHINGER 1933, MARTIN-BOSSE 1967, POLDINI 1967, 1969, T. WRABER 1979, WALLNÖFER 1993).

In the Julian Alps the association Fraxino orni-Pinetum nigrae was thoroughly researched by POLDINI (1969) in the Italian part: in the valleys of the Dogna, the Raccolana and the Resia, and by T. WRABER (1979) in the Slovene part: in the Koritnica valley near Bovec. This association was partly studied also in the Trenta valley, on the peak Treska near the village of Srpenica and above the Tolminka valley (T. WRABER 1964, DAKSKOBLER 1997 mscr.)

The locality of black pine in the area of Govci, above the village Gorenja Trebuša on the northeastern edge of the Trnovski gozd plateau, has been known since a long time: SCHARNAGGL (1873: 5), POSPICHAL (1897: 23-24), H. SCHMIED (1929:

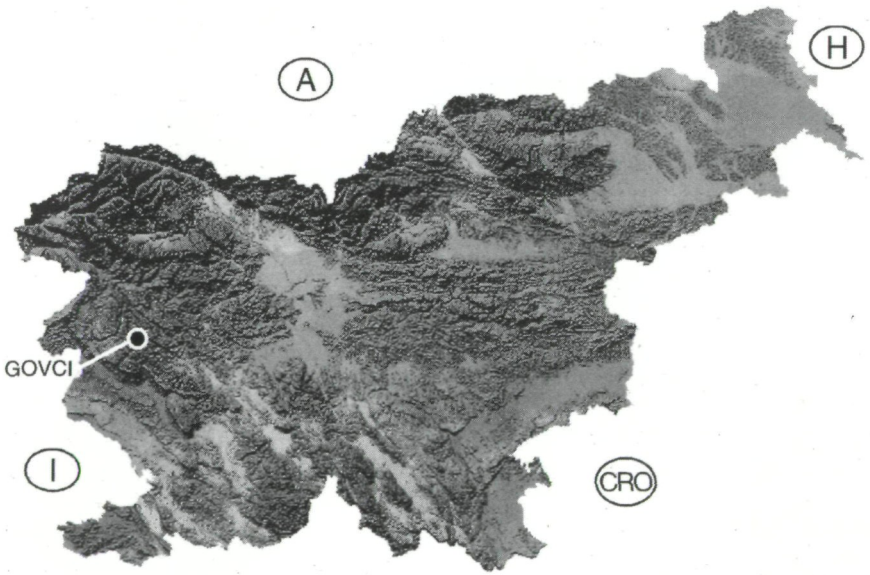


Fig. 1

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300), AICHINGER (1933: 242), M. WRABER (1953: 16, 1960: 68), P. FUKAREK (1958: 53), B. JURHAR (1960), POLDINI (1969: 34), MLINŠEK at al. (1980: 63-64), BRUS (1995). The stands in the area of Govci have not been researched phytosociologically yet.

Our research was aimed primarily at supplementing the knowledge of the distribution, the structure and floristic composition of the association Fraxino orni-Pinetum nigrae in the southern and southeastern part of its distribution area, in the contact area with the association Genisto januensis-Pinetum Tomažič 1940. For this purpose we studied natural stands of black pine in the area of Govci, applying the standard Central European phytosociological method (BRAUN-BLANQUET 1964). We compared their floristic composition with other forms of the association Fraxino orni-Pinetum nigrae (MARTIN-BOSSE 1967, POLDINI 1969, T. WRABER 1979, DAKSKOBLER 1997 mscr.), described so far, with various forms of the association Genisto januensis-Pinetum from the pre-Alpine and partly pre-Dinaric phytogeographical region of Slovenia (TOMAŽIČ 1940), and with two transitional communities from the western part of the pre-Alpine region of Slovenia (the Šentviška planota and the Cerkno regions) - DAKSKOBLER (1996 mscr.). We compared the syntaxa enumerated applying the methods of hierarchical classification and Principal Coordinates Analysis (PCoA). We used the program package SYN-TAX (PODANI 1993, 1994). In the synoptic table numbers mean frequencies of species from analytic tables. Some rare species with frequency less than 10% are not included in this table.

In the analysis of chorological groups and biological forms we made use of the Chorological Atlas of Vascular Plants in the region Friuli-Venezia Giulia (POLDINI 1991). We refer to TRPIN & VREŠ (1995) for the majority of vascular plant names, and to DÜLL (1991) for moss names. Annual Report of Meteorological Service for the Year 1957, PUČNIK (1980) and Climatography of Slovenia (1988, 1989) are the sources of climatic data, and BUSER (1986) is a reference for data on geological structure.

## 2. The Association Fraxino orni-Pinetum nigrae in the Area of Govci on the Northeastern Edge of the Trnovski Gozd Plateau (western Slovenia)

In one of the largest natural localities in Slovenia, on the northeastern edge of the Trnovski gozd plateau above the Trebuša valley, black pine grows on rocky, steep slopes of the peaks Stanov rob, Poldanovec and Zeleni rob, ridged with numerous gorges. The whole area is called Govci (9948/4, 9949/3, UTM VL09 and VL19). *Pinus nigra* thrives there at an altitude of 500 to 1200 m. It grows also in the area of Mali Govci, at the roots of the peak Bukov vrh. Parent material is Triassic dolomite. The soil is shallow and very skeletony (Lithosols, rendzina), exposed to erosion. On the northeastern edge of the Trnovski gozd plateau there is

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a relatively cold and very humid climate (average annual temperature from 6 to 8° C, average annual precipitation about 2500 mm). Frequent weather phenomena in this area are glaze (see e. g. ŠIFRER 1977), and occasionally also windbreak. Verbal reports and chronicles often mention forest fires in this area.

Beech stands are the prevailing vegetation in the area of Govci. They are classified in the following associations: Ostryo-Fagetum M. Wraber ex Trinajstić 1972, Arunco-Fagetum Košir 1962 (submontane and montane belt), Rhododendro hirsuti-Fagetum Accetto 1996 var. geogr. *Anemone trifolia* Dakskobler 1998, Homogyno sylvestris-Fagetum Marinček et al. 1993, Ranunculo platanifolii-Fagetum Marinček et al. 1993 (montane and upper montane belt). Among the contact communities we should mention also Primulo carniolicae-Potentilletum caulescentis Dakskobler 1998 nom. prov., Potentillo clusianae-Campanuletum zoysii Aichinger 1933 var. geogr. *Primula carniolica* Dakskobler 1998 and Rhodothamno-Pinetum mugo (Martinčič 1977) Zupančič & Žagar 1980 mscr. var. geogr. *Primula carniolica* Dakskobler 1998 prov. (in the rock faces of Poldanovec and Zeleni rob) – DAKSKOBLER 1998. Beech could not successively replace black pine on the most extreme sites - sheer rocky slopes, prominences, conical peaks, spires and crests. The black pine community of this place was characterized by names as Erico-Pinetum nigrae (M. WRABER 1953), Genisto januensis-Pinetum (M. WRABER 1960) and *Pinetum austroalpinum* (MLINŠEK et al.1980). Our analyses and comparisons, described in the following chapter, confirm that we can classify it in the southeast-Alpine association Fraxino orni-Pinetum nigrae Martin-Bosse 1967. Open *Pinus nigra* stands are mosaicly scattered over the whole rock faces of Govci, on the most extreme sites. Trees are 15 (max. 20) m, at spots only 10 m high, measuring at breast height 30 to 45 cm. Black pine has spread as a pioneer to surrounding beech sites, to open areas, formed in consequence of glaze or windbreak. There black pine grows up to 30 meters high or more, reaching 50 (max. 80) cm diameter at breast height.

Structure and floristic composition of the community is presented in Phytosociological Table 1. The presence of phytosociological and chorological groups are shown in Tables 1 and 2, proportion of biological forms can be seen in Table 3. *Pinus nigra*, *Ostrya carpinifolia, Sorbus aria* and *Fraxinus ornus* are frequent species in the tree layer. These species (and also *Amelanchier ovalis* and *Rhododendron hirsutum*) are most frequent in the shrub layer, which usually covers 20 to 40% of the surface area. Species of *Erico-Pinetea* (*Erica carnea, Polygala chamaebuxus, Buphthalmum salicifolium*), species of dry and subalpine grasslands (*Carex humilis, Sesleria albicans, Betonica alopecuros*), some species of beech forests (*Cyclamen purpurascens*, *Mercurialis perennis*), species of rock fissures (*Paederota lutea, Potentilla caulescens*), and *Molinia arundinacea* have the greatest presence degree and (or) cover in the herb layer (usually it covers 40 to 70% of the

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surface area). *Viscum album*, mostly living as parasite on *Sorbus aria*, is relatively frequent. Most frequent species of the moss layer are *Fissidens cristatus, Neckera crispa, Tortella tortuosa* and *Ctenidium molluscum.*. The reasons for the relatively high proportion of Fagetalia species are, in our opinion, the following: black pine stands thrive in the direct contact with beech forest. Therefore some species of beech forest spread also to black pine stands. These are a relatively permanent (self-regenerating) stage on the most extreme sites, and a transitional community on less extreme ones. The latter will probably be successively replaced by beech stands. This tendency is partly revealed by the arrangement of the relevés in Phytosociological Table 1.

Table 1: Phytosociological groups of the association Fraxino orni-Pinetum nigrae in the area of Govci above the Trebuša valley (relative frequencies).

Tabelle 1: Pflanzensoziologische Gruppen von Fraxino orni-Pinetum nigrae in dem Gebiet Govci oberhalb dem Trebuša-Tal (relative Häufigkeiten).

| | |
|---|---|
| Erico-Pinetea s. lat. | **20,6** |
| Quercetalia pubescentis s. lat. | 7,2 |
| Quercetalia roboris s. lat. | 1,3 |
| Fagetalia sylvaticae s. lat. | **14,2** |
| Querco-Fagetea s. lat. | 2,8 |
| Vaccinio-Piceetea s. lat. | 8,5 |
| Adenostyletalia s. lat. | 1,5 |
| Trifolio-Geranietea s. lat. | 1,5 |
| Festuco-Brometea s. lat. | 6,0 |
| Seslerietea albicantis s. lat. | 8,8 |
| Asplenietea trichomanis s. lat. | **9,5** |
| Thlaspietea rotundifolii s. lat. | 3,8 |
| Other species | 4,2 |
| Mosses and lichens | **10,1** |

Table 2: Chorological groups of the association Fraxino orni-Pinetum nigrae in the area of Govci - relative frequencies.

Tabelle 2: Chorologische Gruppen von Fraxino orni-Pinetum nigrae in dem Gebiet Govci - relative Häufigkeiten.

| | |
|---|---|
| Arctic-Alpine, Alpine and (south)east-Alpine species | 10 |
| Southeast-European and Alpine-Illyrian species | 11 |
| Illyrian and Illyrian-sub-Mediterranean species | 5 |
| Mediterranean-montane species | **24,5** |

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| | |
|---|---|
| Mediterranean-Pontic and Pontic species | 5 |
| Sub-Atlantic and Mediterranean-Atlantic species | 1 |
| Eurimediterranean species | 4 |
| European species | 12,5 |
| Boreal species | 8 |
| Eurasiatic and Eurosiberian species | 13 |
| Paleotemperate and other species | 6 |

Table 3: Plant life form spectrum of the association Fraxino orni-Pinetum nigrae in the area of Govci - relative frequencies.

Tabelle 3: Lebensformspektrum des Fraxino orni-Pinetum nigrae in dem Gebiet Govci - relative Häufigkeiten.

| | | |
|---|---|---|
| **Phanerophytes** | **P** | **24** |
| | NP | 5 |
| | P caesp | 11 |
| | P ep | 1 |
| | P lian | 0 |
| | P scap | 7 |
| **Chamaephytes** | **Ch** | **21** |
| | B ch | 8 |
| | Ch frut | 4 |
| | Ch lich | 0 |
| | Ch pulv | 0,5 |
| | Ch rep | 1,5 |
| | Ch suffr | 7 |
| **Hemicryptophytes** | **H** | **43** |
| | H caesp | 11 |
| | H ros | 7 |
| | H scap | 23 |
| | H th | 2 |
| **Geophytes** | **G** | **11** |
| | G bulb | 4 |
| | G rhiz | 7 |
| **Therophytes** | **T** | **1** |
| | T scap | 1 |

Local character species of the association Fraxino orni-Pinetum nigrae (according to POLDINI 1969) in the area of Govci are *Allium ochroleucum, Asperula aristata* and *Euphrasia cuspidata*. The differential species of the association (accor-

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ding to WALLNÖFER 1993: 260), *Laserpitium peucedanoides*, is frequent. The association Fraxino orni-Pinetum nigrae on the northeastern edge of the Trnovski gozd plateau is phytogeographically characterized by *Primula carniolica* and *Omphalodes verna*. The endemic *Primula carniolica*, which the new geographical variant was named after, thrives only in the pre-Alpine, Dinaric and partly pre-Dinaric area of Slovenia. *Omphalodes verna* has southeast-Alpine-Illyrian distribution. We classified the black pine stands of Govci (Phytosociological Table 1) in the subassociation Fraxino orni-Pinetum nigrae var. geogr. *Primula carniolica* rhododendretosum hirsuti. Its nomenclatural type (at the same time also the nomenclatural type of the newly described geographical variant) is relevé 6 in the Phytosociological Table 1. The differential species of the subassociation *Rhododendron hirsutum* indicates very steep, mostly shady dolomite slopes with cool local climate, and the vicinity of the Alps. Black pine stands on the coldest, the most rocky, and relatively humid sites are classified in the variant with *Rhodothamnus chamaecistus*. Its differential species are also *Valeriana saxatilis* and *Salix glabra*. In the upper montane belt (1000 to 1150 m a. s. l.) we have found also a subvariant with *Larix decidua* (the southernmost natural locality of this tree species in Slovenia) and subvariant with *Pinus mugo*. The more thermophilous, typical variant which thrives on less extreme sites, indicates succession to beech forest.

## 3. Comparative Analysis of the Associations Fraxino orni-Pinetum nigrae and Genisto januensis-Pinetum (the Commentary to Phytosociological Table 2)

19 syntaxa from the area of the Southeastern Alps and their headland (the Carnic Alps, the Gailtaler Alps, the Karawanken chain, the Julian Alps, pre-Alpine region of Slovenia), which are classified in the associations Fraxino orni-Pinetum nigrae and Genisto januensis-Pinetum (List 1) were ranged in the Phytosociological Table 2.

We compared them applying the methods of hierarchical clustering: FNC (Farthest Neighbour Clustering= Complete Linkage Clustering) and MISSQ (minimization of the increase of error sum of squares = Increment Sum of Squares). Ordination was performed applying the Principal Coordinates Analysis = Metric Multidimensional Scaling (PCoA). The measure of dissimilarity was the complement of the „similarity ratio" coefficient, and when solely binary data (presence/absence of species) were taken into consideration, the complement of Jaccards's coefficient.

In the Figure 2 there are two dendrograms, obtained with complete linkage clustering. The left one takes into consideration solely binary data (presence/absence of species), and the right one also quantitative values (frequency in percentage). Figure 3 presents two dendrograms, obtained with the method, based on opti-

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mal homogeneity of clusters (MISSQ, Ward's method). Similarly, the left one takes into consideration only binary data and the right one also frequency of the species. The syntaxa of the association Genisto januensis-Pinetum (columns 16-19 in Phyt. Table 2) are united in a separate cluster in all dendrograms elaborated. This confirms that the associations Genisto januensis-Pinetum and Fraxino orni-Pinetum nigrae are relatively clearly differentiated and distinguished one from the other, in spite of similarities in their floristic composition and ecology. Three from five character species of the first association: *Genista januensis, Daphne blagayana*, and *Potentilla carniolica*, have not been found in the other association yet. In spite of this, we can make an assertion at least for one of them, *Daphne blagayana*, that its distribution area and the distribution area of the association Fraxino orni-Pinetum nigrae do not exclude. This is confirmed by the localities of *Daphne blagayana* in the Trebuša valley (T. WRABER & MIKULETIČ 1965) and in the Carnic pre-Alps (MARTINI & POLDINI 1990: 303).

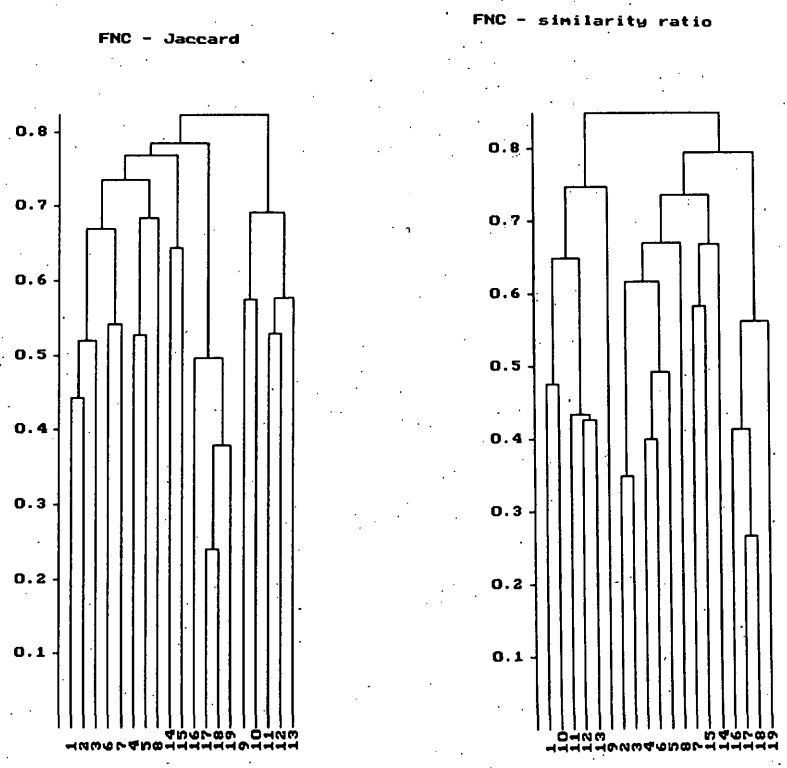


Fig. 2

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Fig. 2: Dendrograms of various forms of associations Fraxino orni-Pinetum nigrae and Genisto januensis-Pinetum - Farthest Neighbour Clustering - FNC. The numbers refer to syntaxa in Phytosociological Table 2.

Abb. 2: Die Dendrogramme verschiedener Formen der Assoziationen Fraxino orni-Pinetum nigrae und Genisto januensis-Pinetum - FNC. Die Nummern beziehen sich auf die Syntaxa in der Vegetationstabelle 2.

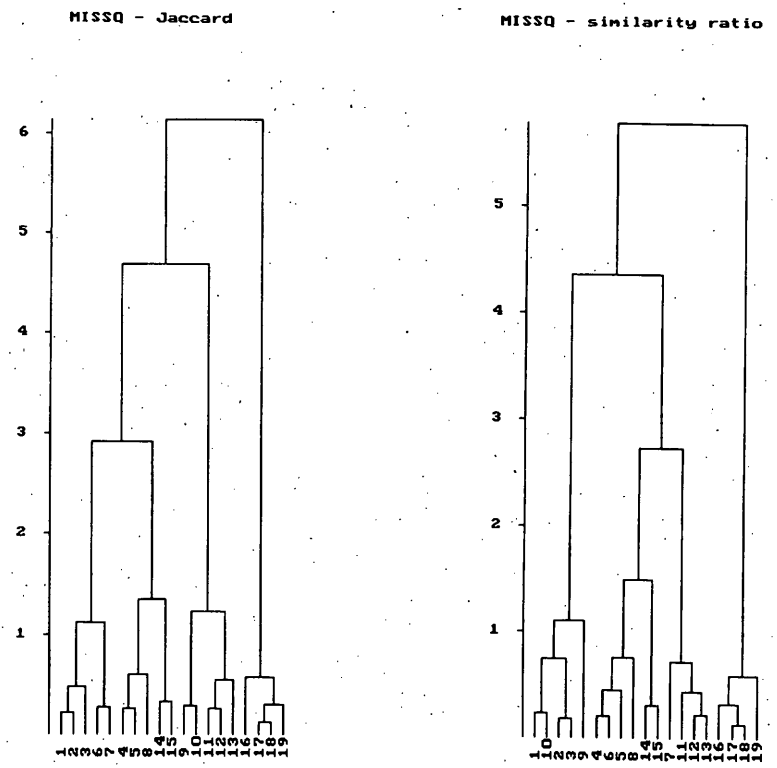


Fig. 3:

Fig. 3: Dendrograms of various forms of the associations Fraxino orni-Pinetum nigrae and Genisto januensis-Pinetum - MISSQ. The numbers refer to syntaxa in Phytosociological Table 2.

Abb. 3: Die Dendrogramme verschiedener Formen der Assoziationen Fraxino orni-Pinetum nigrae und Genisto januensis-Pinetum - MISSQ. Die Nummern beziehen sich auf die Syntaxa in der Vegetationstabelle 2

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Syntaxon, treated in previous chapter (column 13 in the Phytosociological Table 2), is linked into class with more extreme forms of the association Fraxino orni-Pinetum nigrae (described on the peak Treska and above the Tolminka valley – DAKSKOBLER 1997). Stands of this forms are floristically and ecologically similar with the stands classified in two variants of the subassociation Rhodothamno-Rhododendretum hirsuti pinetosum nigrae (columns 9 and 10) by MARTIN-BOSSE (1967). In our opinion, those stands of the latter subassociation, where black pine grows in the tree layer with canopy density of at least about 0.5, could be classified in the association Fraxino orni-Pinetum nigrae as extreme forms with *Rhododendron hirsutum* and (or) *Rhodothamnus chamaecistus*. Hierarchical clustering confirms that *Pinus nigra* stands in the area of Govci belong to the association Fraxino orni-Pinetum nigrae. On the basis of a single relevé published (ACCETTO 1996) we could conclude to certain similarity of the association Fraxino orni-Pinetum nigrae on the northeastern edge of the Trnovski gozd plateau with the newly described association Rhododendro hirsuti-Pinetum nigrae Accetto 1996 from the Kolpa Valley (southern Slovenia), but detailed comparison (ACCETTO 1997, verbal information) reveals that these are two different associations.

Similar results were achieved by applying two-dimensional ordination (Figure 4). The forms of the association Genisto januensis-Pinetum (columns 16-19 in Phyt. Table 2) are clearly differentiated from syntaxa of the association Fraxino orni-Pinetum nigrae. Noticable grouping of more extreme forms of the association Fraxino orni-Pinetum nigrae (with *Rhododendron hirsutum* and *Rhodothamnus chamaecistus*) can be seen.

Analysis of phytosociological groups (Table 4) shows, that species of the class Erico-Pinetea s. lat. prevail in both communities compared by proportion (between 20 and 30%, and in some forms of the association Fraxino orni-Pinetum nigrae even more). Also the proportion of Quercetalia pubescentis species (between 10 and 20%, in the association Genisto januensis-Pinetum usually more) and the proportion of Festuco-Brometea species (mostly between 10 and 20%) are rather large. It is possible (see e. g. POLDINI 1967) that many of the species which are today classified in this class originally grew in open pine forests. The proportion of Fagetalia sylvaticae species varies, in some forms it reaches up to 20%, but usually it is lower than 10%. Phytosociological groups of the subalpine belt (Adenostyletalia, Seslerietea albicantis, Thlaspietea rotundifolii) are characterized by having rather high proportion in the association Fraxino orni-Pinetum nigrae, but they have very low proportions in the association Genisto januensis-Pinetum. The proportion of chasmophytes (Asplenietea trichomanis) is the highest in extreme forms of the association Fraxino orni-Pinetum nigrae, on steep rugged rocks (between 5 and 10%).

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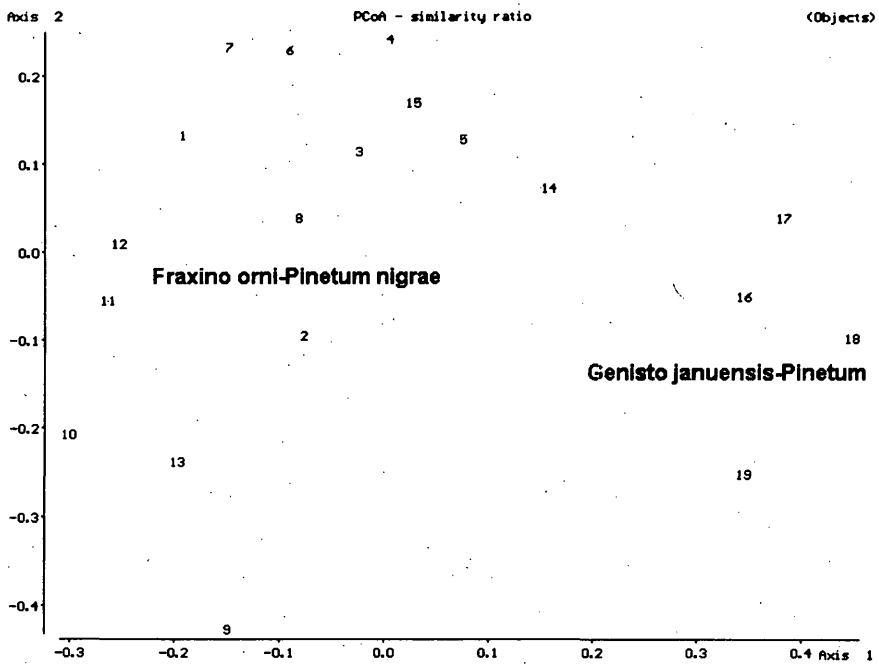


Fig. 4: Two-dimensional scatter diagram of various forms of the associations Fraxino orni-Pinetum nigrae and Genisto januensis-Pinetum. The numbers refer to syntaxa in Phytosociological Table 2.

Abb. 4: Zwei-dimensionales Ordinationsdiagramm verschiedener Formen der Assoziationen Fraxino orni-Pinetum nigrae und Genisto januensis-Pinetum. Die Nummern beziehen sich auf die Syntaxa in der Vegetationstabelle 2.

We can notice some species in the synthetic table which can be, in a wider sense, characterized as the differential species of the association Fraxino orni-Pinetum nigrae, in contrast to the association Genisto januensis-Pinetum. Species, widespread in the Alpine (or Alpine-Illyrian) region, e. g. *Euphrasia cuspidata, Arctostaphylos uva-ursi, Rhodothamnus chamaecistus, Salix glabra, Valeriana saxatilis* and *Campanula cespitosa* mainly prevail among them. We could add also *Laserpitium peucedanoides*, which, however, thrives in the subassociation Genisto januensis-Pinetum pinetosum nigrae (column 16 in Phyt. Table 2), as well. Other differential species are *Allium ochroleucum, Asperula aristata, Asperula purpurea, Cotoneaster tomentosus* and *Hieracium porrifolium*.

| **Table 4: Phytosociological groups in the associations *Fraxino orni-Pinetum nigrae* and *Genisto januensis-Pinetum* (relative frequencies).** | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **The numbers refer to syntaxa of Phytosociological Table 2.** | | | | | | | | | | | | | | | | | | | |
| Tabelle 4: Pflanzensoziologische Gruppen von *Fraxino orni-Pinetum nigrae* und *Genisto januensis-Pinetum* (relative Häufigkeiten). | | | | | | | | | | | | | | | | | | | |
| Die Nummern beziehen sich auf die Syntaxa in der Vegetationstabelle 2. | | | | | | | | | | | | | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| Erico-Pinetea s. lat. | 38,3 | 32,4 | 35,3 | 27,3 | 25,9 | 38 | 27,6 | 28 | 24,6 | 35 | 25,4 | 26 | 20,6 | 15,4 | 22 | 29,3 | 28,9 | 26,3 | 24,9 |
| Quercetalia pubescentis s. lat. | 8,53 | 14,5 | 16,2 | 7,51 | 20,4 | 8,78 | 10,6 | 7,87 | 12,3 | 7,36 | 6,3 | 8,4 | 7,2 | 8,2 | 10,1 | 17,9 | 15 | 17,7 | 18,4 |
| Quercetalia roboris s. lat. | 0,56 | 3,94 | 4,05 | 4,78 | 4,03 | 2,39 | 0 | 2,62 | 4,34 | 0,95 | 0,4 | 2,1 | 1,3 | 2,1 | 0,9 | 2,47 | 0,6 | 1,79 | 1,63 |
| Fagetalia sylvaticae s. lat. | 3,39 | 7,94 | 5,2 | 5,4 | 7,19 | 6,18 | 3,9 | 11,4 | 21,2 | 6,78 | 8,8 | 8,2 | 14,2 | 10,7 | 3,2 | 8,33 | 7,62 | 11,2 | 20,4 |
| Querco-Fagetea s. lat. | 0,78 | 2,02 | 3,47 | 4,4 | 8,63 | 1,88 | 0 | 1,31 | 1,05 | 0,99 | 0,4 | 0,8 | 2,8 | 6,8 | 4,7 | 6,79 | 4,26 | 7,78 | 5,31 |
| Vaccinio-Piceetea s. lat. | 1,93 | 5,16 | 1,73 | 2,39 | 2,27 | 2,37 | 3,2 | 3,5 | 17,1 | 6,27 | 4,6 | 1,9 | 8,5 | 2,1 | 3,5 | 2,78 | 2,14 | 5,34 | 7,35 |
| Adenostyletalia s. lat. | 0,44 | 1,14 | 0,58 | 2,06 | 1,04 | 1,91 | 1,1 | 3,5 | 1,8 | 1,43 | 2,9 | 2,7 | 1,5 | 0,4 | 1,3 | 0 | 0,45 | 0,12 | 1,22 |
| Trifolio-Geranietea s. lat. | 4,58 | 4,43 | 3,47 | 7,65 | 6,33 | 6,18 | 8,8 | 4,81 | 1,05 | 1,94 | 5 | 5,8 | 1,5 | 7,5 | 5 | 3,4 | 3,21 | 3,97 | 3,67 |
| Festuco-Brometea s. lat. | 21,6 | 13,4 | 19,1 | 20,8 | 14,9 | 16,4 | 17 | 10,3 | 0,7 | 7,26 | 10,4 | 8,1 | 6 | 23,9 | 15,4 | 16,7 | 26,5 | 15 | 9,8 |
| Seslerietea albicantis s. lat. | 5,58 | 5,06 | 1,73 | 4,41 | 3 | 5,96 | 6 | 6,55 | 2,5 | 11,6 | 17,9 | 8,6 | 8,8 | 2,5 | 2,5 | 3,09 | 2,91 | 1,65 | 1,63 |
| Asplenietea trichomanis s. lat. | 1,96 | 1,26 | 0 | 1,02 | 0,17 | 0,71 | 3,5 | 3,5 | 1,78 | 5,83 | 5,4 | 6,5 | 9,5 | 2,5 | 3,1 | 0,93 | 1,82 | 0,89 | 0 |
| Thlaspietea rotundifolii s. lat. | 7,16 | 2,76 | 1,73 | 5,51 | 2,47 | 5,01 | 12 | 7,99 | 5,06 | 5,86 | 6,3 | 6,5 | 3,8 | 1,1 | 10,7 | 0,62 | 1,99 | 1,03 | 0,41 |
| Other species | 2,71 | 4,67 | 6,94 | 4,82 | 3,66 | 4,22 | 1,4 | 6,56 | 4,34 | 1,91 | 0,8 | 5,2 | 4,2 | 7,2 | 12,2 | 2,16 | 2,14 | 2,54 | 2,45 |
| Mosses and lichens | 2,46 | 1,27 | 0,58 | 2,01 | 0 | 0 | 4,9 | 2,19 | 2,12 | 6,79 | 5,4 | 9,2 | 10,1 | 9,6 | 5,4 | 5,56 | 2,42 | 4,59 | 2,86 |

Table 4: Phytosociological groups of the associations Fraxino orni-Pinetum nigrae and Genisto januensis-Pinetum (relative frequencies). The numbers refer to syntaxa of Phytosociological Table 2.

Tabelle 4: Pflanzensoziologische Gruppen von Fraxino orni-Pinetum nigrae und Genisto januensis-Pinetum (relative Häufigkeiten). Die Nummern beziehen sich auf die Syntaxa in der Vegetationstabelle 2.

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## 4. Conclusions

We classified natural stands of *Pinus nigra* in the area of Govci on the northeastern edge of the Trnovski gozd plateau in the association Fraxino orni-Pinetum nigrae Martin-Bosse 1967. We described them as a new geographical variant and subassociation Fraxino orni-Pinetum nigrae var. geogr. *Primula carniolica* var. geogr. nova rhododendretosum hirsuti (with variant *Rhodothamnus chamaecistus* and subvariants with *Larix decidua* and *Pinus mugo*).

We ranged the association Fraxino orni-Pinetum nigrae Martin-Bosse 1967 in alliance Fraxino orni-Ostryion carpinifoliae Tomažič 1940 (=Orno-Ericion Horvat 1959), in order Erico-Pinetalia Horvat 1959 and class Erico-Pinetea Horvat 1959, according to WALLNÖFER (1993: 244) and POLDINI & VIDALI (1995: 169).

Comparing the forms of the associations Fraxino orni-Pinetum nigrae and Genisto januensis-Pinetum, described as yet, we ascertained that these are - in spite of similar floristic composition and ecology - in fact two relatively clearly differentiated communities. The first is differentiated from the other mainly by species distributed in the Alpine (and partly north-Illyrian) region, e. g. *Euphrasia cuspidata, Arctostaphylos uva-ursi, Rhodothamnus chamaecistus, Salix glabra, Valeriana saxatilis* and *Campanula cespitosa* (in the Carnic Alps and western Julian Alps also *Euphorbia triflora* subsp. *kerneri* and *Bupleurum ranunculoides* subsp. *canalense*), while the latter is differentiated from the former by the Illyrian and southeast-European species *Genista januensis, Daphne blagayana* and *Potentilla carniolica.*

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Phytosociological Table 1: The Association Fraxino orni-Pinetum nigrae Martin-Bosse 1967 in the area of Govci above the Trebuša valley (western Slovenia).

Vegetationstabelle 1: Die Assoziation Fraxino orni-Pinetum nigrae Martin-Bosse 1967 in dem Gebiet Govci oberhalb dem Trebuša-Tal (westliches Slowenien).

**Phytosociological Table 1: The association *Fraxino orni-Pinetum nigrae* Martin-Bosse 1967 in the area of Govci above the Trebuša valley (western Slovenia)**

Vegetationstabelle 1: Die Assoziation *Fraxino orni-Pinetum nigrae* Martin-Bosse 1967 in dem Gebiet Govci oberhalb dem Trebuša-Tal (westliches Slowenien)

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of relevé (Aufnahmenummer) | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | | |
| Working number (Arbeitsnummer) | | x4 | 26 | 30 | 25 | 24 | 14 | 34 | 32 | x5 | 13 | M1 | M2 | M3 | M4 | M5 | 22 | 18 | 4 | 2 | 1 | 3 | 20b | 6 | 10 | 5 | 16 | 17 | 19 | 21 | 8 | | |
| Altitude in 10 m (Meereshöhe in 10 m) | | 103 | 115 | 113 | 104 | 102 | 107 | 104 | 103 | 104 | 92 | 91 | 89 | 85 | 83 | 81 | 77 | 75 | 50 | 48 | 46 | 48 | 70 | 50 | 56 | 51 | 52 | 55 | 58 | 73 | 59 | | |
| Aspect (Exposition) | | NE | NE | NE | NE | NE | NE | NE | SW | NE | NE | N | N | E | N | NE | N | NE | NE | NW | N | NE | NE | E | NE | E | NE | NW | W | SE | NE | | |
| Slope in degrees (Neigung in Grad) | | 50 | 40 | 50 | 45 | 45 | 45 | 40 | 35 | 45 | 40 | 40 | 45 | 40 | 40 | 45 | 45 | 40 | 45 | 40 | 45 | 40 | 45 | 40 | 35 | 35 | 40 | 40 | 40 | 45 | 45 | | |
| Parent material (Geologische Unterlage) | | D | D | D | D | D | D | D | D | D | D | D | D | D | D | D | D | D | D | D | D | D | D | D | D | D | D | D | D | D | D | | |
| Soil (Böden) | | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | | |
| Stoniness in % (Steinigkeit in %) | | 30 | 20 | 60 | 20 | 10 | 30 | 30 | 30 | 20 | 20 | 30 | 30 | 20 | 30 | 40 | 20 | 20 | 20 | 20 | 50 | 30 | 30 | 20 | 10 | 10 | 40 | 50 | 5 | 20 | 20 | | |
| Cover in % (Deckungsgrad in %): | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Upper tree layer (Baumoberschicht) | E3b | 40 | 40 | 40 | 50 | 60 | 50 | 50 | 50 | 50 | 50 | 50 | 60 | 60 | 60 | 60 | 70 | 50 | 60 | 50 | 60 | 60 | 70 | 50 | 60 | 60 | 60 | 60 | 60 | 60 | 50 | | |
| Lower tree layer (Baumunterschicht) | E3a | 20 | | | | 10 | | | | | | 10 | 10 | 10 | 10 | 10 | 10 | 20 | 20 | 20 | 10 | 20 | 10 | 20 | 20 | 20 | 20 | 20 | 30 | 20 | 20 | | |
| Shrub layer (Strauchschicht) | E2 | 30 | 40 | 50 | 30 | 20 | 30 | 20 | 20 | 30 | 40 | 30 | 20 | 20 | 10 | 20 | 50 | 30 | 50 | 40 | 50 | 50 | 40 | 40 | 50 | 40 | 40 | 30 | 30 | 20 | 60 | | |
| Herb layer (Krautschicht) | E1 | 70 | 70 | 50 | 70 | 70 | 70 | 70 | 70 | 70 | 60 | 70 | 70 | 80 | 60 | 60 | 50 | 80 | 50 | 70 | 60 | 70 | 60 | 70 | 70 | 70 | 60 | 40 | 50 | 70 | 40 | | |
| Moss layer (Moosschicht) | E0 | 10 | 5 | 10 | 5 | 5 | 10 | 10 | 10 | 10 | 10 | 5 | 5 | 5 | 5 | 10 | 10 | 5 | 20 | 10 | 10 | 10 | 10 | 10 | 10 | 5 | 15 | 20 | 10 | 10 | 10 | | |
| Stand (Bestand): | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Max. diameter (Max. Stammdurchmesser) - cm | | 35 | 30 | 30 | 30 | 30 | 30 | 40 | 35 | 25 | 35 | 45 | 35 | 40 | 48 | 45 | 40 | 35 | 35 | 35 | 30 | 30 | 40 | 35 | 45 | 40 | 40 | 40 | 40 | 40 | 40 | | |
| Maximum height (Baumhöhe) - m | | 12 | 12 | 8 | 10 | 12 | 7 | 10 | 8 | 10 | 12 | 12 | 12 | 16 | 14 | 12 | 18 | 14 | 17 | 18 | 16 | 18 | 20 | 17 | 14 | 20 | 19 | 19 | 20 | 17 | 20 | | |
| Relevé area (Grösse der Aufnahmefl.) -10 m2 | | 10 | 10 | 10 | 10 | 10 | 20 | 20 | 20 | 10 | 20 | 20 | 20 | 20 | 20 | 10 | 10 | 20 | 10 | 10 | 10 | 10 | 10 | 10 | 20 | 20 | 20 | 10 | 20 | 10 | 10 | | |
| Month of taking relevé (Monat der Aufnah.) | | 7 | 7 | 8 | 7 | 7 | 9 | 8 | 8 | 7 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 7 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | | |
| Number of species (Artenzahl) | | 68 | 56 | 64 | 55 | 53 | 60 | 57 | 53 | 53 | 42 | 59 | 54 | 47 | 50 | 49 | 45 | 51 | 60 | 61 | 63 | 46 | 45 | 55 | 71 | 74 | 61 | 63 | 53 | 42 | 51 | | |
| **CHAR. AND DIFF. SP. OF THE ASSOCIATION** | | | | | | | | | | | | | | | | | | | | | | / | | | | | | | | | | Pr. | Fr. |
| **Kenn- und Differ.-Arten der Assoziation** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Allium ochroleucum | E1 | + | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | + | 1 | 1 | 1 | 1 | + | | + | + | + | r | + | r | + | | + | | | | + | | 24 | 80 |
| Laserpitium peucedanoides | | 1 | | 1 | + | + | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | 1 | + | + | 1 | + | + | | | + | + | + | | + | | + | | 23 | 77 |
| Asperula aristata | | | + | + | 1 | | + | + | 1 | + | r | | | r | | | | | | | | | | | | | | | | | | 9 | 30 |
| Euphrasia cuspidata | | | | | | | + | | | | | + | | | | | | | | | | | | | | | | | | | | 2 | 7 |
| **GEOGRAPHICAL DIFFERENTIAL SPECIES** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Geographische Differentialarten** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Omphalodes verna | E1 | + | | r | | | | | | | | | | | r | | + | r | + | + | | + | | + | 1 | + | + | + | | | | 13 | 43 |
| Primula carniolica | | r | + | r | + | | r | + | | + | | | | | | r | | | | | + | | | | | | | | | | | 9 | 30 |
| **DIFFERENTIAL SPECIES OF LOWER UNITS** | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | | |
| **Differentialarten der niedrigeren Einh.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rhododendron hirsutum | E2a | 1 | 1 | 2 | + | 2 | + | 1 | + | 1 | + | + | 2 | | + | + | 3 | 1 | 3 | + | 1 | + | 1 | + | 1 | r | + | 1 | + | + | 3 | 29 | 97 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Valeriana saxatilis | E1 | + | + | 1 | + | + | + | + | | + | | + | + | + | + | 1 | + | 1 | 1 | + | + | + | + | | + | r | | | | | | 22 | 73 |
| Rhodothamnus chamaecistus | | 1 | + | 1 | + | 1 | 1 | 1 | + | 1 | + | 1 | 1 | + | + | + | + | + | + | + | + | | | | | | | | | | | 20 | 67 |
| Salix glabra | E2a | r | 1 | + | + | + | + | 1 | + | + | + | | r | r | | r | + | r | | | + | | | | | | | | | | | 16 | 53 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Larix decidua | E3b | 1 | r | r | | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | 10 |
| Pinus mugo | E2b | | | 2 | + | + | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | 10 |
| Pinus mugo | E2a | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 3 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| ERICO-PINETEA s. lat. | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pinus nigra | E3b | 1 | 2 | 3 | 3 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 4 | 4 | 3 | 3 | 4 | 4 | 3 | 3 | 4 | 2 | 30 | 100 |
| Pinus nigra | E3a | + | | | 1 | + | | 1 | 1 | | | | 1 | 1 | 1 | | + | 1 | 1 | 1 | 1 | + | 1 | + | + | + | + | + | 1 | 1 | + | 23 | |
| Pinus nigra | E2b | + | 1 | + | 1 | 1 | 1 | 1 | 1 | | + | + | + | + | + | + | + | 1 | + | + | | + | + | | + | + | + | + | + | + | + | 28 | 93 |
| Pinus nigra | E2a | 1 | + | + | | | + | 1 | + | | | + | + | + | + | + | | | | | | | | | | | | | | | 16 | |
| Erica carnea | E1 | 2 | 2 | 2 | 3 | 1 | 2 | 3 | 2 | 2 | 1 | + | 2 | 1 | 1 | 3 | 2 | 2 | 1 | 2 | 2 | 3 | 2 | 3 | 2 | 2 | 2 | 2 | 3 | 2 | 30 | 100 |
| Polygala chamaebuxus | | + | 1 | 1 | + | + | + | + | 1 | + | 1 | + | 1 | 1 | 1 | + | + | 1 | + | + | + | 1 | + | 1 | + | 1 | + | 1 | + | 1 | 1 | 30 | 100 |
| Rhododendron hirsutum | E2a | 1 | 1 | 2 | + | 2 | + | 1 | + | 1 | + | + | 2 | | | + | 3 | 1 | 3 | + | 1 | + | 1 | + | 1 | r | + | 1 | + | + | 3 | 29 | 97 |
| Amelanchier ovalis | E2b | + | 1 | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | + | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 28 | 97 |
| Amelanchier ovalis | E2a | 1 | 1 | | + | + | | + | 1 | + | 1 | + | + | 1 | + | + | | 1 | 1 | | | 1 | + | | + | | | + | | + | 21 | 70 |
| Allium ochroleucum | E1 | + | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | + | 1 | 1 | 1 | 1 | + | | + | + | + | r | + | r | + | | | | | | + | 24 | 80 |
| Calamagrostis varia | | 1 | 1 | 1 | + | 1 | 1 | + | 1 | + | 1 | 2 | 1 | 2 | 1 | 1 | + | + | | | | | 2 | | 1 | | 1 | + | 2 | 2 | 23 | 77 |
| Buphthalmum salicifolium | | | + | | r | + | | + | + | | + | + | + | | + | | + | r | 1 | 1 | + | + | + | + | + | + | + | + | | + | 22 | 73 |
| Rhodothamnus chamaecistus | | 1 | + | 1 | + | 1 | 1 | 1 | + | 1 | + | 1 | 1 | + | + | + | + | + | + | + | + | | | | | | | | | | 20 | 67 |
| Cirsium erisithales | E1 | | + | r | | | | + | r | | | | | | | | + | + | + | + | + | + | + | | r | + | + | + | + | | 18 | 60 |
| Cotoneaster tomentosus | E2a | | + | | + | + | + | + | + | + | r | | | + | | r | | | | | | | | | | | | | | + | 13 | 43 |
| Chamaecytisus hirsutus | | | | | | | | | | | + | | | | | | | r | + | r | + | + | | + | | + | | + | | | 11 | 37 |
| Asperula aristata | E1 | | + | + | 1 | | + | + | 1 | + | r | | | r | | | | | | | | | | | | | | | | | 9 | 30 |
| Carex alba | | | | | | | | | | | + | | + | | | | | | | | | | | | | + | + | + | + | + | 9 | 30 |
| Rubus saxatilis | | | + | | | | + | | | | | | | | | | | | + | | + | | | | | + | | | | + | 9 | 30 |
| Arctostaphylos uva-ursi | E2 | | | + | 1 | | + | + | r | | | | | | | | | | | | | | | | | | | | | 6 | 20 |
| Leontodon incanus | E1 | | | | | | 1 | r | | | r | | | | | | | | | + | | | | + | + | | | | | 6 | 20 |
| Epipactis atrorubens | | | r | | | | | | | | | r | | | | | | | | | | + | | | r | | | + | | 5 | 17 |
| Peucedanum austriacum | | | | | | | | | | | | | | | | | | | | | | | | + | | | r | + | | | 4 | 13 |
| Gymnadenia odoratissima | E1 | | | + | r | | | + | | | | | | | | | | | | | | | | | | | | | | | 3 | 10 |
| Pinus mugo | E2b | | | 2 | + | + | | | | | | | | | | | | | | | | | | | | | | | | | 3 | 10 |
| Pinus mugo | E2a | | | 1 | | | | | | | | | | | | | | | | + | | | | | | | | | | | 1 | 3 |
| Carex ornithopoda (?) | E1 | | + | | | | + | | | | | | | | | | | | | | | | | | | | | | | | 2 | 7 |
| Euphrasia cuspidata | | | | | | | + | | | | | + | | | | | | | | | | | | | | | | | | | 2 | 7 |
| Coronilla vaginalis | | | | | | + | | | + | | | | | | | | | | | | | | | | | | | | | | 2 | 7 |
| Genista radiata | E2a | | | | | + | | r | r | | | + | | | | | | | | | | | | | | | | | | | 1 | 3 |
| Pyrola minor | E1 | | | | | | | | | r | | | | | | | | | | | | | | | | | | | | | 1 | 3 |
| QUERCETALIA PUBESCENTIS s. lat. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ostrya carpinifolia | E3b | | | | | | | | | | r | | | | | | | | | | | | | + | | | | | | | 3 | 67 |
| Ostrya carpinifolia | E3a | + | | | | | r | + | | | | + | | | | + | + | | 1 | 1 | 1 | 1 | + | 1 | 1 | 1 | 1 | + | + | | 1 | 19 | |
| Ostrya carpinifolia | E2b | | + | r | | | | r | r | | | + | 1 | + | + | | + | + | 1 | 1 | 1 | 1 | + | + | + | | + | + | 1 | + | 1 | 23 | 83 |
| Ostrya carpinifolia | E2a | + | + | | r | | r | | | | + | | + | + | | + | + | + | | | | | + | | | | | | | | 13 | |
| Sorbus aria | E3b | | | | | | | | | | | | | | | | | + | | | | | | | | | | | | | 2 | 63 |
| Sorbus aria | E3a | | | | + | | | | | | | + | + | + | + | + | + | + | + | + | + | + | | + | | | + | 1 | + | 1 | 18 | |
| Sorbus aria | E2b | 1 | + | 1 | + | + | | 1 | 1 | + | 1 | + | 1 | 1 | | 1 | + | + | 1 | + | | 1 | | | 1 | + | + | + | + | + | 1 | 25 | 90 |
| Sorbus aria | E2a | | | | + | + | | + | | + | | | + | + | | | | | | | + | | | | + | | | | | + | 10 | |
| Sorbus aria | E1 | + | | | | | | | | | | | + | + | + | + | | | | + | + | | | | | | | | | | 12 | 40 |
| Fraxinus ornus | E3b | | | | | | | | + | | | + | r | | | | | | | | | + | | + | | + | + | + | + | 1 | 1 | 37 |
| Fraxinus ornus | E3a | | | | | | | | | | + | | | | | | | | | | | | | | | | | | | | 1 | 11 | |
| Fraxinus ornus | E2b | | | | | + | | | | r | | | + | + | + | + | + | + | 1 | + | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 22 | 73 |
| Fraxinus ornus | E2a | | | | | | | | | | | | | | | + | + | + | + | 1 | 1 | 1 | + | 1 | | + | 1 | 1 | + | 1 | 1 | 15 | |
| Fraxinus ornus | E1 | | | | | | | | | | | | | + | + | 1 | + | | | | 1 | + | 1 | | | | | | | | 12 | 40 |
| Convallaria majalis | | | | | | r | | + | | | | | + | | + | + | | + | r | | | + | | + | | | 1 | + | + | + | 14 | 47 |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Melittis melissophyllum | E1 | | | | | | | | | | | | | | | | | | + | r | + | | + | + | + | + | | 1 | | | + | 9 | 30 |
| Viburnum lantana | E2b | | | | | | | | | | | | | | | | | | | r | | | | | | | | | | r | + | 3 | 23 |
| Viburnum lantana | E2a | | | | | | | | | | | | | | | | | | r | | + | | + | | r | | | | | | | 4 | |
| Euonymus verrucosus | E2b | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | + | 1 | 13 |
| Euonymus verrucosus | E2a | | | | | | | | | | | | | | | | | | | | | | | | + | + | r | | | | | 3 | |
| Mercurialis ovata | E1 | | | | | | | | | | | | | | | | | | + | + | | | | | | | | | | | | 2 | 7 |
| Rhamnus catharticus | E2b | | | | | | | | | | | | | | | | | | | r | | | | | | | | | | | | 1 | 3 |
| **QUERCETALIA ROBORIS s. lat.** | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | | |
| Pteridium aquilinum | E1 | | | | | | | | | | | | | | | | + | | + | + | + | | + | + | 1 | 2 | + | + | + | r | + | 13 | 43 |
| Frangula alnus | E2b | | | | | | | | | | + | | | | | | + | r | r | | + | | | | r | | | | | | + | 7 | 23 |
| Frangula alnus | E1 | | | | | | | | | | | | | | | | | | | r | | | | | + | | | | | | | 2 | 7 |
| Potentilla erecta | E1 | | | | | | | | | | + | | | | | | | | | | | | | | | | | | | | | 1 | 3 |
| **FAGETALIA SYLVATICAE s. lat.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cyclamen purpurascens | E1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | + | + | 1 | + | 1 | + | 1 | 1 | 1 | 1 | 1 | + | 1 | + | 1 | + | + | + | + | 1 | 1 | 30 | 100 |
| Acer pseudoplatanus | E3a | | | | | | | | | | | | | | | | | | | | | | | | 1 | + | | | | | | 2 | 7 |
| Acer pseudoplatanus | E2b | | | | | | | | | | | | | | | | + | | r | | + | | | r | | r | | | + | | + | 7 | 27 |
| Acer pseudoplatanus | E2a | | | | | | | | | | | | | | | | | | | | + | r | | | | | | | | | | 2 | |
| Acer pseudoplatanus | E1 | | | r | | | | | r | | + | r | r | + | | + | + | r | + | | | | + | + | + | + | 1 | + | + | 1 | 1 | + | 20 | 67 |
| Mercurialis perennis | | + | + | + | + | + | | | | | | | | | | | + | | | + | + | + | + | + | 1 | + | + | + | + | + | + | 18 | 60 |
| Daphne mezereum | E2 | | + | | | + | | | | | | + | | | + | + | | r | r | r | + | | | + | + | r | + | | + | + | | 15 | 50 |
| Fagus sylvatica | E3b | | | r | | | | | | r | | | | | | | | | | | | | r | | r | | | | | | r | 5 | 43 |
| Fagus sylvatica | E3a | + | | | | r | | | | | + | | | r | | | | + | | | | | | | + | | | r | + | r | | 9 | |
| Fagus sylvatica | E2 | + | | r | r | r | | | | | | r | r | | + | | | + | | | | r | r | | | | | | | | | 10 | 33 |
| Fagus sylvatica | E1 | | | | r | r | | | | | | r | | | r | + | + | | r | | r | | | r | r | + | | | + | + | r | 14 | 47 |
| Epipactis helleborine s. lat. | | + | | + | | | | | | | | | | | | | + | r | + | + | + | | | + | + | + | | + | + | | + | 13 | 43 |
| Laburnum alpinum | E3a | + | | | | | | | | | | | | | | + | | | | | | | | r | | | | | | | + | 4 | 13 |
| Laburnum alpinum | E2b | + | + | | | + | + | | | r | | | + | | + | | | | + | | + | | r | | r | | | | | | | 11 | 43 |
| Laburnum alpinum | E2a | | | | | | | | | | | | | | | | | r | | | | | | | | + | | | | | | 2 | |
| Laburnum alpinum | E1 | + | + | r | | | | r | + | + | | r | | | + | | | | | r | | | + | r | | + | + | + | | | | 14 | 47 |
| Knautia drymeia s. lat. | E1 | + | + | | | + | + | | | r | | | | | | | | | 1 | + | | | | + | + | + | + | + | | | | 13 | 43 |
| Omphalodes verna | | + | | r | | | | | | | | | | | r | | + | r | + | + | | + | | + | 1 | + | + | + | | | | 13 | 43 |
| Prenanthes purpurea | | r | | | | + | | r | + | | | | | | | | + | + | r | | r | | | + | | 1 | + | | | | | 11 | 37 |
| Anemone trifolia | | | | | | | | | | | | | | | | | | | 1 | 1 | + | | + | + | 1 | r | + | 1 | | | + | 10 | 33 |
| Rhamnus fallax | E2b | | | | | | | | | | | | | | | | | | | | | | r | | | | + | | | | + | 3 | 33 |
| Rhamnus fallax | E2a | | | | r | r | | | | | | | + | | + | r | | | | | | r | | | | + | | | | | | 7 | |
| Galium laevigatum | E1 | | | | | | | | | | | | | | r | | | | + | + | | | | | + | | + | | + | | + | 7 | 23 |
| Melica nutans | | + | + | | | | | | | | | | | | | | | | + | + | + | | | | | | | | + | | | 6 | 20 |
| Salvia glutinosa | | | | | | | | | | | | | | | | | | | | + | + | | | | | + | | | + | | + | 5 | 17 |
| Lonicera alpigena | E2a | + | | | | | | | | | | | | | | | | | | | | | | | + | r | + | + | | | + | 5 | 17 |
| Primula vulgaris | E1 | | | | | | | | | | | | | | | | | | | | | | | + | | + | | | + | | + | 4 | 13 |
| Helleborus niger | | | | | | r | | | | | | | | | | | | | | | | | | | | | + | | + | | | 3 | 10 |
| Lilium martagon | | r | | | | | | | | | | | | | | | | | | | | | | | | + | | | | | | 2 | 7 |
| Galeobdolon flavidum | | | | | | | | | | | | | | | | | | | | | + | | | | | r | | | | | | 2 | 7 |
| Neottia nidus-avis | | | | | | | | | | | | | | | | | | | | | | | | + | | | | | | | | 1 | 3 |
| Viola reichenbachiana | | | | | | | | | | + | | | | | | | | | | | | | | | | | | | | | | 1 | 3 |
| Senecio ovatus (S. fuchsii) | | | | | | | | | | | | | | | | | | | r | | | | | | | | | | | | | 1 | 3 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **QUERCO-FAGETEA s. lat.** | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | | |
| Carex digitata | E1 | + | | | | | | | | | | + | + | + | + | + | 1 | | + | | + | + | + | + | + | + | + | + | + | + | | 17. | 57 |
| Hepatica nobilis | | 1 | + | | | | + | | | | | | | | | | | | + | + | | | + | + | | + | + | 1 | | | | 11 | 37 |
| Platanthera bifolia | | + | | | | r | | | | + | | | | | | | | | + | + | | + | | + | | 1 | r | | r | | | 10 | 33 |
| Spiraea chamaedryfolia | E2a | | | | | | | | | | | | | | | | | | r | + | | | | | | | | + | | | | 5 | 17 |
| Corylus avellana | E2b | | | | | | | | | | | | | | | | | | | | | | | | | | r | | | | | 1 | 10 |
| Corylus avellana | E2a | | | | | | | | | | | | | | | | | | r | | | | | r | | | | | | | | 2 | |
| **VACCINIO-PICEETEA s. lat.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hieracium sylvaticum | E1 | + | | + | + | + | + | + | 1 | + | + | + | + | + | + | + | + | + | + | + | + | + | 1 | + | + | 1 | + | | + | + | | 27 | 90 |
| Solidago virgaurea | | + | + | | | r | | + | + | + | | + | + | + | + | + | | + | r | 1 | 1 | 1 | | 1 | 1 | 1 | + | + | + | | | 22 | 73 |
| Valeriana tripteris | | + | + | | | + | | + | + | + | | | | + | | + | + | + | + | + | + | | + | + | | + | + | + | | | 19 | 63 |
| Vaccinium myrtillus | | + | | | | | | + | + | + | + | 1 | | + | + | + | + | + | + | | | | + | | | + | + | + | | | 16 | 53 |
| Vaccinium vitis-idaea | | + | + | | | | + | r | + | + | + | + | + | + | + | + | | | | | | | | | | | | | | | | 13 | 43 |
| Rosa pendulina | E2a | + | + | r | | | | | | | | | + | + | | + | | | + | | + | | | | + | | | + | | | | 11 | 37 |
| Picea abies | E3 | 1 | | r | | + | | | | | | r | r | r | | | | | | | | | + | | r | + | | | | | | 8 | 27 |
| Picea abies | E2b | + | + | | | | | | | | r | | r | | r | | | | | | | | | | | | | | | | | 5 | 23 |
| Picea abies | E2a | + | + | | | | r | | | | | | | | | | r | | | | | | | | | | | | | | | 4 | |
| Picea abies | E1 | | | | | | | r | r | | | | | | | | | | | | | | | | | | r | | | | | 4 | 13 |
| Homogyne sylvestris | | | | r | | | | | | | | | | | + | | | | | | | | | | | + | | r | | | 6 | 20 |
| Clematis alpina | E2 | + | + | | | | r | + | r | | + | | | | | | | | | | | | | | | | | | | | | 6 | 20 |
| Larix decidua | E3b | 1 | r | r | | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | 10 |
| Huperzia selago | E1 | | | | | | | | | | | | + | | | | | r | | | | | | | | | | | | | 2 | 7 |
| Abies alba | E2a | + | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 3 |
| Veronica urticifolia | E1 | | | | | | | | | | | r | | | | | | | | | | | | | | | | | | | | 1 | 3 |
| Oxalis acetoselle | | | | | | | | | | | | | | | | | | | | | + | | | | | | | | | | | 1 | 3 |
| Gentiana asclepiadea | | | | | | | | | | | | | | | | | | | | | | | | | r | | | | | | | 1 | 3 |
| **ADENOSTYLETALIA s. lat.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Salix glabra | E2a | r | 1 | + | + | + | + | 1 | + | + | + | | r | r | | r | + | r | | | + | | | | | | | | | | | 16 | 53 |
| Salix appendiculata | E2b | | | r | | | | | | | | | | r | | | | | | | | | | | | | | | | | | 2 | 23 |
| Salix appendiculata | E2a | + | + | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 5 | |
| Viola biflora | E1 | | | + | | | | | | | | | | | | | | | | | | | | | | | | | | | + | | |
| Centaurea montana | | | | | | | | | | | | | | | | | | | | + | | | | | | | | | | | | 1 | 3 |
| **TRIFOLIO-GERANIETEA s. lat.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 3 |
| Viola hirta | E1 | | | | | | | | | | | | + | r | + | | + | | | + | | | | + | | + | | + | + | + | 11 | 37 |
| Anthericum ramosum | | | | | | | | | | | | | | | 1 | + | | 1 | | 1 | | r | | | + | + | | | + | | 8 | 27 |
| Vincetoxicum hirundinaria | | | | | | | | | | | | | | | | | | | | + | + | | | | | | | | | | 2 | 7 |
| Polygonatum odoratum | | | | | | | | | | | | | | r | | | | | | | | | | | | | | | | | 1 | 3 |
| Digitalis grandiflora | | | | | | | | | | | | | | | | | | | | | | | | | | | | + | | | 1 | 3 |
| Clinopodium vulgare | | | | | | | | | | | | | | | | | | | | | | | | | | | | | + | | 1 | 3 |
| Origanum vulgare | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | + | 1 | 3 |
| **FESTUCO-BROMETEA s. lat.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Carex humilis | E1 | 1 | | 2 | | 1 | + | 1 | 1 | 1 | 1 | 1 | 2 | 1 | | 1 | 1 | 2 | 1 | + | 2 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 26 | 87 |
| Galium lucidum | | + | + | | + | + | + | + | 1 | + | + | + | + | + | + | + | | + | | + | + | + | + | + | + | + | | + | | | 22 | 73 |
| Centaurea jacea agg. (C. bracteata ?) | | | | | | | | | | | + | | | | + | | | | + | | | | | | + | + | + | + | r | + | 11 | 37 |
| Lotus corniculatus | | + | | + | + | + | + | | + | + | | | | | | | | r | | | | | | | + | | | | | | 9 | 30 |
| Globularia cordifolia | | | | | + | | 1 | | + | | | | + | + | | + | + | r | | | | r | | | | | | | | | 9 | 30 |
| Peucedanum oreoselinum | | | | | | | | | | | + | | | | | | | | | | | | + | + | | + | + | | + | | 7 | 23 |
| Linum catharticum | | | | | + | | | + | + | | + | r | | | | | | r | | | | | | | | | | | | | 7 | 23 |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Brachypodium rupestre | E1 | | | | | | | | | | | | | | | | | | | | | + | | | | + | + | + | | | 4 | 13 |
| Teucrium montanum | | | | | | + | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 3 |
| **SESLERIETEA ALBICANTIS s. lat.** | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | | |
| Sesleria albicans | E1 | 2 | 2 | 3 | 2 | 2 | 3 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 2 | 3 | 1 | 3 | 3 | 2 | 3 | 3 | 1 | 2 | 3 | 2 | + | 1 | 2 | 30 | 100 |
| Laserpitium peucedanoides | | 1 | | 1 | + | + | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | 1 | + | + | 1 | + | + | | | + | + | + | | + | | + | | 23 | 77 |
| Betonica alopecuros | | | + | | + | | 1 | + | | | | 1 | 1 | 1 | 1 | + | + | + | 1 | 1 | + | + | + | | + | + | | + | + | + | + | 22 | 73 |
| Carex mucronata | | + | | + | + | + | + | + | + | | | + | + | + | + | + | + | | | | | | | | | | | | | | 13 | 43 |
| Senecio abrotanifolius | | 1 | | | + | r | + | + | + | + | 1 | | r | | | + | | + | | | | | | | | r | + | | | | 13 | 43 |
| Thymus alpigenus | | + | + | | + | + | 1 | + | + | + | + | | | | | | | + | | | | | | | r | | | | | | 11 | 37 |
| Carex firma | | + | + | 1 | + | r | + | + | | | | | | | | | | | | | | | | | | | | | | | 7 | 23 |
| Achillea clavenae | | | + | + | r | | r | r | | r | | | | | | | | | | | | | | | | | | | | | 6 | 20 |
| Hieracium villosum | | | r | + | + | | | | r | | | | + | | + | | | | | | | | | | | | | | | | 6 | 20 |
| Aster bellidiastrum | | | | 1 | + | | | | | | | | | | | | | | | | | | | | | | + | | | + | 4 | 13 |
| Gentiana clusii | | | | | | | r | r | | | | r | r | | | | | | | | | | | | | | | | | | 4 | 13 |
| Dryas octopetala | | | + | + | + | | | | | | | | | | | | | | | | | | | | | | | | | | 3 | 10 |
| Leontopodium alpinum | | | + | | r | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 7 |
| Carex ferruginea | | | | + | | | | | | | | | | | | | | | + | | | | | | | | | | | | 2 | 7 |
| Campanula scheuchzeri | | + | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 3 |
| **ASPLENIETEA TRICHOMANIS** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Paederota lutea | E1 | + | + | 1 | + | | + | + | | + | | + | 1 | + | + | + | + | + | + | + | + | + | r | | + | + | + | + | + | + | + | 26 | 87 |
| Potentilla caulescens | | | r | + | + | + | + | + | + | + | + | + | 1 | + | + | + | + | r | r | r | r | + | + | + | r | | + | + | | | + | 26 | 87 |
| Asplenium ruta-muraria | | + | | | + | + | + | + | + | + | + | + | + | r | + | + | | | + | | + | | + | | + | + | + | + | + | + | | 22 | 73 |
| Valeriana saxatilis | | + | + | 1 | + | + | + | + | | + | | + | + | + | + | 1 | + | 1 | 1 | + | + | + | + | | + | r | | | | | | 22 | 73 |
| Phyteuma scheuchzeri subsp. columnae | | | | | r | | | | | | | + | + | + | + | + | + | | | | | | + | | + | + | 1 | + | | + | + | 14 | 47 |
| Primula carniolica | | r | + | r | + | | r | + | | + | | | | | | r | | | | | + | | | | | | | | | | | 9 | 30 |
| Athamanta turbith | | | | | | | r | | + | | | | | | | | | | | + | | + | r | + | + | r | | | | r | | 9 | 30 |
| Asplenium trichomanes | | | | | | | | | | | | | | | r | | | | | | | | + | | | r | + | + | | + | | 6 | 20 |
| Primula auricula | | | | | r | | 1 | | 1 | | | | r | + | | | | | | | | | | | | | | | | | | 5 | 17 |
| Saxifraga crustata | | | r | r | | | + | | | + | | | | | | | | | | | | | | | | | | | | | | 4 | 13 |
| Asplenium viride | | + | | | | | | | | | | | | | | | | | | | + | | | | | | | | + | | | 3 | 10 |
| Rhamnus pumilus | E2a | | + | | + | | | + | | | | | | | | | | | + | + | + | | | | | | | | | | | 3 | 10 |
| Saxifraga squarrosa | E1 | | r | + | | | | + | | | | | | | | | | | | | | | | | | | | | | | | 3 | 10 |
| Potentilla clusiana | | | | r | r | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 7 |
| Moehringia muscosa | | | | + | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 3 |
| Bupleurum petraeum | | | | | | | + | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 3 |
| **THLASPIETEA ROTUNDIFOLII s. lat.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Campanula cespitosa | E1 | + | + | 1 | + | + | + | 1 | + | | + | + | + | + | + | + | | + | + | + | | | | | | | | | | | | 17 | 57 |
| Hieracium porrifolium | | | + | | + | | | + | + | + | | + | r | | r | | | | | | | | | r | | | r | | r | | 11 | 37 |
| Carduus crassifolius | | + | | | r | | + | | r | | | | | | | | | + | | r | | | | r | | r | | | | + | 9 | 30 |
| Adenostyles glabra | | | r | r | | | | | | + | | + | | | | | | | | r | + | | | | r | r | | | | | 8 | 27 |
| Aquilegia bertolonii | | + | | + | | r | + | + | | r | | | | | | | | | | | | | | | | | | | | | 6 | 20 |
| Gymnocarpium robertianum | | + | | + | | | | | | | | | | | | | | | + | + | + | | | | | | | | | + | 5 | 17 |
| Astrantia carniolica | | | + | + | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 7 |
| Hladnikia pastinacifolia | | | | r | | | | | r | | | | | | | | | | | | | | | | | | | | | | 2 | 7 |
| Campanula cochlearifolia | | + | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 3 |
| Saxifraga caesia | | | | | | | | | | + | | | | | | | | | | | | | | | | | | | | | 1 | 3 |

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| OTHER SPECIES (Übrige Arten) | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Molinia arundinacea | E1 | + | | | + | + | + | 2 | + | + | + | + | | 1 | | | 1 | 2 | 2 | .1 | 1 | 1 | + | 1 | 2 | 1 | + | + | + | + | 1 | 25 | 83 |
| Sorbus aucuparia | E3a | | | | | | | | | | | | | | | | | | | | | | | | r | | | | | | + | 2 | 7 |
| Sorbus aucuparia | E2b | + | | r | | + | + | | r | r | r | | | | | | + | | | | | | | + | r | | | | | | | 10 | 43 |
| Sorbus aucuparia | E2a | + | + | r | | | | | + | | | | | | | | | + | | | | + | | | | | | | | | | 6 | |
| Sorbus aucuparia | E1 | | | | + | | | | r | + | | + | + | + | | | + | | | | | + | + | | + | | + | + | | | | 12 | 40 |
| Viscum album | E2 | | | | | | | | | | | | | | | | | | + | | + | + | | + | + | | + | + | + | + | + | 10 | 33 |
| Festuca rubra agg. | E1 | + | | | | + | | + | | + | | | | | | | | | | | | | | | | | | | | | | 4 | 13 |
| Achillea millefolium agg. | | | | | | | | | r | | | | | | | | | | | | | | | | + | + | | | | | | 3 | 10 |
| Listera ovata | | | | | | | | | | | | | | | | | | | | | | | | r | | + | | r | | | | 3 | 10 |
| Tofieldia calyculata | | | | + | | | | + | | | | | | | | | | | | | | | | | | | | | | | | 2 | 7 |
| Hemerocallis lilio-asphodelus | | | | | | | | | | | | | | | | | | | | | + | | | | 1 | | | | | | | 2 | 7 |
| Juniperus communis | E2 | | | | | | | | | | | + | | | | + | | | | | | | | | | | | | | | | 2 | 7 |
| Parnassia palustris | E1 | r | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 3 |
| Populus tremula | E2 | | + | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 3 |
| Euphorbia sp. | E1 | | | | | | | | | | | r | | | | | | | | | | | | | | | | | | | | 1 | 3 |
| Betula pendula | E3 | | | | | | | | | | | | | | r | | | | | | | | | | | | | | | | | 1 | 3 |
| Salvia sp. | E1 | | | | | | | | | | | | | | | | | | | | | | | + | | | | | | | | 1 | 3 |
| **MOSSES and LICHENS (Moose und Flechten)** | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | | |
| Fissidens cristatus | E0 | + | + | + | | + | + | + | | + | + | + | + | + | + | + | + | + | 1 | + | + | | + | 1 | 1 | 1 | + | + | 1 | + | + | 27 | 90 |
| Neckera crispa | | + | + | + | + | + | + | + | + | + | 1 | | + | + | + | + | + | + | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | | 2 | + | + | 1 | 27 | 90 |
| Tortella tortuosa | | + | | 1 | + | + | + | + | + | | 1 | + | 1 | + | + | + | + | + | 1 | + | 1 | + | + | | 1 | + | 1 | 1 | | | + | 25 | 83 |
| Ctenidium molluscum | | + | + | + | | | | + | | | | + | + | | + | + | + | | 1 | + | 1 | 1 | | + | + | | + | 1 | 1 | + | + | 20 | 67 |
| Leucobryum glaucum | | + | | | | + | | | | | + | + | + | | | | + | + | | | | | + | | + | + | + | | | + | | 12 | 40 |
| Scleropodium purum | | | | | | | | | | | | | | | | | + | | + | + | | + | | | + | + | + | + | 1 | | | 9 | 30 |
| Hypnum cupressiforme | | | | | | | | | | | | | | | | + | | | | | | | | + | + | + | + | + | + | | | 7 | 23 |
| Grimmia pulvinata | | | | | | + | | | + | | | + | | + | | + | | | | | | | | | | | 1 | | | | | 6 | 20 |
| Dicranum scoparium | | | | | | | | | | | + | + | | | | | | + | | | | | | | + | | | | + | | | 5 | 17 |
| Polytrichum formosum | | + | | | | | | | | | | | + | | | + | | | | | | | | | | | | | | | | 3 | 10 |
| Rhytidium rugosum | | | | | | | | | | | | | | | | | | | | + | | | | | | + | | + | | | | 3 | 10 |
| Homalothecium sp. | | | | | | | | | | | | | | | | | | | | | | | + | | + | | | | | | + | 3 | 10 |
| Dicranum sp. | | + | | + | | | | | | + | | | | | | | | | | | | | | | | | | | | | | 3 | 10 |
| Eurchynchium sp. | | | | | | | | | | | | | | | | | | | | | | | | + | | | | | + | | | 2 | 7 |
| Plagiochila asplenioides | | | | | | | | | | | | | | | | | | | | | | | | | | + | + | | | | | 2 | 7 |
| Peltigera leucophlebia | | | | | | | | | | | | | | | | | | | | | | | | | + | | | + | | | | 2 | 7 |
| Orthothecium rufescens | | | | + | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 3 |
| Hylocomium splendens | | | | + | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | 3 |
| Neckera complanata | | | | | | | | | + | | | | | | | | | | | | | | | | | | | | | | | 1 | 3 |
| Collema sp. | | | | | | | | | | | + | | | | | | | | | | | | | | | | | | | | | 1 | 3 |
| Cladonia sp. | | | | | | | | | | | | | | | | | | | | | | + | | | | | | | | | | 1 | 3 |
| Thuidium tamariscinum | | | | | | | | | | | | | | | | | | | | | | | | | + | | | | | | | 1 | 3 |
| Rhytidiadelphus triquetrus | | | | | | | | | | | | | | | | | | | | | | | | | + | | | | | | | 1 | 3 |
| Rhytidiadelphus loreus | | | | | | | | | | | | | | | | | | | | | | | | | r | | | | | | | 1 | 3 |
| Rhytidiadelphus squarrosus ? | | | | | | | | | | | | | | | | | | | | | | | | | | + | | | | | | 1 | 3 |
| Abietinella abietina | | | | | | | | | | | | | | | | | | | | | | | | | | | | | + | | | 1 | 3 |
| **Localities of relevés (Lokalitäten der Aufnahmen): Gorenja Trebuša - Govčenk (9949/3, UTM VL09): 18-21, 24, Poldanovška grapa (9949/3, UTM VL09): 22,23, 25-30;** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Poldanovec (9949/3, UTM VL09): 2, 4-8, 10, 16, 17; Mali Govci (9949/3, UTM VL19): 11-15; Orlejci (Poldanovec-Zeleni rob, 9949/3, UTM VL19): 3; Poldanovec-Stanov rob (9948/4, UTM VL09): 1, 9.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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List 1: List of the syntaxa in the Synoptic Table of the associations Fraxino orni-Pinetum nigrae Martin-Bosse 1967 and Genisto januensis-Pinetum TOMAŽIČ 1940 (Phytosoc. Table 2)

Liste 1: Liste der Syntaxa in der synthetischen Tabelle der Assoziationen Fraxino orni-Pinetum nigrae Martin-Bosse 1967 und Genisto januensis-Pinetum TOMAŽIČ 1940.

**1** Fraxino orni-Pinetum nigrae caricetosum humilis - southern Carinthia (A) - MARTIN-BOSSE (1967, Phyt. Tab. 1);
**2** Fraxino orni-Pinetum nigrae calamagrostidetosum variae - southern Carinthia (A) - MARTIN-BOSSE (1967, Phyt. Tab. 3);
**3** Fraxino orni-Pinetum nigrae molinietosum arundinaceae - southern Carinthia (A) - MARTIN-BOSSE (1967, Phyt. Tab. 6);
**4** Fraxino orni-Pinetum nigrae - the Carnic and the Julian Alps (I) - POLDINI (1969, Phyt. Tab. 1);
**5** Fraxino orni-Pinetum nigrae ostryetosum - the Carnic Alps (I) - POLDINI (1982, Phyt. Tab. 1);
**6** Pinetum austroalpinum pinetosum nigrae *(=Fraxino orni-Pinetum nigrae)* - the Julian Alps - the Koritnica valley (SLO) - T. WRABER (1979, Phyt. Tab. 1, relevés 1-12);
**7** Fraxino orni-Pinetum nigrae - the Julian Alps - the Trenta valley (SLO) - DAKSKOBLER 1997 (mscr.);
**8** Rhodothamno-Rhododendretum hirsuti pinetosum nigrae - the Carnic and the Julian Alps (I) - POLDINI (1969, Phyt. Tab. 2);
**9** Rhodothamno-Rhododendretum hirsuti pinetosum nigrae var. Rhododendron hirsutum - southern Carinthia (A) - MARTIN-BOSSE (1967, Phyt. Tab. 9);
**10** Rhodothamno-Rhododendretum hirsuti pinetosum nigrae var. Rhodothamnus chamaecistus - southern Carinthia (A) - MARTIN-BOSSE (1967, Phyt. Tab. 8, relevés 5 - 11);
**11** Fraxino orni-Pinetum nigrae - the Julian Alps, the Tolminka valley (SLO)- DAKSKOBLER 1997 (mscr.);
**12** Fraxino orni-Pinetum nigrae - the Julian Alps, the peak Treska near the village of Srpenica (SLO) - DAKSKOBLER 1997 (mscr.);
**13** Fraxino orni-Pinetum nigrae var. geogr. *Primula carniolica* - the area of Govci on the north-eastern edge of the Trnovski gozd plateau (SLO) – Phyt. Tab. 1;
**14** Fraxino orni-Pinetum nigrae - western Slovenia, the Šentviška planota (Lopata, Špik) - SLO - DAKSKOBLER 1996 (mscr.);
**15** Fraxino orni-Pinetum nigrae pinetosum sylvestris (?) - western Slovenia, the peak Drnova near the town of Cerkno (SLO) - DAKSKOBLER 1996 (mscr.);
**16** Genisto januensis-Pinetum pinetosum nigrae - the gorge Iški Vintgar, the Polhov Gradec Hills (SLO) - TOMAŽIČ (1940, Phyt. Tab. 2);
**17** Genisto januensis-Pinetum, initial form from the Polhov Gradec Hills (SLO) -TOMAŽIČ (1940, Phyt. Tab. 1, column III);
**18** Genisto januensis-Pinetum typicum - the Polhov Gradec Hills, Šmarna gora, Dolenjska (Turjak, Želimlje) - SLO - TOMAŽIČ (1940, Phyt. Tab. 1, column IV);
**19** Genisto januensis-Pinetum daphnetosum blagayanae - the Polhov Gradec Hills (SLO) - TOMAŽIČ (1940, Phyt. Tab. 1, column V).

Phytosociological Table 2: Synoptic table of the associations Fraxino orni-Pinetum nigrae Martin-Bosse 1967 and Genisto januensis-Pinetum TOMAŽIČ 1940.

Vegetationstabelle 2: Synthetische Tabelle der Assoziationen Fraxino orni-Pinetum nigrae Martin-Bosse 1967 und Genisto januensis-Pinetum TOMAŽIČ 1940.

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**Phytosociological Table 2:** Synoptic table of the associations *Fraxino orni-Pinetum nigrae* Martin-Bosse 1967 and *Genisto januensis-Pinetum* Tomažič 1940

Vegetationstabelle 2: Synthetische Tabelle der Assoziationen *Fraxino orni-Pinetum nigrae* Martin-Bosse 1967 und *Genisto januensis-Pinetum* Tomažič 1940

| Successive number (Nummer der Assoziation) | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of relevés (Zahl der Aufnahmen) | | 28 | 16 | 4 | 22 | 14 | 12 | 5 | 4 | 8 | 7 | 4 | 22 | 30 | 4 | 6 | 5 | 14 | 12 | 4 |
| **ERICO-PINETEA s. lat.** | | | | | | | | | | | | | | | | | | | | |
| Pinus nigra | E3 | 100 | 100 | 75 | 82 | 21 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 75 | 17 | 100 | 7 | | |
| Pinus nigra | E2 | 93 | 56 | 75 | 32 | 21 | 92 | 100 | 25 | | 57 | 100 | 100 | 93 | 50 | | 100 | 7 | | |
| Pinus nigra | E1 | 36 | 25 | 50 | 36 | | | 20 | | | 14 | 25 | 41 | | | | 100 | | | |
| Erica carnea | | 100 | 100 | 100 | 100 | 86 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 86 | 100 | 100 |
| Polygala chamaebuxus | | 82 | 87 | 100 | 82 | 57 | 92 | 80 | 75 | 75 | 71 | 100 | 100 | 100 | 100 | 100 | 100 | 93 | 92 | 100 |
| Calamagrostis varia | | 71 | 100 | 100 | 95 | 79 | 100 | 100 | 100 | 87 | 71 | 100 | 82 | 77 | 100 | 100 | 60 | 50 | 100 | 100 |
| Buphthalmum salicifolium | | 68 | 75 | 50 | 82 | 50 | 83 | 60 | 100 | 12 | 29 | 100 | 59 | 73 | 75 | 100 | 100 | 100 | 100 | 75 |
| Amelanchier ovalis | E2b | 50 | 87 | 100 | 23 | 93 | 100 | 40 | 50 | 37 | 86 | 100 | 95 | 97 | 25 | 100 | 100 | 14 | 42 | 50 |
| Amelanchier ovalis | E2a | 68 | 87 | 75 | 68 | | | 100 | | 37 | 57 | 75 | 86 | 70 | | | | | | |
| Pinus sylvestris | E3 | 32 | 62 | 75 | 50 | 14 | 58 | | 50 | 25 | 14 | | 14 | | 100 | 100 | 60 | 100 | 100 | 75 |
| Pinus sylvestris | E2 | 14 | 12 | 25 | 18 | 21 | 50 | | 25 | | | | 9 | | 50 | 100 | 40 | 21 | 75 | 50 |
| Pinus sylvestris | E1 | | 19 | 25 | 14 | | | | | | | | | | | | 60 | 21 | 67 | 25 |
| Asperula aristata | | 86 | 50 | 50 | 27 | 36 | 58 | 100 | 25 | | 57 | 100 | 77 | 30 | | 83 | | | | |
| Epipactis atrorubens | | 32 | 56 | 50 | 91 | 71 | 42 | 100 | 100 | 25 | 14 | | 18 | 17 | 75 | 100 | 60 | 36 | 83 | 50 |
| Asperula purpurea | | 43 | 6 | 50 | 18 | 64 | 42 | 100 | | | 14 | | 14 | | | 50 | | | | |
| Leontodon incanus | | 32 | 62 | 75 | 36 | 7 | 25 | 80 | | | 14 | 50 | | 20 | 75 | 100 | 60 | 93 | 67 | 25 |
| Chamaecytisus purpureus | | 21 | 31 | 75 | 95 | 71 | 100 | 100 | 100 | | | | 95 | | | | 100 | 93 | 83 | 75 |
| Daphne cneorum | | 43 | 75 | 25 | 14 | | | | 50 | 25 | 14 | | | | | | | 36 | | |
| Crepis incarnata (C. froelichiana, C. slovenica) | | 32 | 19 | 50 | 45 | | 17 | | 25 | | | | | | 75 | | 60 | 71 | 67 | 25 |
| Cotoneaster tomentosus | E2 | 11 | 19 | 50 | 36 | 43 | 58 | 80 | 75 | 37 | 29 | 50 | 23 | 43 | | | | | | |
| Cotoneaster tomentosus | E1 | 18 | 44 | | | | | | | | | | | | | | | | | |
| Rhamnus saxatilis | E2 | 14 | 12 | 25 | 45 | 64 | 25 | 40 | 25 | | | | | | | 33 | 80 | 79 | 75 | 25 |
| Rhamnus saxatilis | E1 | | 44 | | | | | | | | | | | | | | | | | |
| Rubus saxatilis | | 7 | 56 | 25 | 41 | 14 | 17 | | | 75 | 14 | 25 | 54 | 30 | | | | | | |
| Euphrasia cuspidata | | 39 | 6 | 25 | 23 | | 8 | 80 | | | 14 | 75 | 32 | 7 | | | | | | |
| Arctostaphylos uva-ursi | E2 | 18 | 12 | | 4 | | 8 | | | | 29 | | | 20 | | | | | | |
| Gymnadenia odoratissima | E1 | 14 | 31 | 75 | 18 | | 17 | | 25 | | | | 4 | 10 | | | | 7 | 8 | |
| Viola collina | | 14 | 44 | | | | | | | | | | | | | | 20 | 29 | 58 | 75 |
| Allium ochroleucum | | 7 | | | 45 | 14 | 8 | | | | 14 | 50 | 73 | 80 | | 33 | | | | |
| Carex alba | | 4 | 62 | 25 | 14 | 71 | | | | 25 | | | 4 | 30 | | | 80 | 29 | 58 | 100 |
| Coronilla vaginalis | | 50 | 37 | 25 | 4 | | | | 25 | | | 75 | | 7 | | | | 7 | | |
| Bupleurum ranunculoides subsp. canalense | | 11 | | | 54 | 21 | | | 50 | | | | | | | | | | | |
| Rhodothamnus chamaecistus | | 4 | 6 | | 4 | | | 20 | 100 | 12 | 100 | 100 | 95 | 67 | | | | | | |
| Pinus mugo | E2 | 4 | 12 | | | | 50 | 40 | 25 | | 43 | 100 | 4 | 10 | | | | | | |
| Euphorbia triflora subsp. kerneri | E1 | 7 | | | 91 | 36 | | | 75 | | | | | | | | | | | |
| Goodyera repens | | 4 | | | 32 | | 25 | | 50 | | | | | | | | | | | |
| Cirsium erisithales | | | 37 | 25 | | 7 | | | 25 | 50 | 14 | 75 | 36 | 60 | | | | | | |
| Rhododendron hirsutum | E2 | | 37 | | 18 | | 17 | | 100 | 100 | 57 | 100 | 86 | 97 | | | | | | 25 |
| Chamaecytisus hirsutus | | | 6 | 25 | 4 | 29 | | | | | | | | 37 | 100 | 17 | 80 | 71 | 100 | 75 |
| Pyrola rotundifolia | E1 | | 12 | | 14 | | | | | | | | | | | | | | 8 | |
| Peucedanum austriacum (incl. P. rablense) | | | | | 18 | | | | 25 | 12 | | 25 | | 13 | | | | | 17 | 50 |
| Aster amellus | | | | | 41 | 14 | | | | | | 25 | 9 | | 75 | 50 | 60 | 71 | 58 | 50 |
| Genista radiata | E2 | | | | 18 | 14 | 17 | 20 | 25 | | | 75 | | 3 | | 83 | 60 | | | |
| Dorycnium germanicum (incl. D. herbaceum) | E1 | | | | 14 | 7 | | | | | | | | | 75 | | 60 | 93 | 100 | |
| Knautia ressmannii | | | | | | 21 | | | | | | | | | | | | | | |
| Pyrola minor | | | | | | | 17 | | | | | | | 3 | 25 | | | | 25 | |
| Pyrola chlorantha | | | | | | | 8 | | | | | | | | | | | | | |
| Carex ornithopoda | | | | | | | | | 50 | | | | | 7 | | | 40 | 14 | 67 | 75 |
| Orthilia secunda | | | | | | | | | | 12 | | | | | | | | | 8 | 25 |
| Genista januensis | | | | | | | | | | | | | | | | | 80 | 93 | 92 | 50 |
| Daphne blagayana | E2 | | | | | | | | | | | | | | | | 20 | | 8 | 100 |
| Monotropa hypopitys | E1 | | | | | | | | | | | | | | | | 80 | 14 | 42 | 25 |
| Potentilla carniolica | | | | | | | | | | | | | | | | | 40 | 14 | 17 | 100 |
| **QUERCETALIA PUBESCENTIS s. lat.** | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| Ostrya carpinifolia | E3 | 18 | 25 | | | 93 | 17 | 20 | | 75 | 29 | 25 | 54 | 67 | 100 | 33 | 40 | 7 | 67 | 100 |
| Ostrya carpinifolia | E2 | 18 | 25 | | 45 | 50 | 100 | 100 | 100 | 50 | 29 | 100 | 100 | 93 | 100 | 100 | 100 | 79 | 100 | 75 |
| Ostrya carpinifolia | E1 | 7 | 50 | | | | | 40 | | 25 | 14 | | 41 | | | 17 | | 7 | 25 | 75 |
| Fraxinus ornus | E3 | 29 | 50 | 50 | 4 | 64 | | 20 | | 25 | 14 | 25 | 27 | 37 | 25 | 50 | 40 | 14 | 58 | 100 |
| Fraxinus ornus | E2 | 46 | 81 | 75 | 77 | 86 | 83 | 100 | 75 | 37 | 29 | 75 | 100 | 73 | 100 | 100 | 100 | 86 | 100 | 75 |
| Fraxinus ornus | E1 | 29 | 62 | 75 | | | | 80 | | 37 | | | 77 | 40 | 100 | 17 | | | | |
| Sorbus aria | E3 | 32 | 69 | 25 | | 36 | | | | 50 | 29 | 25 | 36 | 63 | 25 | | 100 | 21 | 75 | 75 |
| Sorbus aria | E2 | 21 | 69 | 50 | 27 | 43 | 92 | 80 | 50 | 25 | 29 | 100 | 82 | 90 | 75 | 67 | 100 | 64 | 75 | 100 |
| Sorbus aria | E1 | 32 | 81 | 100 | 36 | | | | | 50 | 29 | 25 | 18 | 40 | 25 | | | 14 | 17 | 75 |
| Berberis vulgaris | E2 | 14 | 25 | 25 | 36 | 64 | 8 | | | | | | 18 | | 50 | 33 | 100 | 71 | 100 | 50 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Berberis vulgaris | E1 | 7 | 19 | 50 | | | | | | | | | | | | | | | |
| Coronilla emerus s. lat. | E2 | 14 | | | 27 | 43 | | | 75 | | | | | | 100 | | | | |
| Lembotropis nigricans | | 7 | 25 | 50 | 54 | 29 | 8 | | 75 | | | | | | | | | 17 | |
| Convallaria majalis | E1 | | 50 | 25 | | | | | 25 | 50 | 14 | 75 | 54 | 47 | 50 | | | 25 | 50 |
| Viburnum lantana | E2 | | 31 | 25 | 27 | 57 | | | | | | | | 23 | | 67 | 100 | 57 | 75 | 50 |
| Viburnum lantana | E1 | | 25 | 50 | | | | | | | | | | | | | | | |
| Carex flacca | | | 19 | 75 | 14 | 7 | | | | | | | | | | | 60 | 64 | 67 | 50 |
| Clematis recta | | | 6 | 25 | 18 | 50 | | | | | | | | | | | | | | |
| Mercurialis ovata | | | | | 18 | 21 | | | | | | | | 7 | | 50 | 100 | 21 | 58 | 75 |
| Quercus pubescens | E3 | | | | | 64 | | | | | | | | | | | 40 | 14 | 25 | |
| Quercus pubescens | E2 | | | | 14 | 43 | | | | | | | | | 25 | | 40 | 64 | 42 | |
| Quercus pubescens | E1 | | | | | | | | | | | | | | | 17 | | | | |
| Hypericum montanum | | | | | 9 | 7 | | | | | | | | | 50 | | 40 | 21 | 42 | 25 |
| Rhamnus catharticus | E2 | | | | 4 | 21 | | | | | | | 7 | 3 | | | | 50 | 67 | 25 |
| Frangula rupestris | E2 | | | | 4 | | | | | | | | | | | | | | | |
| Melittis melissophyllum | E1 | | | | | 14 | | | 50 | | | 25 | 18 | 30 | 25 | | 100 | 21 | 58 | 50 |
| Cornus mas | E2 | | | | | 21 | | | | | | | | | 25 | | | | 8 | 25 |
| Euonymus verrucosus | E2 | | | | | | | | | | | | | 13 | | | | | 25 | 25 |
| Dianthus monspessulanus | E1 | | | | | | | | | | | | | | 50 | | 20 | | | |
| Cotinus coggygria | E2 | | | | | | | | | | | | | | | | 40 | 7 | | |
| Viola alba | E1 | | | | | | | | | | | | | | | | 20 | | 8 | |
| Sorbus torminalis | E2 | | | | | | | | | | | | | | | | 20 | 14 | | |
| Calamintha sylvatica | E1 | | | | | | | | | | | | | | | | | | | 25 |
| **QUERCETALIA ROBORIS s. lat.** | | | | | | | | | | | | | | | | | | | | |
| Potentilla erecta | E1 | 4 | 31 | 50 | 82 | 21 | 67 | | 75 | | | | 18 | 3 | | | 40 | 14 | 50 | 50 |
| Melampyrum pratense | | 14 | 44 | 25 | 14 | 57 | | | 25 | 75 | | | | | | | 20 | | | |
| Pteridium aquilinum | | | 62 | 50 | 27 | | | | | 62 | 14 | | 18 | 43 | | | 40 | 14 | 67 | 50 |
| Frangula alnus | E2b | | 19 | 25 | 4 | 36 | 17 | | 50 | | | 25 | 32 | 23 | | | | | | |
| Frangula alnus | E2a | | 25 | 25 | 41 | | | | | 12 | 14 | | 59 | 7 | | 33 | | | | |
| Genista tinctoria | E1 | | 12 | | 23 | 21 | | 20 | | | | | | | 75 | | | | | |
| Serratula tinctoria | | | | | 45 | 21 | | | | | | | | | | | 60 | | | |
| Carex montana | | | | | 18 | | | | | | | | | | | | | | | |
| Laserpitium prutenicum | | | | | 14 | | | | | | | | | | | | | | | |
| Castanea sativa | E1 | | | | | 7 | | | | | | | | | 75 | 17 | | | | |
| **FAGETALIA SYLVATICAE s. lat.** | | | | | | | | | | | | | | | | | | | | |
| Cyclamen purpurascens | E1 | 61 | 62 | 50 | 77 | 93 | 92 | 60 | 100 | 100 | 71 | 100 | 82 | 100 | 100 | 33 | 100 | 86 | 92 | 75 |
| Helleborus niger | | 14 | 62 | 25 | 18 | | 17 | 60 | 50 | 62 | 29 | | 23 | 10 | 100 | | 80 | 64 | 100 | 100 |
| Melica nutans | | 4 | 31 | 25 | 32 | 14 | | | 100 | 12 | 14 | 25 | 9 | 20 | | | 100 | 21 | 50 | 75 |
| Euphorbia amygdaloides | | 7 | 37 | 75 | 4 | | | | | 50 | 14 | | | | | | | | | |
| Mercurialis perennis | | 4 | 12 | | 4 | | | | 50 | 37 | | 50 | 4 | 60 | | | | | | |
| Laburnum alpinum | E3 | | | | | | | | | | | | | 13 | | | | | | |
| Laburnum alpinum | E2 | | | | 4 | | | | | | | | | 43 | | 17 | | | | |
| Laburnum alpinum | E1 | 7 | 6 | | | | | | | | | 25 | 4 | 47 | | 17 | | | | |
| Rhamnus fallax | E2 | | | | | | | | | 37 | | 25 | 4 | 33 | | | | | | |
| Rhamnus fallax | E1 | 4 | | | | | | | | 12 | | 25 | | | | | | | | |
| Viola reichenbachiana | | 4 | | | | 14 | | | | 25 | | | | 3 | | | | | | |
| Primula vulgaris | | 4 | | | 9 | | | | | | | | | 13 | | | 60 | 29 | 33 | 100 |
| Anemone trifolia | | | 50 | 25 | 45 | 50 | 33 | | 50 | 75 | 29 | 50 | 54 | 33 | 25 | | | 7 | 42 | 50 |
| Fagus sylvatica | E3 | | 6 | | 4 | 21 | 8 | | | 62 | 14 | 50 | 14 | 43 | | | | 14 | 58 | 100 |
| Fagus sylvatica | E2 | | 31 | | 4 | 7 | 17 | | 25 | 37 | | 25 | 18 | 33 | 50 | 17 | 100 | 43 | 100 | 75 |
| Fagus sylvatica | E1 | | 31 | | 14 | | | 20 | | 37 | 14 | 25 | 32 | 47 | | | | | 25 | 75 |
| Knautia drymeia s. lat. | E1 | | 37 | 25 | | | | | | 12 | 14 | | | 43 | 25 | | 60 | 43 | 50 | 75 |
| Acer pseudoplatanus | E3 | | | | | | | | | | | | | 7 | | | | 7 | 25 | |
| Acer pseudoplatanus | E2 | | | | 4 | | | | | | | | | 27 | | | 40 | 7 | 50 | 75 |
| Acer pseudoplatanus | E1 | | 6 | | | | | | | | | 25 | 32 | 67 | 50 | 50 | | 7 | 25 | 75 |
| Neottia nidus-avis | | | 6 | | | | | | | 12 | | | | 3 | 50 | | | | | |
| Mycelis muralis | | | 6 | | | | | | | 25 | | | | | 50 | | | | | |
| Dentaria enneaphyllos | | | 6 | | 4 | | | | | 12 | | | | | | | | | | |
| Prenanthes purpurea | | | | | 4 | | | | | 37 | | | | 40 | | | | | | |
| Galium laevigatum | | | | | 18 | 43 | | | 50 | 12 | | 25 | 9 | 23 | | | | | 25 | 25 |
| Epipactis helleborine s. lat. | | | | | 27 | | 50 | | 25 | | | 25 | 100 | 43 | 50 | 17 | | | | |
| Euphorbia carniolica | | | | | 9 | | | | 50 | | | | | | | | | 7 | 17 | 75 |
| Salvia glutinosa | E1 | | | | | 7 | | | 25 | 25 | | | | 17 | 50 | 17 | | 7 | 25 | 75 |
| Euonymus latifolius | E2 | | | | | 14 | | | | | | | | | | | | | | |
| Daphne mezereum | E2 | | | | | | | | 25 | 12 | | 25 | | 50 | | 17 | | 7 | | 75 |
| Lonicera alpigena | | | | | | | | | 25 | 25 | | 25 | | 17 | | | | | | |
| Epimedium alpinum | E1 | | | | | | | | 50 | | | | | | | | | | | |
| Lathyrus vernus | | | | | | | | | 25 | | | | | | | | | | | |
| Aruncus dioicus | | | | | | | | | | 12 | | | | | | | | | | 75 |
| Senecio ovatus | | | | | | | | | | | | 25 | | 3 | 25 | | | | | |
| Lilium martagon | | | | | | | | | | | | 25 | | 7 | | | | | | |
| Tilia cordata | E3 | | | | | | | | | | | | | | 25 | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tilia cordata | E2 | | | | | | | | | | | | | 25 | | | | | | |
| Tilia cordata | E1 | | | | | | | | | | | 4 | | 75 | | | | | | |
| Omphalodes verna | | | | | | | | | | | | | 43 | | | | | | | |
| Tilia platyphyllos | E2 | | | | | | | | | | | | | 50 | | | | | | |
| Carpinus betulus | E2 | | | | | | | | | | | | | 25 | | | | | | |
| Cephalanthera damasonium | E1 | | | | | | | | | | | | | 25 | | | | | | |
| Hacquetia epipactis | | | | | | | | | | ° | | | | | | | | 7 | 17 | 50 |
| **QUERCO-FAGETEA s. lat.** | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| Carex digitata | E1 | 14 | 37 | 25 | 9 | 14 | | | | 12 | 29 | 25 | 9 | 57 | 25 | 17 | | | | |
| Platanthera bifolia | | 11 | 62 | 50 | 64 | | 25 | | 25 | | | | 4 | 33 | | | 40 | 14 | 58 | 25 |
| Cruciata glabra | | | | 25 | 23 | 50 | 8 | | | | | | | | 25 | | | | 42 | 25 |
| Quercus petraea | E3 | | | | | | | | | | | | | | 25 | | 40 | 7 | 50 | 50 |
| Quercus petraea | E2 | | | | 9 | 14 | | | | | | | | | | | 60 | 21 | 50 | |
| Quercus petraea | E1 | | | 25 | | | | | | | | | 4 | | 100 | 83 | | | | |
| Crataegus monogyna | E2 | | | 25 | 14 | 29 | | | | | | | | | 25 | | 40 | 43 | 25 | |
| Hepatica nobilis | E1 | | | | 23 | 43 | | | | 12 | | | | 37 | | | 80 | 29 | 75 | 100 |
| Cephalanthera rubra | | | | | 18 | | | | | 12 | | | | | | | | | | |
| Corylus avellana | E2 | | | | 27 | 64 | 25 | | 50 | | | | 18 | 10 | 75 | 17 | | | | |
| Corylus avellana | E1 | | | | 18 | | | | | | | | 4 | | | | | | | |
| Ligustrum vulgare | E2 | | | | 14 | 7 | | | | | | | | | 75 | 17 | 40 | 43 | 33 | |
| Clematis vitalba | | | | | 9 | 36 | | | | | | | | | 50 | 50 | | 7 | 42 | |
| Cornus sanguinea | | | | | 9 | 36 | | | | | | | | | | 33 | | | | |
| Ranunculus nemorosus | E1 | | | | 9 | 7 | | | | | | | | | | | | | 33 | 75 |
| Hedera helix | | | | | | 14 | | | | | | | | | 75 | 17 | | | | |
| Cephalanthera longifolia | E1 | | | | | 7 | 8 | | | | | | | | 25 | | | | | |
| Lonicera xylosteum | E2 | | | | | 7 | | | | | | | | | | 17 | 40 | | | |
| Vinca minor | E1 | | | | | 21 | | | | | | | | | | | | | | |
| Spirea chamaedryfolia | E2 | | | | | | | | | | | | | 17 | | | | | | |
| Pyrus pyraster | E3 | | | | | | | | | | | | | | | | 40 | 14 | 33 | 25 |
| Pyrus pyraster | E2 | | | | | | | | | | | | | | | | 60 | 21 | 67 | 25 |
| **VACCINIO-PICEETEA s. lat.** | | | | | | | | | | | | | | | | | | | | |
| Picea abies | E3 | 4 | 6 | | 45 | 36 | 17 | | 25 | 37 | | | 9 | 27 | 25 | 17 | 80 | 29 | 75 | 100 |
| Picea abies | E2 | 11 | 37 | | 14 | 21 | 58 | 100 | 50 | 50 | 14 | | 41 | 23 | 100 | 83 | 60 | 50 | 92 | 50 |
| Picea abies | E1 | 7 | 12 | | | | | 40 | | 25 | 14 | | | 13 | 25 | 50 | | 7 | 33 | 75 |
| Hieracium sylvaticum | | 36 | 87 | 25 | 23 | 7 | | | 25 | 75 | 71 | 75 | 4 | 90 | 50 | 67 | | | 75 | |
| Vaccinium vitis-idaea | | 4 | 19 | 25 | | | | | | 50 | 14 | | | 43 | | | | | | |
| Solidago virgaurea | | | 56 | 25 | 14 | 7 | | 20 | | 75 | 14 | 25 | 14 | 73 | | 17 | 40 | 14 | 58 | 75 |
| Rosa pendulina | E2 | | 12 | | | 7 | | | | 37 | | 50 | 18 | 37 | | | | | 8 | 25 |
| Vaccinium myrtillus | E1 | | 12 | | 9 | | | | | 12 | | 25 | | 53 | | | | | 8 | |
| Larix decidua | E3 | | 6 | | | | | | | 50 | | 25 | | 10 | | | | | | |
| Larix decidua | E2 | | | | | | | | 25 | | | | | | | 17 | | | | |
| Valeriana tripteris | E1 | | 6 | | 9 | 14 | 8 | | 25 | 75 | | 25 | | 63 | | | | | | 75 |
| Veronica urticifolia | | | | | 9 | | | | 25 | | | | | 3 | | | | | | |
| Gentiana asclepiadea | | | | | 4 | | | | | | | | 4 | 3 | | | | | | 25 |
| Homogyne sylvestris | | | | | | | | | 25 | 75 | 57 | | | 20 | | | | | | |
| Abies alba | E2 | | | | | | | | | 25 | | | | 3 | | | | | | |
| Clematis alpina | E2 | | | | | | | | | | | 25 | | 20 | | | | | | |
| Gymnocarpium dryopteris | E1 | | | | | | | | | | | 25 | | | | | | | | 25 |
| **ADENOSTYLETALIA s. lat.** | | | | | | | | | | | | | | | | | | | | |
| Salix glabra | E2 | 7 | 6 | 25 | 45 | 21 | 67 | 60 | 100 | 25 | 14 | 100 | 100 | 53 | | | | | | |
| Salix glabra | E1 | 7 | 31 | | | | | | | | 14 | | 27 | | | | | | | |
| Salix appendiculata | E2b | | | | | 21 | | | | 25 | | | 9 | 7 | | 17 | | | | |
| Salix appendiculata | E2a | | 19 | | | | | | | 12 | 14 | 25 | 14 | 17 | 25 | 50 | | | | |
| Knautya longifolia | E1 | | | | 54 | | | | 75 | | | | | | | | | | | |
| Thalictrum aquilegiifolium | | | | | 18 | | | | 25 | | | | | | | | | | | |
| Aconitum angustifolium | | | | | | | | | | | | 50 | | | | | | | | |
| Grafia golaka | | | | | | | | | | | | | | | | | | 21 | 8 | 75 |
| ***TRIFOLIO-GERANIETEA s. lat.*** | | | | | | | | | | | | | | | | | | | | |
| Vincetoxicum hirundinaria | E1 | 50 | 31 | 25 | 86 | 50 | 75 | 100 | 75 | | | 75 | 50 | 7 | 50 | 50 | | 29 | 42 | 50 |
| Anthericum ramosum | | 43 | 37 | 25 | 68 | 36 | 50 | 100 | | 12 | | 75 | 91 | 27 | 75 | 33 | 80 | 79 | 92 | 50 |
| Polygonatum odoratum | | 32 | 44 | 50 | 23 | | 17 | 40 | 25 | 12 | 43 | 25 | 9 | 3 | 100 | | | 7 | 42 | 50 |
| Thesium bavarum | | 14 | 25 | 25 | 45 | 21 | | 80 | 100 | | 14 | 25 | | | | 50 | | | | |
| Laserpitium siler | | 4 | 12 | | 23 | 7 | 8 | 100 | 25 | | | 100 | 91 | | 25 | 33 | | | | |
| Thalictrum minus s. lat. | | 4 | 6 | | 9 | 21 | | | | 12 | | | | | 50 | | | | | |
| Geranium sanguineum | | | 31 | 25 | 9 | 7 | | | | | | | | | 50 | 17 | 80 | 21 | 58 | 50 |
| Origanum vulgare | | | 6 | | 18 | 21 | | | | | | | | 3 | | 33 | | | | |
| Vicia gallo provincialis (V. incana) | | | 19 | | | | | | | | | | | | | | | | | |
| Viola hirta | | | | | 68 | 43 | 67 | 60 | 25 | | | | 27 | 37 | 75 | 50 | | | | |
| Verbascum chaixii | | | | | 27 | 29 | | | | | | | | | 50 | | | | | |
| Clinopodium vulgare | | | | | 23 | 7 | | | | | | | | 3 | | | 20 | | | |
| Peucedanum cervaria | | | | | 14 | 7 | | | | | | | | | | | 40 | | | |
| Lilium bulbiferum | | | | | 4 | 7 | | | 25 | | | | | | | | | | 8 | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Laserpitium latifolium | E1 | | | | 14 | | | | | | | | | | | | | | | |
| Verbascum nigrum | | | | | | | | | | | | | | | 25 | | | | | |
| Hypericum perforatum | | | | | | | | | | | | | | | 25 | | | | | |
| Trifolium medium | | | | | | | | | | | | | | | | | | 7 | 17 | |
| Inula conyza | | | | | | | | | | | | | | | | | | | | 25 |
| **FESTUCO-BROMETEA s. lat.** | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| Carex humilis | E1 | 100 | 19 | 50 | 50 | 36 | 58 | 80 | | | 14 | 100 | 64 | 87 | 100 | 100 | 100 | 100 | 92 | 75 |
| Globularia cordifolia | | 86 | 31 | 50 | 59 | 7 | 33 | 100 | | | 43 | 100 | 64 | 30 | 25 | 67 | 80 | | | |
| Peucedanum oreoselinum | | 61 | 81 | 75 | 91 | 64 | 92 | 100 | 75 | 12 | 14 | | 100 | 23 | 100 | | 60 | 86 | 67 | 25 |
| Euphorbia cyparissias | | 64 | 69 | 25 | 23 | 14 | 17 | 40 | | | 14 | | | | 100 | 67 | 40 | 64 | 58 | 25 |
| Teucrium montanum | | 71 | 37 | 50 | 54 | 21 | 33 | 100 | | | | 75 | 9 | 3 | 25 | 100 | 60 | | | |
| Lotus corniculatus s. lat. | | 54 | 69 | 50 | 41 | 7 | 17 | 20 | 75 | | 43 | 75 | | 30 | 50 | 67 | 60 | 93 | 83 | |
| Teucrium chamaedrys | | 11 | 56 | 100 | 82 | 71 | 50 | 60 | | | | | | | 100 | 50 | 100 | 100 | 100 | 50 |
| Brachypodium pinnatum agg. | | 7 | 44 | 75 | 68 | 57 | 25 | 20 | 25 | | | | | 13 | 100 | 17 | 40 | 57 | 75 | 25 |
| Stachys recta agg. | | 25 | 6 | | | 50 | 25 | 20 | | | | 25 | | | 25 | 50 | | 50 | 33 | |
| Carlina acaulis | | 43 | 19 | 50 | | | 42 | 40 | | | 14 | 100 | 9 | | | 33 | | | | |
| Prunella grandiflora | | 18 | 37 | 25 | 82 | 14 | 50 | 80 | 50 | | | 25 | | | 75 | | 60 | 71 | 58 | 25 |
| Thymus longicaulis | | 54 | 12 | | 50 | 21 | | | 25 | | 29 | | | | | | | | | |
| Linum catharticum | | 18 | | 25 | 14 | | | | | | | 25 | 32 | 23 | | | | | | |
| Hippocrepis comosa | | 29 | 37 | 25 | 14 | | | | 25 | | | 25 | | | | 33 | 40 | | | |
| Galium verum | | 14 | 6 | 50 | 68 | 14 | 42 | | 100 | | | | 9 | | 100 | | | 29 | 33 | |
| Genista germanica | | 14 | 12 | 75 | 64 | 21 | | | 75 | | | | | | 25 | | 40 | 14 | 33 | 50 |
| Centaurea fritschii | | 11 | 50 | | 27 | 14 | | | | | 14 | | | | | | | 43 | 42 | |
| Lathyrus pratensis | | 7 | 37 | 50 | 27 | 7 | | | | 12 | 14 | | | | | | | | | |
| Gentianella ciliata | | 4 | 6 | 25 | 9 | | | | | | | | | | | 83 | | | | |
| Thesium linophyllon | | 4 | | 25 | | | | 40 | | | | 75 | | | | | | | | |
| Anthyllis vulneraria | | | 6 | | 14 | | | | 25 | | 14 | | | | | | | | | |
| Euphorbia angulata | | | 6 | | | | | | | | | | | | | | 20 | 7 | 33 | 50 |
| Silene nutans | | | 6 | | | 36 | | | | | | | | | | | | | | |
| Hieracium pilloseloides | | | 6 | | | | | | | | | | | | 25 | | | | | |
| Centaurea jaccea agg. (inc. C. bracteata) | | | | | 45 | 29 | | | | | | | | 37 | 50 | | 40 | | | |
| Galium lucidum | | | | | 23 | 29 | | | | | | | | 73 | | | 100 | 86 | 92 | 100 |
| Helianthemum ovatum | | | | | 14 | 7 | 8 | 40 | | | | | | | 25 | 17 | 60 | 71 | 42 | |
| Pimpinella saxifraga | | | | | 27 | 21 | 8 | | 25 | | | | | | 50 | | 40 | | | |
| Asperula cynanchica | | | | | 36 | | | | | | | | | | 25 | | | | | |
| Polygala vulgaris | | | | | 59 | | | | 25 | | | | | | | | | | | |
| Scabiosa gramínifolia | | | | | 50 | | | | 25 | | | | | | | | | | | |
| Gymnadenia conopsea | | | | | 18 | 7 | | | 25 | | | | | | | | | | | |
| Centaurea dichroantha | | | | | 9 | | 25 | 80 | | | | | | | | | | | | |
| Bromus erectus s. lat. | | | | | 4 | 14 | | | | | | | | | 25 | 17 | | | | |
| Campanula spicata | | | | | 14 | | | | | | | | | | | | | | | |
| Inula ensifolia | | | | | 14 | | | | | | | | | | | | | | | |
| Trifolium montanum | | | | | 14 | | | | | | | | | | | | | | | |
| Inula hirta | | | | | 4 | | | | | | | | | | 25 | | 60 | | | |
| Carlina vulgaris | | | | | 4 | | | | | | | | | | | 17 | | | | |
| Campanula glomerata | | | | | | 21 | | | | | | | | | 25 | | | | | |
| Allium pulchellum | | | | | | 7 | | | | | | | | | 100 | | | 64 | 50 | 25 |
| Scabiosa triandra | | | | | | 7 | | | | | | | | | 25 | | | | | |
| Polygala nicaeensis subsp. forojulensis | | | | | | | 42 | | | | | | 86 | | | | | | | |
| Thymus sp. | | | | | | | 8 | 100 | | | | | | | | | | 78 | 50 | 50 |
| Pseudolysimachion barrelieri | | | | | | | | | 4 | | | | | | 75 | | | | | |
| Satureja montana | | | | | | | | | 9 | | | | | | 50 | | | | | |
| Thymus pulegioides | | | | | | | | | | | | | | | 75 | | | | | |
| Salvia pratensis | | | | | | | | | | | | | | | 75 | | | | | |
| Hypochoeris maculata | | | | | | | | | | | | | | | 75 | | | | | |
| Potentilla pusilla | | | | | | | | | | | | | | | 50 | | | | | |
| Scabiosa columbaria | | | | | | | | | | | | | | | 25 | | | | | |
| Plantago lanceolata | | | | | | | | | | | | | | | 25 | | | | | |
| Arabis hirsuta | | | | | | | | | | | | | | | 25 | | | | | |
| Cirsium pannonicum | | | | | | | | | | | | | | | | 33 | | | | |
| Ophrys insectifera | | | | | | | | | | | | | | | | 33 | | | | |
| Koeleria pyramidata | | | | | | | | | | | | | | | | 17 | | | | |
| Danthonia alpina | | | | | | | | | | | | | | | | 17 | | | | |
| Iris graminea | | | | | | | | | | | | | | | | | 40 | 14 | 25 | 25 |
| Libanotis montana agg. (Seseli libanotis) | | | | | | | | | | | | | | | | | 40 | | | |
| Centaurea triumfettii | | | | | | | | | | | | | | | | | | 57 | | 50 |
| Knautia fleischmannii | | | | | | | | | | | | | | | | | | 57 | 8 | 25 |
| Scabiosa hladnikiana | | | | | | | | | | | | | | | | | | 50 | 8 | |
| Poa concinna | | | | | | | | | | | | | | | | | | 21 | | |
| Melica ciliata | | | | | | | | | | | | | | | | | | 14 | | |
| Aster linosyris | | | | | | | | | | | | | | | | | | 14 | | |

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| **SESLERIETEA ALBICANTIS s. lat.** | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sesleria albicans | E1 | 86 | 56 | 50 | 91 | 93 | 100 | 100 | 100 | 12 | 71 | 100 | 100 | 100 | 100 | 100 | 100 | 57 | 42 | |
| Betonica alopecuros | | 14 | 6 | | 77 | 14 | 92 | 80 | 75 | | 14 | 100 | 18 | 73 | 75 | 17 | 60 | 43 | 58 | 100 |
| Laserpitium peucedanoides | | 25 | 75 | 25 | 14 | | 17 | 40 | 75 | 50 | 57 | 100 | | 77 | | | 40 | | | |
| Carex mucronata | | 29 | | | | | | 100 | | | 14 | 100 | 86 | 43 | | | | | | |
| *Dryas octopetala* | | 25 | 6 | | | | | | | | 14 | 100 | | 10 | | | | | | |
| Aster bellidiastrum | | | 37 | | | | | | | | 14 | 50 | 41 | 13 | | | | | | |
| Phyteuma orbiculare ⁄ | | | 12 | | 14 | 7 | | | | | | 50 | 82 | | | | | | | |
| Acinos alpinus | | | 25 | | 14 | 7 | | | | | | | | | | | | | | |
| Rhinanthus aristatus (R. glacialis) | | | 31 | | | | | | | | | 25 | 23 | | | | | | | |
| Gentiana clusii | | | | | 9 | | | | | | | 50 | 27 | 13 | | | | | | |
| Leucanthemum adustum | | | | | 18 | | | | 25 | | | 100 | | | | | | | | |
| *Horminium pyrenaicum* | | | | | 14 | | | | | | | | | | | | | | | |
| Euphrasia salisburgensis | | | | | | | | 20 | | | | | | | | 17 | | | | |
| Carex firma | | | | | | | | | 25 | | 29 | 25 | | 23 | | | | | | |
| Pinguicula alpina | | | | | | | | | 25 | | 14 | | 9 | | | | | | | |
| Selaginella selaginoides | | | | | | | | | 25 | | | | 5 | | | | | | | |
| Carex ferruginea | | | | | | | | | 25 | | | | | 7 | | | | | | |
| Primula wulfeniana | | | | | | | | | | 12 | 86 | | | | | | | | | |
| Silene alpestris (*Heliosperma alpestre*) | | | | | | | | | | 12 | 14 | | | | | | | | | |
| Thesium alpinum | | | | | | | | | | | 14 | | | | | | | | | |
| Thymus alpigenus | | | | | | | | | | | | 50 | | 37 | | | | | | |
| Carex sempervirens | | | | | | | | | | | | 50 | | | | | | | | |
| Campanula scheuchzeri | | | | | | | | | | | | 25 | | 3 | | | | | | |
| Hieracium dentatum ? | | | | | | | | | | | | 25 | | | | | | | | |
| Senecio abrotanifolius | | | | | | | | | | | | 25 | | 43 | | | | | | |
| *Centaurea haynaldii* | | | | | | | | | | | | 100 | | | | | | | | |
| Achillea clavenae | | | | | | | | | | | | | | 20 | | | | | | |
| Hieracium villosum | | | | | | | | | | | | | | 20 | | | | | | |
| Helianthemum alpestre | | | | | | | | | | | | | | | | | | 36 | 8 | |
| **ASPLENIETEA TRICHOMANIS** | | | | | | | | | | | | | | | | | | | | |
| Valeriana saxatilis | E1 | 7 | 50 | | 14 | | 25 | 20 | 100 | 37 | 100 | 75 | 64 | 73 | | | | | | |
| Potentilla caulescens | | 18 | | | 4 | | | 20 | | | 14 | 75 | 54 | 87 | | | | | | |
| *Primula auricula* | | 11 | | | | | | | | | 14 | 75 | 59 | 17 | | | | | | |
| Rhamnus pumilus | E2a | 11 | | | | | | 60 | | | 14 | 50 | 36 | 10 | | | | | | |
| Asplenium ruta-muraria | E1 | 4 | | | | | | 60 | | | | 25 | 45 | 73 | 75 | 50 | | | | |
| Paederota lutea | | 4 | | | | | | | | 12 | 29 | | | 87 | | | | | | |
| Silene hayekiana | | 4 | 6 | | | | | 20 | | | | | | | | 83 | | | | |
| Kernera saxatilis | | 4 | | | | | | | | | | | | | 25 | | | | | |
| Dianthus sylvestris | | | 6 | | 4 | | | 20 | | | | | | | | | 60 | 57 | 50 | |
| Spiraea decumbens s. lat. | | | | | 18 | | | | 100 | | | | | | | | | | | |
| Hieracium glaucum | | | | | 9 | | | | | | | | | | 25 | | | | | |
| Phyteuma scheuchzeri subsp. columnae | | | | | 9 | | | | | | | | | 47 | | 17 | | | | |
| Asplenium trichomanes | | | | | | 7 | | | | | | | | 20 | | | | | | |
| Asplenium viride | | | | | | | | | | 12 | | | | 10 | | | | | | |
| Paederota bonarota | | | | | | | | | | | | 25 | 27 | | | | | | | |
| Saxifraga burseriana | | | | | | | | | | | | | 14 | | | | | | | |
| Athamanta turbith | | | | | | | | | | | | | | 30 | | | | | | |
| Primula carniolica | | | | | | | | | | | | | | 30 | | | | | | |
| Saxifraga crustata | | | | | | | | | | | | | | 13 | | | | | | |
| Saxifraga squarrosa | | | | | | | | | | | | | | 10 | | | | | | |
| Polypodium vulgare | | | | | | | | | | | | | | | 50 | | | | | |
| Erysimum sylvestre | | | | | | | | | | | | | | | | 17 | | 28 | 8 | |
| **THLASPIETEA ROTUNDIFOLII s. lat.** | | | | | | | | | | | | | | | | | | | | |
| Campanula cespitosa | E1 | 75 | 6 | | 64 | 29 | 42 | 100 | 50 | | 86 | 75 | 86 | 57 | 25 | 100 | | | | |
| Hieracium porrifolium | | 71 | 12 | | 18 | | | 100 | | | 43 | 50 | 54 | 37 | 25 | 100 | | | | |
| Biscutella laevigata | | 21 | 56 | 25 | 50 | 14 | 17 | 20 | 50 | | | 25 | 9 | | 25 | 83 | 40 | 79 | 67 | 25 |
| Carduus defloratus agg. (incl. C. crassifolius) | | 11 | 6 | | 50 | 14 | 75 | 100 | 25 | | | 100 | | 30 | | | | | | |
| Aquilegia einseleana agg. (incl. A. bertolonii) | | 4 | | | 45 | | 42 | 100 | 25 | | | 50 | 95 | 20 | | | | | | |
| Petasites paradoxus | | 4 | 31 | | 14 | | | | 75 | 50 | | | 4 | | | 50 | | | | |
| Achnatherum calamagrostis | | 7 | | 50 | 45 | 36 | | 40 | 25 | | | | | | | 83 | | | | |
| Valeriana montana | | 4 | 12 | | | | | | | 12 | 14 | | | | | | | | | |
| Gypsophila repens | | 11 | | | | | | 100 | | | | | 23 | | | | | | | |
| Seseli austriacum (incl. S. elatum and S. gouanii) | | 11 | | | | | | 60 | 7 | | | | | | | | | | | |
| Rumex scutatus | | 4 | | | | | | 20 | | | | | 4 | | | | | | | |
| Gymnocarpium robertianum | | | 12 | | 9 | 7 | | | 100 | 87 | 29 | | 14 | 17 | | | | | | |
| Trisetum argenteum | | | | | 9 | | | | 25 | | | | | | | | | | | |
| Hieracium bifidum ? | | | | | | | | 20 | | | | 25 | | | | | | | | |
| Astrantia carniolica | | | | | | | | 20 | | | | 25 | | 7 | | | | | | |
| Adenostyles glabra | | | | | | | | | 25 | 25 | | 25 | 4 | 27 | | | | | | |
| Chamaenerion palustre (Epilobium dodonei) | | | | | | | | | 25 | | | | | | | 17 | | | | |
| *Saxifraga caesia* | | | | | | | | | 25 | | | | | 3 | | | | | | |

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| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hieracium bupleuroides | E1 | | | | | | | | | | | 4 | | | 67 | | | | |
| Sedum album | | | | | | | | | | | | | | | 33 | | | | |
| Hieracium caesium | | | | | | | | | | | | | | | 17 | | | | |
| Scrophularia canina | | | | | | | | | | | | | | | 17 | | | | |
| Fumana procumbens | | | | | | | | | | | | | | | | | 14 | | |
| **OTHER SPECIES (Übrige Arten)** | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| Juniperus communis | E2 | 18 | 19 | 25 | 50 | 21 | 58 | 20 | 75 | | | | 23 | 7 | 100 | 100 | 100 | 79 | 100 | 75 |
| Juniperus communis | E1 | 11 | 6 | | | | | | | | | | | | | | | | | |
| Sorbus aucuparia | E3 | 4 | | | | | | | | 25 | | | 4 | 7 | | | | | | |
| Sorbus aucuparia | E2 | | | | 9 | 14 | | | 50 | | | | 4 | 43 | | | | | | |
| Sorbus aucuparia | E1 | | 25 | | 18 | | | | | 62 | | | 27 | 40 | | | | | | |
| Galium mollugo agg. (incl. G. erectum) | | 25 | 75 | 25 | 14 | | | | | 25 | 14 | | | | | | | | | |
| Aquilegia vulgaris agg. | | 7 | 37 | 25 | 9 | | | | | 12 | | | | | | | 40 | 7 | 33 | 75 |
| Leontodon hispidus s. lat. | | 18 | | | 18 | | | | | | | | | | | | | | | |
| Carex caryophyllea | | 4 | | | | 7 | | | | | 14 | | | | | | | | | |
| Molinia arundinacea | | | 6 | 100 | 59 | 50 | 42 | 60 | 25 | | | 50 | 91 | 83 | 50 | 67 | | | | |
| Tofieldia calyculata | | | 6 | 25 | 14 | | 8 | | 100 | | 14 | | 41 | 7 | | | | | | |
| Fragaria vesca | | | 6 | | 27 | 21 | | | | 25 | | | | | | | | | | |
| Galium boreale | | | 25 | 25 | | | | | | | | | | | | | | | | |
| Succisa pratensis | | | 12 | | 4 | | | | | | | | | | | | | | | |
| Populus tremula | E3 | | | | | | | | | | | | 4 | | 25 | 17 | | | | |
| Populus tremula | E2 | | 6 | | 9 | | | | 25 | | | | 9 | 3 | 25 | 33 | | | | |
| Populus tremula | E1 | | | | 9 | | | | | | 14 | | | | | | | | | |
| Salix eleagnos | E2 | | | 25 | 4 | | | | 25 | | | | | | | 50 | | | | |
| Parnassia palustris | E1 | | | 25 | 14 | | | | | | | | 14 | 3 | | | | | | |
| Tussilago farfara | | | | 25 | | | | | | | | | | | | | | | | |
| Salix caprea | E2 | | | | 4 | | | | 50 | | | | | | | 50 | | | | |
| Valeriana officinalis agg. | E1 | | | | 4 | | | | 25 | | | | | | | | | | | |
| Rosa canina | E2 | | | | | 21 | | | | | | | | | 75 | 33 | | | | |
| Rubus corylifolius | | | | | | 14 | | | | | | | | | | | | | | |
| Listera ovata | E1 | | | | | | 33 | | | | | | 9 | 10 | 100 | 100 | | | | |
| Achillea millefolium agg. | | | | | | | 7 | | | | | | 9 | 10 | | | | | | |
| Juglans regia | E2a | | | | | | | | | | | | 4 | | | 67 | | | | |
| Viscum album | E2 | | | | | | | | | | | | | 33 | | | | | | |
| Festuca rubra agg. | E1 | | | | | | | | | | | | | 13 | 50 | | | | | |
| Salvia sp. | | | | | | | | | | | | | | 3 | 50 | | | | | |
| Betula pendula | E3 | | | | | | | | | | | | | 3 | | 17 | | | | |
| Achillea distans | | | | | | | | | | | | | | | 25 | | | | | |
| Betula pendula | E2 | | | | | | | | | | | | | | | 33 | | 7 | 33 | |
| Salix purpurea | E2 | | | | | | | | | | | | | | | 33 | | | | |
| Hieracium sp. | E1 | | | | | | | | | | | | | | | 33 | | | | |
| Hieracium cymosum | | | | | | | | | | | | | | | | 17 | | | | |
| **MOSSES and LICHENS (Moose und Flechten)** | | | | | | | | | | | | | | | | | | | | |
| Tortella inclinata | E0 | 39 | 25 | | | | | | | | 57 | | | | | | | | | |
| Ctenidium molluscum | | 18 | | | 14 | | | 40 | 50 | 12 | 29 | 50 | 41 | 67 | 75 | | | | | |
| Scleropodium purum | | 4 | 31 | | 18 | | | 60 | | 37 | 43 | 25 | 82 | 30 | 50 | 83 | | | | |
| Pleurozium schreberi | | 14 | | 25 | 9 | | | | 25 | 12 | | | | | 25 | | 60 | 21 | 83 | 50 |
| Rhytidium rugosum | | 4 | 6 | | | | | 20 | | | | | | 10 | | | | | | |
| Hylocomium splendens | | | | | 14 | | | | | | 12 | | 4 | 3 | | | 60 | 21 | 92 | 75 |
| Scleropodium touretii | | | | | 18 | | | | | | | | | | | | | | | |
| Pedinophyllum interruptum | | | | | 18 | | | | | | | | | | | | | | | |
| Plagiomnium undulatum | | | | | 14 | | | | | | | | | | | | | | | |
| Tortella sp. (incl. T. tortuosa) | | | | | | | | 100 | | | | 100 | 64 | 83 | 50 | 100 | 60 | 64 | 58 | |
| Neckera sp. (incl. N. crispa) | | | | | | | | 20 | | | 29 | 75 | 64 | 90 | 25 | | 80 | | | |
| Fissidens cristatus | | | | | | | | 20 | | | | 25 | 82 | 90 | 50 | 50 | | | | |
| Thuidium sp. | | | | | | | | 20 | | | | | 14 | 3 | 25 | 17 | | | | |
| Pseudostereodon procerrimus (Ctenidium procerrimum) | | | | | | | | | 50 | | | | | | | | | | | |
| Dicranum scoparium | | | | | | | | | | 12 | | | | 17 | | | | | | |
| Bazzania trilobata | | | | | | | | | | | 29 | | | | | | | | | |
| Grimmia pulvinata | | | | | | | | | | | | 25 | 23 | 20 | 50 | | | | | |
| Encalypta sp. | | | | | | | | | | | | 25 | 4 | | | 17 | | | | |
| Orthothecium rufescens | | | | | | | | | | | | | 14 | 3 | | | | | | |
| Rhytidiadelphus triquetrus | | | | | | | | | | | | | 18 | 3 | | | 60 | 7 | 67 | 50 |
| Eurhynchium sp. | | | | | | | | | | | | | | 7 | | 17 | | | | |
| Leucobryum glaucum | | | | | | | | | | | | | | 40 | | | | | | |
| Hypnum cupressiforme | | | | | | | | | | | | | | 23 | 75 | | | | | |
| Homalothecium sp. | | | | | | | | | | | | | | 10 | 100 | | | | | |
| Rhytidiadelphus squarrosus ? | | | | | | | | | | | | | | 3 | 25 | | | | | |
| Cladonia sp. | | | | | | | | | | | | | | 3 | | | 40 | | | |
| Polytrichum formosum | | | | | | | | | | | | | | 10 | | | | | | |
| Neckera complanata | | | | | | | | | | | | | | 3 | 25 | | | | | |
| Isothecium alopecuroides | | | | | | | | | | | | | | | 75 | | | | | |
| Madotheca platyphylla (Porella platyphylla) | | | | | | | | | | | | | | | 25 | | | | | |

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