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Syntaxonomic revision of the Pannonian grasslands of Austria – Part II: Vienna Woods (Wienerwald)

Syntaxonomische Revision der pannonischen Rasengesellschaften in Österreich – Teil II: Wienerwald

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Abstract

As second part of a series focusing on the Pannonian grasslands of Austria, we present a detailed classification of the grasslands of the Vienna Woods (Wienerwald). This region, although geographically belonging to the Alps, has strong floristic affinities to the Pannonian Basin. The eastern slopes of the Vienna Woods are a hotspot of xero-thermophytic vegetation and exhibit the highest vascular plant species richness in Austria at a scale of 3' × 5'. We used the TWINSPAN classification of a large data set reported in the first part of this series as starting point. Relevés that were considered as misclassified at the level of alliances were manually re-arranged. From this table, an excerpt containing only the relevés of the Vienna Woods was used for the present study (1055 plots). We re-classified the relevés preliminary labelled as *Arrhenatherion* with another TWINSPAN run. Clusters for which no ecological difference could be detected were merged. The final delimitation of associations and subassociations was achieved by adjusting their diagnostic species so as to get units that were most informative in terms of environmental conditions. All re-arrangements were based on the summarised cover of diagnostic species within individual relevés. As a result, the grasslands of the Vienna Woods are classified within 22 associations (plus two subassociations) belonging to ten alliances and four classes. Within the *Seslerio-Festucion pallentis*, a new association *Scorzonero austriacae-Caricetum humilis* is described. The semi-dry grasslands of the study area previously classified as *Onobrychido-Brometum* are described as new association *Filipendulo vulgaris-Brometum erecti* and assigned to the *Cirsio-Brachypodion*. The *Anthoxantho-Agrostietum tenuis* is reported for Austria for the first time, and its syntaxonomy is discussed within a broader geographical context.

Keywords: Austria, *Caricion davallianae, Festuco-Brometea, Molinio-Arrhenatheretea*, vegetation classification, *Violion caninae.*

Erweiterte deutsche Zusammenfassung am Ende des Textes

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1. Introduction

In the first part of this series (WILLNER et al. 2013), we presented a numerical classification of the Pannonian grasslands of eastern Austria and southern Moravia using a data set of 3384 relevés. While this analysis provided a general picture of the floristic gradients and resulted in groups that were well interpretable in terms of site conditions, it was only a starting point for our envisaged aim of a syntaxonomic revision of the Pannonian grasslands of Austria at the level of associations and subassociations. Considering the enormous diversity of these grasslands, we decided to split the data set into regional subsets and elaborate a full classification for each of these subsets. The final step, which hopefully will be reached in a not too distant future, will be a synthesis of the regional classifications within a broader geographical context.

In this second part of the series, we present a detailed classification of the grasslands of the Vienna Woods (Wienerwald). This region, although geographically belonging to the Alps, has strong floristic affinities to the Pannonian Basin. The eastern slopes of the Vienna Woods are a hotspot of xero-thermophytic vegetation and exhibit the highest vascular plant species richness in Austria at the scale of the floristic mapping (3' × 5'; NIKLFELD et al. 2008). Moreover, the grasslands of the Vienna Woods are among the best preserved ones in Austria (SUSKE et al. 2003), and due to extensive field work during the last decades they are also among the best documented ones.

The older phytosociological studies mostly focused on the dry grasslands along the eastern margin of the study area (WAGNER 1941, WENDELBERGER 1953, NIKLFELD 1964). KUYPER et al. (1978) published a few relevés of wet meadows from the Vienna Woods, and HUNDT & HÜBL (1983) presented the first study of mesic meadows in the region. Important contributions were also provided by KARRER (1985a, b). Since the 1980s, an impressive amount of data has been collected (largely in unpublished Master theses) but a consistent classification of these grasslands has not been achieved yet. With the declaration of the Vienna Woods as UNESCO Biosphere Reserve in 2005, and subsequent plans for a complete inventory and mapping of the area, establishing a functional classification of the grassland types of the Vienna Woods became an urgent task. At the same time, serious inconsistencies in the initial mapping of EU habitat types within the region were detected. Taken together, this gave the impetus to the present study and the whole series.

2. Study area

The Vienna Woods (Wienerwald) represent the north-eastern foothills of the Alps (Fig. 1), belonging to the geological units of the Flysch zone (in the north and west), and the Northern Limestone Alps (in the south-east), with some areas of "subalpine" molasse at the edges. The altitude ranges between 200 and 893 m a.s.l. Climatically and biogeographically, the Vienna Woods are a transition zone between the Central European and the Pannonian region. Mean annual temperature ranges from 6 to 10 °C, with the eastern slopes being among the warmest parts of Austria. The mean annual precipitation ranges from 600 mm at the eastern slopes to 900 mm on the highest peaks. About 60% of the Vienna Woods are covered by forests (mostly beech and oak-hornbeam forests). Nevertheless, the region is an important grassland area with a high diversity of dry, semi-dry, mesic, and wet grasslands.

The Vienna Woods are separated from the main body of the Northern Limestone Alps by a conspicuous valley running in east-west direction (Triesting-Gölsental). South of this valley, the Limestone Alps rapidly rise in height, and the alpine belt is reached on Mount

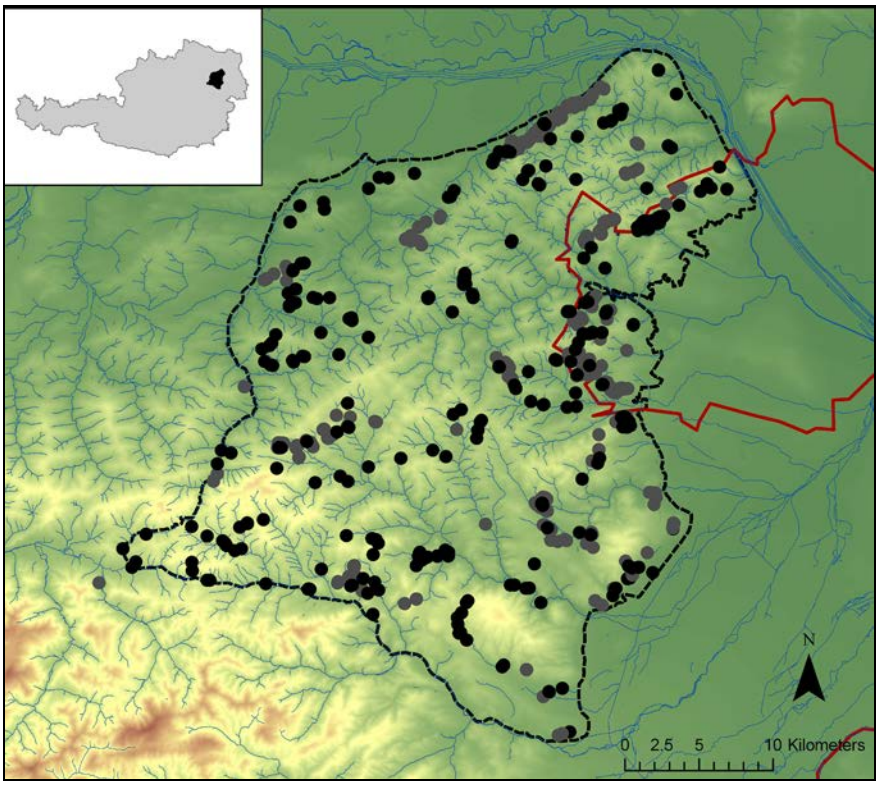

Fig. 1. Map of the study area with the location of the sample plots (grey: before 2005, black: 2005–2010). The dashed black line marks the border of the Biosphere Reserve Vienna Woods, the red lines are political borders of federal states.

Abb. 1. Karte des Untersuchungsgebiets und Lage der Vegetationsaufnahmen (grau: vor 2005, schwarz: 2005–2010). Die gestrichelte schwarze Linie markiert die Grenze des Biospärenparks Wienerwald, die roten Linien sind Bundeslandgrenzen.

Schneeberg (2076 m a.s.l.), towering above the southern end of the Vienna Basin. The eastern part of the Gutenstein Alps and the Vienna Woods are subsumed as the forest ecoregion "Thermenalpen", which is charaterised by a Pannonian type of climate (KILIAN et al. 1994). The western border of this ecoregion is defined by the distribution limit of natural *Pinus nigra* forests. The name "Thermenalpen" refers to a line of hot springs (called "Thermenlinie") along the western margin of the Vienna Basin. In contrast to the Vienna Woods, the grasslands of the Gutenstein Alps are only poorly documented. The percentage of non-forest vegetation, however, is much lower in this area.

3. Material and methods

3.1 Field sampling

Between 2005 and 2010, more than 250 new relevés have been sampled in the Biosphere Reserve Vienna Woods for various projects. The major part was sampled in May and June 2010 for the Man & Biosphere project "Diversity and conservation value of the meadows and dry grasslands in the Bio-

sphere Reserve Vienna Woods", which was led by the first author. The sampling design was semi-subjective as we used a stratified random selection of the grassland patches based on an unpublished GIS layer which included a rough classification of the grasslands within the Biosphere Reserve into six ecological types. Within each selected grassland patch, one or several relevé plots were located subjectively. We used a modified Braun-Blanquet scale solely based on cover (r: –0.2%, +: –1%, 1: –5%, 2a: –15%, 2b: –25%, 3: –50%, 4: – 75%, 5: –100%). Bryophytes and lichens could not be considered due to time and budget constraints.

3.2 Data preparation

The newly sampled data were combined with all available grassland relevés of the Pannonian region of Austria and adjacent areas, resulting in a data set of 3384 relevés (including 1055 from the Vienna Woods, 1664 from other parts of the Pannonian region of Austria, 98 from the Northern Limestone Alps of western Lower Austria and 567 from southern Moravia). We defined grasslands as all types of meadows, pastures and primary steppes. We also included fens but we excluded fringe vegetation and reed beds (see WILLNER et al. 2013 for details of the data set).

The taxonomic resolution of taxa was unified prior to the analysis (see WILLNER et al. 2013 for details). We excluded cryptogams from the analysis because they were determined in only 40% of the relevés. The most frequent cryptogam species were included in the table again after the numerical classification. Constancy values of the latter were calculated on the basis of the subset of relevés in which these plants were recorded. The taxonomy of species follows FISCHER et al. (2008) for vascular plants, FREY et al. (1995) for bryophytes and WIRTH (1995) for lichens.

3.3 Data analysis and table work

The total set of 3384 relevés was classified with TWINSPAN (HILL 1979), resulting in 60 clusters (WILLNER et al. 2013). In the following, this classification is referred to as TPA ("TWINSPAN classification of all Pannonian grasslands of Austria"). In the next step, clusters for which no ecological or geographical difference could be detected were merged, and relevés that were considered as misclassified at the level of alliances according to the summarised cover of the diagnostic species given in MUCINA et al. (1993) were manually re-arranged to the floristically and geographically most fitting cluster of the appropriate alliance. From this table, an excerpt containing only the relevés of the Vienna Woods was used for the present study. We re-classified the relevés preliminary labelled as *Arrhenatherion* with another TWINSPAN run (cut levels: 0, 2, 5 and 25; minimum group size: 5; maximum level of divisions: 4) because the *Arrhenatherion* grasslands of the Vienna Woods corresponded to only two clusters in the TPA (clusters 32 and 34; see WILLNER et al. 2013) and a considerable number of relevés originally included in other clusters had been re-arranged to one of these two clusters. Again, clusters for which no ecological difference could be detected were merged.

The final delimitation of associations and subassociations was achieved by adjusting their diagnostic species so as to get units that were most informative in terms of environmental conditions. The association concept follows WILLNER (2006). Where appropriate, central associations were used in order to avoid definition gaps. This fine-tuning of the classification included further re-arrangement of individual relevés between clusters, the abandonment of some smaller clusters (i.e., all included relevés were re-arranged to other clusters) as well as the manual splitting of the heterogenous TPA cluster 30. All re-arrangements were based on the summarised cover of diagnostic species within individual relevés. A summarised cover of < 1% was considered as absence of the diagnostic species group (WILLNER 2011).

A species was considered as diagnostic for a syntaxon if its constancy ratio (CR) was ≥ 2, i.e., if the constancy of the species in a unit was at least twice as high as in any other unit of the same rank within the next higher hierarchical level (DENGLER 2003). A species with CR < 2 was considered diagnostic if its total cover (= average cover taking also into account zero values) was > 12% and its total cover ratio (TCR) was ≥ 2, i.e., if its total cover in this unit was at least twice as high as in any other unit of the same rank within the next higher hierarchical level (WILLNER et al. 2009). Species with constancy

< 20% were only exceptionally accepted as diagnostic. The diagnostic species of higher syntaxa were calculated on the basis of average values among the included basic units (associations and subassociations). Shared diagnostic species (i.e., species reaching the CR or TCR threshold in a group of two or more units against all other units of the same rank within the next higher hierarchical level) were also allowed, but usually the assignment as diagnostic species of a higher syntaxon was preferred. In a few cases, species marginally missing the CR or TCR threshold in the regional data set were nevertheless accepted as diagnostic based on the preliminary analysis of the more comprehensive data set used in part I of this series.

On the basis of the synoptic table, a simplified field determination key for the mapping of the distinguished vegetation units was developed, which can also be used for the assignment of new relevés. For the comparison of association 4.1 (*Anthoxantho-Agrostietum tenuis*) with pre-classified relevés from neighbouring countries, a DCA (detrended correspondence analysis) was performed using the CANOCO 4.5 program. All calculations and table manipulations were done with JUICE 7.0 (TICHÝ 2002).

4. Results and syntaxonomic discussion

4.1 TWINSPAN classification of mesic grasslands

The TWINSPAN classification of relevés preliminary classified as *Arrhenatherion* resulted in 13 clusters which are numbered with capital letters to avoid confusion with the TPA clusters (Table 1). Clusters A–C include ruderal *Arrhenatherum* meadows with *Elymus repens* and *Lolium perenne* grasslands. Most of these relevés were originally classified together with grasslands of the Danube floodplain (TPA cluster 33). Cluster D includes species-poor *Arrhenatherum* meadows on strongly fertilised soils, and cluster E meadows on fertilised and temporarily wet soils which are dominated by *Alopecurus pratensis* or *Poa trivialis* while *Arrhenatherum* is mostly absent. Both types were included in TPA cluster 34. Clusters F–G comprise nutrient-poor grasslands on moist and moderately acidic soils with *Agrostis capillaris*, *Carex pallescens* and *Viola canina*, which mostly originate from TPA cluster 35. Clusters H–I represent *Arrhenatherum* meadows on less fertilised and temporarily moist soils of the Flysch zone, which were included in TPA cluster 34, and clusters J–M comprise drier *Arrhenatherum* meadows on calcareous soils, which were mostly represented in TPA cluster 32.

4.2 Syntaxonomic overview

Altogether, 22 grassland associations are distinguished within the area of the Vienna Woods. Some of them, however, are very rare and represented by just a few relevés. In particular, the alliance *Festucion valesiacae* occurs only marginally in the Vienna Woods. The following overview shows the position of the associations in the syntaxonomic system. Classes and orders follow MUCINA et al. (1993) and GRABHERR & MUCINA (1993). The assignment of associations to alliances (All.) follows these references, too, except for *Seslerio-Festucion pallentis* and *Cirsio-Brachypodion* (see WILLNER et al. 2013 for a discussion of these units). The syntaxonomic position of association 4.1, which is reported for Austria for the first time, is discussed in section 4.4. Alliances are numbered consecutively, and associations are numbered with a two-digit code starting with the alliance number. Nomenclatural remarks are given in Appendix S1.

Table 1. TWINSPAN classification of the mesic grasslands of the Vienna Woods. Only a selection of species diagnostic for one or several units is shown. Values are percentage constancies. When a species reaches a total cover of >12%, then the constancy is given in bold. Diagnostic species are highlighted in grey (species marked with * are diagnostic only against certain groups).

Tabelle 1. TWINSPAN-Klassifikation der Frischwiesen im Wienerwald. Dargestellt ist eine Auswahl jener Arten, die diagnostisch für eine oder mehrere Gesellschaften sind. Stetigkeitswerte in Prozent (bei einer totalen Deckung von >12 % fett). Die diagnostischen Arten sind grau hervorgehoben (mit * gekennzeichnete Arten differenzieren nur gegen bestimmte Gruppen).

TWINSPAN cluster	A	B-C	D	E	F-G	H-I	J-M
Number of relevés	3	17	122	39	90	89	74
TWINSPAN hierarchy	1	1	1	1	0	0	0
	1	0	0	0	1	1	0
		1	0	0	1	0	
			1	0			
Peucedanum alsaticum	**100**	6	.	.	.	.	2
Falcaria vulgaris	67	12	.	.	.	.	4
Lolium perenne	.	**47**	10	10	3	4	7
Plantago major *	.	29	7	15	1	2	1
Cardaria draba	.	12	.	.	.	.	.
Elymus repens	**67**	59	8	3	7	2	5
Artemisia vulgaris	67	35	1	.	.	.	5
Convolvulus arvensis	33	47	16	3	4	7	15
Poa trivialis	.	18	66	72	25	13	6
Alopecurus pratensis	.	29	50	**74**	25	18	7
Ranunculus repens	.	24	22	49	3	2	.
Lysimachia nummularia *	.	.	13	41	21	13	1
Lychnis flos-cuculi *	.	.	11	28	24	13	1
Betonica officinalis	.	.	9	15	68	26	14
Carex pallescens *	.	.	4	36	65	2	.
Galium boreale	.	6	6	18	60	20	4
Agrostis capillaris	.	.	5	15	48	11	.
Knautia drymeia	.	6	7	.	32	8	.
Galium pumilum	.	.	.	5	21	6	3
Viola canina	.	.	.	3	17	4	.
Holcus lanatus	.	.	51	74	95	91	12
Cynosurus cristatus	.	6	24	54	73	49	3
Filipendula vulgaris *	.	6	27	38	82	71	20
Festuca rupicola	.	6	3	.	11	25	51
Onobrychis viciifolia	.	24	.	.	.	4	38
Buphthalmum salicifolium	.	.	.	.	4	6	23
Plantago media *	.	29	3	3	7	16	54
Centaurea scabiosa	.	53	2	.	3	8	53
Bromus erectus	.	18	21	.	78	**87**	**91**
Salvia pratensis	.	18	13	.	8	48	85
Primula veris	.	.	6	5	39	38	34
Ranunculus bulbosus	.	35	29	8	23	34	44
Arrhenatherum elatius	**100**	**71**	**89**	21	52	**87**	**85**

Class *Festuco-Brometea* Br.-Bl. & Tx. 1943
Order *Stipo-Festucetalia pallentis* Pop 1968
All. (1) *Seslerio-Festucion pallentis* Klika 1931 corr. Zólyomi 1966
(1.1) *Drabo aizoidis-Seslerietum albicantis* Mucina 1993
(1.2) *Fumano-Stipetum eriocaulis* Wagner 1941 corr. Zólyomi 1966
(1.3) *Scorzonero austriacae-Caricetum humilis* Willner ass. nov. (see below)
Order *Festucetalia valesiacae* Br.-Bl. & Tx. 1943
All. (2) *Festucion valesiacae* Klika 1931
(2.1) *Stipo capillatae-Festucetum valesiacae* Sillinger 1930
(2.2) *Salvio nemorosae-Festucetum rupicolae* Zólyomi ex Soó 1959
(2.3) *Medicagini-Festucetum valesiacae* Wagner 1941
Order *Brometalia erecti* Koch 1926
All. (3) *Cirsio-Brachypodion* Hadač & Klika 1944
(3.1) *Polygalo-Brachypodietum* Wagner 1941
(3.2) *Filipendulo vulgaris-Brometum* Hundt & Hübl ex Willner ass. nov. (see below)
(3.3) *Euphorbio verrucosae-Caricetum montanae* Karrer 1985
Class *Calluno-Ulicetea* Br.-Bl. & Tx. 1943
Order *Nardetalia* Oberd. ex Preising 1949
All. (4) *Violion caninae* Schwickerath 1944
(4.1) *Anthoxantho-Agrostietum tenuis* Sillinger 1933
Class *Molinio-Arrhenatheretea* Tx. 1937
Order *Arrhenatheretalia* Tx. 1931
All. (5) *Arrhenatherion* Koch 1926
(5.1) *Ranunculo bulbosi-Arrhenatheretum* Ellmauer 1993
(5.2) *Filipendulo vulgaris-Arrhenatheretum* Hundt & Hübl ex Ellmauer 1995
(5.3) *Pastinaco-Arrhenatheretum* Passarge 1964
(5.4) *Ranunculo repentis-Alopecuretum pratensis* Ellmauer 1993
All. (6) *Cynosurion* Tx. 1947
(6.1) *Plantagini-Lolietum* Beger 1932
(6.2) *Cynosuro-Lolietum* Br.-Bl. & De Leeuw 1936
Order *Molinietalia* Koch 1926
All. (7) *Molinion* Koch 1926
(7.1) *Succiso-Molinietum* (Kovács 1962) Soó 1969
All. (8) *Calthion* Tx. 1937
(8.1) *Cirsietum rivularis* Nowiński 1928
(8.2) *Scirpetum sylvatici* Rałski 1931
Order *Potentillo-Polygonetalia* Tx. 1947
All. (9) *Potentillion anserinae* Tx. 1947
(9.1) *Mentho-Juncetum inflexi* Lohmeyer ex Oberd. 1957
Class *Scheuchzerio-Caricetea fuscae* Tx. 1937
Order *Caricetalia davallianae* Br.-Bl. 1949
All. (10) *Caricion davallianae* Klika 1934
(10.1) *Caricetum davallianae* Dutoit 1924
(10.2) *Junco subnodulosi-Schoenetum nigricantis* Allorge 1921

4.3 Description of the associations

In the following, all grassland associations of the Vienna Woods are described and their syntaxonomy is discussed. Synonyms are only given if they were used in MUCINA et al. (1993) or an important regional monograph. "Incl." refers to syntaxonomic synonyms, i.e. valid names of associations that we include into more broadly defined associations. "Nom. corresp." (*nomen correspondens*) refers to names of subassociations that have the same syntaxonomic content as the association described. Type relevés are given if they are located in the Vienna Woods. The regionally diagnostic and most frequent species are shown in a synoptic table (Table 2 in the supplement, for data sources see Appendix S2). Supra-regional diagnostic species are partly mentioned in the text. Newly sampled relevés are given in Tables 3–9 in the supplement (note that these relevés do not represent the "most typical" stands but document previously unsampled grassland patches; for additional header data see Appendix S3). In Appendix 1, a field determination key for the grassland types is presented (excluding units 2.3, 6.1, 6.2, 8.2 and 10.2 because their floristic composition could not be evaluated with certainty due to insufficient documentation in the data set). Alternatively to the full list of diagnostic species given in Table 2 in the supplement, this key may also be used for the assignment of new relevés. The correspondence between TWINSPAN clusters and the final classification is given in Table 10 in the supplement.

(1.1) *Drabo aizoidis-Seslerietum albicantis* Mucina 1993
(Table 2: 1)
(Incl. *Drabo lasiocarpae-Dianthetum neilreichii* Niklfeld 1993)
Typus: KARRER (1985a, Table 1, relevé 3) (holotypus).

On steep north-facing cliffs of the Vienna Woods, small patches of *Sesleria caerulea* grasslands can be found. Up to now, this community type has been documented from only three localities: Gießwände near Gießhübl, Mödlinger Klause, and Peilstein. The grasslands of this unit were included in three different TPA clusters: Cluster 1 (two relevés form Gießwände), cluster 7 (including relevés from all three localities as well as the *Fumano-Stipetum minuartietosum setaceae*, which is described below) and cluster 12 (four relevés from Peilstein). According to MUCINA & KOLBEK (1993), the *Sesleria* grasslands of the Vienna Woods belong to two different associations: *Drabo aizoidis-Seslerietum* and *Drabo lasiocarpae-Dianthetum neilreichii*, the latter named after the steno-endemic *Dianthus plumarius* subsp. *neilreichii*, which occurs only in the surrounding of Mödling. In contrast to this concept, we consider all three localities as variants of only one association. The outlier position of some of its relevés in the TWINSPAN classification can be explained by the relatively small number of thermophilous species. However, put together, the unit shows a quite homogenous picture (Table 2 in the supplement). The *Fumano-Stipetum laserpitietosum sileris* described from the mountain Hohe Wand by NIKLFELD (1964) probably also belongs here. In Slovakia and the Czech Republic, a similar community type is known as *Saxifrago paniculatae-Seslerietum* (CHYTRÝ 2007, JANIŠOVÁ 2007). The relationship between the *Drabo aizoidis-Seslerietum* of the Vienna Woods and other submontane *Sesleria caerulea* grasslands in the Alps, the Carpathians and the Bohemian Massif needs further investigation.

(1.2) *Fumano-Stipetum eriocaulis* Wagner 1941 corr. Zólyomi 1966
(Table 2: 2–3, Table 3, Fig. 2)
Typus: WAGNER (1941, Assoziationstabelle 1, rel. 6) (lectotypus MUCINA & KOLBEK 1993).

The calcareous rocky grasslands on dry south-facing slopes of the Vienna Woods are known as *Fumano-Stipetum eriocaulis* (MUCINA & KOLBEK 1993). The herb layer is usually rather open, and in early spring many annual species can be found. The late-spring aspect is dominated by the feathery inflorescences of *Stipa eriocaulis*. This community type corresponds to the TPA clusters 8 and 9 (the latter being transitional towards the next association). Differential species against the *Poo badensis-Festucetum pallentis* of the Hainburg and Pavlov hills, which was also included in TPA cluster 8 (see WILLNER et al. 2013), are *Festuca stricta, Pulsatilla grandis, Globularia cordifolia, Galium lucidum, Leontodon incanus, Allium sphaerocephalon, Ononis pusilla* and *Polygonatum odoratum*. *Stipa eriocaulis* occurs in the Hainburg Hills but is absent from other localities of the *Poo badensis-Festucetum pallentis*. *Festuca stricta* subsp. *stricta*, which replaces *Festuca pallens* in this community, is regarded as an Austrian endemic (FISCHER et al. 2008). If the gravel grasslands of the southern Vienna Basin (TPA clusters 5–6) are included in the *Fumano-Stipetum eriocaulis* (SAUBERER & BUCHNER 2001), *Festuca stricta* subsp. *stricta* is an absolute character taxon of this association.

On south-facing rocky outcrops, pioneer grasslands can be found, which were described as subassociation (1.2a) *Fumano-Stipetum minuartietosum setaceae* by KARRER (1985a). This unit, which is only known from two localities (Mödlinger Klause, Hauerberg near Bad Vöslau), was included in TPA cluster 7. Differential species against the typical subassociation (1.2b) are: *Seseli austriacum, Hieracium glaucum, Euphorbia saxatilis, Minuartia setacea, Cardaminopsis petraea, Aethionema saxatile, Biscutella laevigata, Erysimum sylvestre*.

Fig. 2. Stand of the *Fumano-Stipetum eriocaulis* in the nature reserve "Glaslauterriegel-Heferlberg" near Gumpoldskirchen (Photo: N. Sauberer, 20 May 2012).

Abb. 2. Bestand des *Fumano-Stipetum eriocaulis* im Naturschutzgebiet „Glaslauterriegel-Heferlberg" bei Gumpoldskirchen (Foto: N. Sauberer, 20.05.2012).

(1.3) *Scorzonero austriacae-Caricetum humilis* Willner ass. nov. hoc loco
(Table 2: 4, Table 3, Fig. 3)
(Syn.: *Polygalo majoris-Brachypodietum* auct. non Wagner 1941)
Typus: WENDELBERGER (1953, rel. 14) (holotypus hoc loco).

Type relevé: G. Wendelberger, ca. 1950, Perchtoldsdorfer Heide, 48.12245° N, 16.25013°E, 320 m, E, 0–5°; plot size: 21.54 m²; cover of herb layer: 100%, cover of moss layer: 10%. *Bromus erectus* 3, *Carex humilis* 3, *Anthyllis vulneraria* 2, *Dorycnium germanicum* 2, *Galium austriacum* 2, *Inula hirta* 2, *Sesleria caerulea* 2, *Anthericum ramosum* 1, *Bupleurum falcatum* 1, *Genista pilosa* 1, *Inula ensifolia* 1, *Leontodon incanus* 1, *Phyteuma orbiculare* 1, *Polygala amara* 1, *Rhytidium rugosum* 1, *Scabiosa canescens* 1, *Thesium linophyllon* 1, *Abietinella abietina* +, *Asperula cynanchica* +, *Asperula tinctoria* +, *Avenula pubescens* +, *Briza media* +, *Campanula glomerata* +, *Campylium stellatum* +, *Centaurea scabiosa* +, *Chamaecytisus ratisbonensis* +, *Daphne cneorum* +, *Epipactis helleborine* +, *Euphorbia cyparissias* +, *Festuca stricta* +, *Gentianella austriaca* +, *Globularia cordifolia* +, *Helianthemum canum* +, *Helianthemum nummularium* subsp. *obscurum* +, *Hieracium pilosella* +, *Hippocrepis comosa* +, *Homalothecium lutescens* +, *Hypnum cupressiforme* +, *Linum flavum* +, *Linum tenuifolium* +, *Pimpinella saxifraga* +, *Plantago media* +, *Polygala chamaebuxus* +, *Potentilla incana* +, *Prunella grandiflora* +, *Pulsatilla grandis* +, *Sanguisorba minor* +, *Scabiosa ochroleuca* +, *Scorzonera austriaca* +, *Scorzonera purpurea* +, *Senecio jacobaea* +, *Seseli annuum* +, *Seseli hippomarathrum* +, *Teucrium montanum* +, *Thymus praecox* +, *Tortella tortuosa* +, *Vincetoxicum hirundinaria* +.

Fig. 3. Stand of the *Scorzonero austriacae-Caricetum humilis* near Perchtoldsdorf (Photo: N. Sauberer, 28 May 2012).

Abb. 3. Bestand des *Scorzonero austriacae-Caricetum humilis* auf der Perchtoldsdorfer Heide (Foto: N. Sauberer, 28.05.2012).

These grasslands occur on less steep slopes, where several species of the *Fumano-Stipetum eriocaulis* are absent or very rare (e.g., *Festuca stricta, Stipa eriocaulis, Fumana procumbens, Allium sphaerocephalon*) while species preferring deeper soils, such as *Adonis vernalis, Stipa joannis, Festuca rupicola* and *Prunella grandiflora*, are common. The stands are mostly dominated by *Carex humilis* (total cover: 20%) but *Bromus erectus* can also reach higher cover values (total cover: 15%). WENDELBERGER (1953) and SIX (1986) classified such stands as *Polygalo majoris-Brachypodietum*, which is an association of semi-dry grasslands (see below), but both the TWINSPAN result (TPA clusters 9–11) and the summarised cover of diagnostic species indicated that unit 1.3 is more closely related to rocky grasslands and belongs to the *Seslerio-Festucion pallentis*. A comparison with the *Carex humilis* grasslands of Slovakia (JANIŠOVÁ & DÚBRAVKOVÁ 2010) shows that this community is most similar to the *Orthantho luteae-Caricetum humilis* Kliment & Bernátová 2000 (Table 11). However, these two units are also distinguished from each other by numerous differential species. Therefore, we describe the *Carex humilis* grasslands of the eastern margin of the Alps as a new association. Its most typical stands occur in the limestone part of the Vienna Woods, e.g. at the *locus classicus* Perchtoldsdorfer Heide, where it is the dominant grassland type. The relevés 13 and 47 in WILLNER et al. (2004), originally classified as *Fumano-Stipetum eriocaulis*, belong here, too.
On some north-facing slopes, *Sesleria caerulea* becomes dominant, and *Phyteuma orbiculare* has a higher frequency. This type was described as "*Polygalo-Brachypodietum phyteumetosum orbicularis*" by SIX (1986) but the existing data are not sufficient to decide about the status of this subassociation. A more deviating type can be found on marl on the steep southern slopes of Leopoldsberg and Bisamberg (PFUSTERSCHMID 1998, ZUKRIGL 2005).

(2.1) *Stipo capillatae-Festucetum valesiacae* Sillinger 1930 nom. invers. prop.
(Table 2: 5, Table 3)
(Incl. *Ranunculo illyrici-Festucetum valesiacae* Klika 1931; nom. corresp.: *Medicagini-Festucetum valesiacae iridetosum pumilae* Wagner 1941)

This association includes the *Festuca valesiaca* grasslands on limestone in the north-western part of the Pannonic region (DÚBRAVKOVÁ et al. 2010). The best developed examples in Austria can be found in the Leiser Berge (Weinviertel) and on the eastern slope of Leithagebirge (Northern Burgenland). In the Vienna Woods, the association occurs only in the surrounding of the village Gießhübl, where it grows on Jurassic limestone. The presence of *Trifolium arvense* indicates that the soil is slightly acidic. This is also underlined by the fact that two of the three relevés from this locality were included in TPA cluster 19, which corresponds to the more acidic *Avenulo pratensis-Festucetum valesiacae* (see WILLNER et al. 2013). The precise delimitation between these two *Festuca valesiaca* dominated associations has still to be elaborated. However, we think that for the Gießhübl grasslands the inclusion into the basiphilous *Stipo capillatae-Festucetum valesiacae* is more reasonable.

(2.2) *Salvio nemorosae-Festucetum rupicolae* Zólyomi ex Soó 1959
(Table 2: 6, Fig. 4)

On the hill Eichkogel near Mödling, there are loess grasslands which can be classified as *Salvio nemorosae-Festucetum rupicolae*. The hill is composed of Tertiary sediments of the Vienna Basin but geographically belongs to the Vienna Woods. The *Salvio-Festucetum rupicolae* is very similar to the *Astragalo exscapi-Crambetum* Klika 1939 and was treated as

Table 11. Synoptic table of the *Carex humilis* grasslands of the Vienna Woods and the Western Carpathians. 1: *Scorzonero austriacae-Caricetum humilis* (Sa-C; Table 2, col. 4 in this paper); 2: *Orthantho luteae-Caricetum humilis* (Ol-C; JANIŠOVÁ & DÚBRAVKOVÁ 2010: Table 3, col. 3); 3: *Festuco pallentis-Caricetum humilis* (Fp-C; JANIŠOVÁ & DÚBRAVKOVÁ 2010: Table 3, col. 2); 4: *Poo badensis-Caricetum humilis* (Pb-C; JANIŠOVÁ & DÚBRAVKOVÁ 2010: Table 3, col. 5). Countries: AT: Austria, SK: Slovakia. Values are percentage constancies. Diagnostic species are shaded. Other species are only shown if they reach 60% constancy in at least one column. Within groups, the species are sorted by decreasing frequency.

Tabelle 11. Synoptische Tabelle der *Carex humilis*-Rasen des Wienerwalds und der Westkarpaten. Legende der Spaltennummern siehe oben. AT: Österreich, SK: Slowakei. Die Werte geben die Stetigkeit in Prozent wieder. Diagnostische Arten sind grau hinterlegt. Weitere Arten sind nur dargestellt, wenn sie zumindest in einer Spalte 60 % Stetigkeit erreichen. Innerhalb der Gruppen sind die Arten nach abfallender Häufigkeit sortiert.

Column number	1	2	3	4
Country	AT	SK	SK	SK
Number of relevés	76	20	57	41
Association	Sa-C	Ol-C	Fp-C	Pb-C
Scorzonero austriacae-Caricetum humilis				
Dorycnium pentaphyllum agg.	96	25	35	20
Inula ensifolia	96	35	42	39
Bupleurum falcatum	88	10	19	20
Bromus erectus	84	20	4	2
Pulsatilla grandis	76	5	12	12
Aster linosyris	75	.	.	.
Chamaecytisus ratisbonensis	72	.	.	.
Seseli annuum	66	20	.	2
Scabiosa canescens	63	.	.	.
Sesleria albicans	61	15	16	7
Globularia cordifolia	54	.	.	.
Adonis vernalis	53	.	.	.
Odontites luteus	53	15	.	.
Prunella grandiflora	53	25	.	.
Inula hirta	46	.	16	2
Seseli hippomarathrum	42	.	.	.
Scorzonera purpurea	38	.	.	.
Leontodon hispidus	32	10	.	2
Senecio jacobaea	30	.	.	.
Aster amellus	22	.	.	.
Peucedanum cervaria	22	5	2	.
Polygala chamaebuxus	22	.	.	.
Orthantho luteae-Caricetum humilis				
Potentilla heptaphylla	.	95	40	.
Hippocrepis comosa	4	90	19	10
Dianthus carthusianorum agg.	7	55	2	17
Carex caryophyllea	4	50	7	10
Bromus monocladus	.	45	2	.
Knautia kitaibelii	.	40	.	.
Viola hirta	14	40	5	17
Salvia verticillata	5	35	4	2
Trifolium montanum	5	35	.	.
Polygala major	8	30	.	2
Galium pumilum agg.	4	25	4	.
Ranunculus bulbosus	.	20	4	7

Column number	1	2	3	4
Scorzonero austriacae-Caricetum humilis & Orthantho luteae-Caricetum humilis				
Plantago media	71	85	5	.
Festuca rupicola	68	80	5	10
Genista pilosa	76	70	33	7
Pimpinella saxifraga agg.	70	70	18	12
Centaurea scabiosa	74	60	18	7
Thesium linophyllon	83	45	7	12
Lotus corniculatus agg.	51	65	4	10
Brachypodium pinnatum	42	65	2	7
Linum catharticum	50	45	5	2
Briza media	50	35	.	.
Carlina acaulis	42	40	7	.
Festuco pallentis-Caricetum humilis				
Alyssum montanum	.	10	65	29
Fumana procumbens	16	.	63	.
Silene otites s.lat.	3	.	42	5
Stipa joannis	16	.	35	12
Arenaria serpyllifolia agg.	1	5	30	15
Sedum album	.	.	30	2
Campanula rotundifolia agg.	3	10	26	5
Poo badensis-Caricetum humilis				
Stachys recta	12	5	16	51
Allium flavum	11	.	23	51
Eryngium campestre	18	.	9	44
Festuca valesiaca	4	5	14	41
Acinos arvensis	.	5	18	39
Verbascum lychnitis	.	.	.	39
Echium vulgare	1	10	12	37
Artemisia campestris	.	.	5	37
Lactuca perennis	.	.	.	37
Asplenium ruta-muraria	.	.	5	34
Sedum acre	.	5	7	32
Veronica spicata	.	10	9	29
Veronica austriaca	.	.	4	20
Festuco pallentis-Caricetum humilis & Poo badensis-Caricetum humilis				
Festuca pallens	.	10	81	59
Seseli osseum	.	15	65	71
Campanula sibirica	1	.	37	78
Jovibarba globifera s.lat.	1	15	44	66
Melica ciliata	4	5	42	61
Poa badensis	.	.	23	54
Stipa pulcherrima	8	5	25	32
Other differential species				
Linum tenuifolium	76	35	81	20
Scorzonera austriaca	57	.	53	7
Allium senescens ssp. montanum	33	5	23	10
Thymus pannonicus agg.	56	.	2	49
Leontodon incanus	43	50	72	.
Salvia pratensis	34	60	9	44
Helianthemum canum	61	10	37	29
Globularia punctata	7	80	68	5
Hieracium pilosella	11	30	42	5
Thymus praecox	13	55	95	32
Hieracium bauhinii	1	40	51	32
Koeleria macrantha	8	50	23	46

Column number	1	2	3	4
Constant non-differential species				
Carex humilis	97	100	100	100
Teucrium chamaedrys	71	80	54	95
Euphorbia cyparissias	68	80	75	68
Sanguisorba minor	87	80	95	27
Asperula cynanchica	78	65	68	73
Helianthemum nummularium s.lat.	84	70	68	59
Anthericum ramosum	80	75	63	56
Teucrium montanum	79	30	88	73
Potentilla incana	67	20	54	100
Anthyllis vulneraria	78	65	51	37
Scabiosa ochroleuca	67	25	39	44

a synonym of the latter by MUCINA & KOLBEK (1993). However, they do not mention the locality Eichkogel in their description of *Astragalo exscapi-Crambetum*. The numerical classification of a large supra-national data set suggested that these two communities should be treated as separate associations (DÚBRAVKOVÁ et al. 2010). Although we were not able to reproduce this result in our own TWINSPAN classification (both types were mixed together in TPA clusters 23f–g, see WILLNER et al. 2013), we accept the *Salvio nemorosae-Festucetum rupicolae* as a separate unit because *Astragalus exscapus* and *Crambe tataria* are both indicators of disturbed sites (CHYTRÝ 2007: 425) and are absent from the majority of Pannonian loess grasslands. However, a definite solution to this question remains a task for

Fig. 4. Stand of the *Salvio nemorosae-Festucetum rupicolae* on the hill Eichkogel near Mödling (Photo: N. Sauberer, 21 May 2012).

Abb. 4. Bestand des *Salvio nemorosae-Festucetum rupicolae* am Eichkogel bei Mödling (Foto: N. Sauberer, 21.05.2012).

future studies. The best examples of loess grasslands in Austria can be found in Weinviertel. Supra-regional differential species against the *Stipo capillatae-Festucetum valesiacae* are *Salvia nemorosa, Astragalus austriacus, Taraxacum serotinum, Bromus inermis, Viola ambigua, Seseli pallasii, Oxytropis pilosa, Chamaecytisus austriacus* and others. Most of these species also occur on Eichkogel.

(2.3) *Medicagini-Festucetum valesiacae* Wagner 1941
(Table 2: 7)
Typus: WAGNER (1941, Assoziationstabelle 2, rel. 5) (lectotypus MUCINA & KOLBEK 1993).

In his classical paper on the dry grasslands along the Eastern margin of the Alps, WAGNER (1941) included all *Festuca valesiaca* grasslands in a new association *Medicagini-Festucetum valesiacae*. He distinguished three subassociations: *M.-F. helianthemetosum cani* (which includes the nomenclatural type of the association), *M.-F. iridetosum pumilae*, and *M.-F. agropyretosum repentis*. We include the *M.-F. iridetosum pumilae* in the *Stipo capillatae-Festucetum valesiacae* (see above) as already suggested by MUCINA & KOLBEK (1993). However, the syntaxonomic position of the two other subassociations is less obvious. The *M.-F. helianthemetosum cani* contains a lot of *Seslerio-Festucion pallentis* species. Unlike the *Stipo capillatae-Festucetum valesiacae*, it occurs on dolomite soils, which probably have a higher content of clay than those of the *Seslerio-Festucion pallentis.* The relevés of this subassociation were divided between the TPA clusters 8 (corresponding to *Fumano-Stipetum eriocaulis*) and 23e (corresponding to *Stipo capillatae-Festucetum valesiacae*), indicating its transitional position. Also the summarised cover of diagnostic species gives ambiguous results, probably depending on the delimitation of the relevé plots. The *M.-F. agropyretosum repentis*, which was considered as another association *Poo angustifoliae-Festucetum valesiacae* by MUCINA & KOLBEK (1993), is only weakly differentiated. At least the two relevés from the Vienna Woods can easily be included in the *Medicagini-Festucetum valesiacae*.
However, these considerations are rather academic because the whole community has almost completely disappeared. Only small patches of a few square meters can be found which still resemble Wagner's original description, usually along tourist paths where the vegetation is frequently trampled. Most of its former localities have been overgrown by woodland. The only author who documented the *Medicagini-Festucetum valesiacae* after WAGNER (1941) was REICHENBERGER (1990). This stand has become a *Polygalo-Brachypodietum* in the meanwhile. Trampling by humans or grazing animals was probably the most important factor for the maintenance of this community as *Festuca valesiaca* is very resistant to trampling while it is readily outcompeted when higher grass and herb species become dominant.

(3.1) *Polygalo-Brachypodietum pinnati* Wagner 1941
(Table 2: 8, Table 4, Fig. 5)
(Incl. *Globulario punctatae-Caricetum michelii* Karrer 1985)
Typus: WAGNER (1941, Assoziationstabelle 3, rel. 3) (lectotypus hoc loco).

This community includes the semi-dry grasslands on base-rich soils (TPA clusters 25–28). It is rich in xero-thermophilous species such as *Dorycnium germanicum, Eryngium campestre, Bupleurum falcatum, Scabiosa ochroleuca, Asperula cynanchica, Peucedanum cervaria, Seseli annuum, Inula ensifolia, Stachys recta, Thymus odoratissimus, Potentilla incana, Chamaecytisus ratisbonensis, Aster linosyris, Aster amellus, Carex humilis, Pulsatilla grandis* and others, which differentiate against the two following associations. The dominant species is usually *Bromus erectus* (total cover: 27%). Higher cover of *Brachypodium pinna-*

tum usually indicates abandonment but might also be a result of past overgrazing. According to WAGNER (1941), mowing was the prevailing management practice at this time. Without management, these grasslands develop rather fast into fringe communities and subsequently into woodland. The *Polygalo-Brachypodietum* is widespread in the Pannonian region, but its precise delimitation is not yet clear (ILLYÉS et al. 2007). In the Vienna Woods, it is mostly confined to the calcareous south-eastern part. A few localities are known from the northern margin of the Flysch zone, where it occurs on calcareous sandstone. The *Globulario punctatae-Caricetum michelii*, described by KARRER (1985b) from the southern Vienna Woods, has to be included in this association (and not in the *Euphorbio verrucosae-Caricetum montanae* as was suggested by MUCINA & KOLBEK 1993). The type relevé of the *Globulario punctatae-Caricetum michelii* has the highest alpha diversity among the grasslands in the Vienna Woods: 99 vascular plant species on 30 m² were recorded in this plot (KARRER 1985b: Table 10, rel. 9).

(3.2) *Filipendulo vulgaris-Brometum erecti* Hundt & Hübl ex Willner ass. nov. hoc loco
(Table 2: 9, Table 4, Fig. 6)
(Syn.: *Filipendulo-Mesobrometum* Hundt & Hübl 1983 nom. inval. [Art. 3h of the ICPN (3rd ed.; WEBER et al. 2000)], *Onobrychido viciifoliae-Brometum* auct. non Müller 1966, *Cirsio pannonici-Brometum* Steinbuch 1995 nom. inval. [Art. 5])
Typus: HUNDT & HÜBL (1983, Table 4) (holotypus).

Semi-dry grasslands with a more mesic species composition are found on loamy, less base-rich soils (TPA cluster 30 p.p.). The stands are usually strongly dominated by *Bromus erectus* (total cover: 37%). This is the prevailing type of semi-dry grasslands in the Flysch zone, but it also occurs in the limestone part of the Vienna Woods, especially over clay-rich substrates such as the Gosau Formation. Despite its wide distribution in the region, this community type has not been given much attention in the literature. WAGNER (1941) mentioned it as" *Lathyrus pannonicus-Bromus erectus*-Ass. prov.", and HUNDT & HÜBL (1983) published a single relevé under the invalid name *Filipendulo-Mesobrometum*. MUCINA & KOLBEK (1993) included the latter in the *Onobrychido viciifoliae-Brometum* Müller 1966 (alliance *Bromion erecti*). However, since we consider these grasslands as belonging to the *Cirsio-Brachypodion* (see WILLNER et al. 2013), this solution is no option. Similar grasslands occur in the Western Carpathians, where they are currently also classified as *Onobrychido viciifoliae-Brometum* (JANIŠOVÁ 2007, ŠKODOVÁ et al. 2011). The *Cirsio pannonici-Brometum*, which was (invalidly) described by STEINBUCH (1995) from south-eastern Styria, most probably belongs here, too. As no valid name seems to be available for this unit, we validate here the name of HUNDT & HÜBL (1983). Against the following association, the *Filipendulo vulgaris-Brometum* is only negatively differentiated. A comparison of these two units with the original diagnosis of the name *Onobrychido viciifoliae-Brometum* (MÜLLER 1966) and typical *Bromion erecti* grasslands of western Austria (MACHOLD 1996) is given in Table 12.

(3.3) *Euphorbio verrucosae-Caricetum montanae* Karrer 1985
(Table 2: 10, Table 4, Fig. 7)
Typus: KARRER (1985b, Tables 9 and 10, rel. 2) (holotypus).

In the same TPA cluster as the previous association, another type of semi-dry grasslands was included which is differentiated by the presence of species indicating nutrient-poor and moderately acidic soils (*Carex montana, Euphorbia verrucosa, Galium boreale* etc.). This

Fig. 5. Stand of the *Polygalo-Brachypodietum* on the hill Eichkogel near Mödling (Photo: N. Sauberer, 7 June 2012).

Abb. 5. Bestand des *Polygalo-Brachypodietum* am Eichkogel bei Mödling (Foto: N. Sauberer, 07.06.2012).

Fig. 6. Stand of the *Filipendulo vulgaris-Brometum* in Maria Enzersdorf (Photo: N. Sauberer, 8 June 2012).

Abb. 6. Bestand des *Filipendulo vulgaris-Brometum* in Maria Enzersdorf (Foto: N. Sauberer, 08.06.2012).

Fig. 7. Stand of the *Euphorbio verrucosae-Caricetum montanae* in Altenmarkt an der Triesting (Photo: N. Sauberer, 18 May 2012).

Abb. 7. Bestand des *Euphorbio verrucosae-Caricetum montanae* in Altenmarkt an der Triesting (Foto: N. Sauberer, 18.05.2012).

association was described from Terra fusca soils on limestone, but the majority of the documented localities belong to the Flysch part of the Vienna Woods. The soil moisture is rather variable across seasons, with short wet and longer dry phases (intermittently dry, German "*wechseltrocken*"). It is one of the most species-rich grassland types of the region, with an average of 53 species per plot. The plots with the second and third highest recorded vascular plant species richness (92 species on 64 m², and 83 species on 35 m², respectively) belong to this association. At the same time, it is also one of the most endangered grassland types in the study area. Several of the documented stands were fertilised during the last decades and thus have become less species-rich grasslands belonging to *Filipendulo-Brometum* or even *Filipendulo-Arrhenatheretum*.

The *Euphorbio verrucosae-Caricetum montanae* is very similar to the *Brachypodio-Molinietum* Klika 1939 of the White Carpathians (CHYTRÝ 2007, ŠKODOVÁ et al. 2011), but the latter contains a few species which are absent or extremely rare in the Vienna Woods (*Astragalus danicus, Cruciata glabra, Pulmonaria angustifolia, Veronica orchidea*), so we refrain from uniting these two associations for now.

(4.1) *Anthoxantho-Agrostietum tenuis* Sillinger 1933
(Table 2: 11–12, Table 5)
(Incl. *Campanulo rotundifoliae-Dianthetum deltoidis* Balátová-Tuláčková 1980)

On acidic, nutrient-poor soils in the Flysch zone of the Vienna Woods, grasslands with a peculiar combination of *Festuco-Brometea, Molinio-Arrhenatheretea* and *Calluno-Ulicetea* species can be found. Higher cover reach *Festuca rubra* agg. (total cover: 6.8%), *Anthoxan-*

Table 12. Comparison of the *Filipendulo vulgaris-Brometum* and *Euphorbio verrucosae-Caricetum montanae* of the Vienna Woods and *Bromion erecti* communities of SW Germany and W Austria. 1: *Onobrychido viciifoliae-Brometum* (original diagnosis – MÜLLER 1966: Table 20); 2: *Mesobrometum erecti* (MACHOLD 1996: Table 5); 3: *Filipendulo vulgaris-Brometum* (this paper: Table 2, col. 9); 4: *Euphorbio verrucosae-Caricetum montanae* (this paper: Table 2, col. 10). Countries: DE: Germany, AT: Austria. Values are percentage constancies. Diagnostic species are shaded. Other species are only shown if they reach 60% constancy in at least one column. Within groups, the species are sorted by decreasing frequency. Diagnostic species of *Bromion erecti* and *Cirsio-Brachypodion* according to DENGLER (2003: Table 29) are marked with (b) and (c), respectively.

Tabelle 12. Vergleich zwischen *Filipendulo vulgaris-Brometum* und *Euphorbio verrucosae-Caricetum montanae* des Wienerwalds und *Bromion erecti*-Gesellschaften in Südwest-Deutschland und West-Österreich. Legende der Spaltennummern siehe oben. DE: Deutschland, AT: Österreich. Die Werte geben die Stetigkeit in Prozent wieder. Diagnostische Arten sind grau hinterlegt. Weitere Arten sind nur dargestellt, wenn sie zumindest in einer Spalte 60 % Stetigkeit erreichen. Innerhalb der Gruppen sind die Arten nach abfallender Häufigkeit sortiert. Diagnostische Arten von *Bromion erecti* und *Cirsio-Brachypodion* nach DENGLER (2003: Table 29) sind mit (b) bzw. (c) gekennzeichnet.

Column number	1	2	3	4
Country	DE	AT	AT	AT
Number of relevés	22	32	145	53
Bromion erecti				
Sanguisorba minor	82	91	19	23
Anthyllis vulneraria	59	59	19	25
Koeleria pyramidata (b)	23	59	15	26
Thymus pulegioides	91	47	8	15
Campanula rotundifolia	95	59	3	9
Scabiosa columbaria (b)	77	91	.	2
Festuca guestfalica (b)	100	69	.	.
Prunella grandiflora	41	81	3	9
Hippocrepis comosa (b)	.	72	.	.
Gymnadenia conopsea (b)	9	38	1	2
Gentianopsis ciliata (b)	36	.	.	4
Gentianella germanica (b)	18	.	.	.
Cirsio-Brachypodion				
Festuca rupicola (c)	.	3	65	62
Filipendula vulgaris	.	.	54	77
Vicia cracca agg.	.	6	54	62
Veronica chamaedrys agg.	.	6	46	57
Rhinanthus minor	.	.	49	49
Ononis spinosa	5	3	36	60
Fragaria viridis	.	.	37	45
Cirsium pannonicum	.	.	30	62
Colchicum autumnale	18	.	28	40
Medicago falcata (c)	5	6	31	26
Ranunculus acris	9	.	28	38
Thesium linophyllon (c)	.	.	23	51
Stellaria graminea	.	.	18	34
Salvia verticillata (c)	.	3	15	6
Potentilla alba	.	.	7	30
Polygala major	.	.	8	15
Lathyrus pannonicus	.	.	6	19
Hypochaeris maculata (c)	.	.	6	6
Potentilla incana (c)	.	.	6	2
Hieracium bauhinii (c)	.	.	1	4

Column number	1	2	3	4
Euphorbio verrucosae-Caricetum montanae				
Betonica officinalis	.	91	19	64
Carex montana	9	91	1	55
Galium boreale	.	3	7	53
Euphorbia verrucosa	.	.	13	43
Trifolium ochroleucon	.	.	1	15
Other species				
Bromus erectus (b)	100	100	100	100
Plantago lanceolata	82	94	91	94
Dactylis glomerata	77	63	89	91
Lotus corniculatus	100	91	78	79
Achillea millefolium agg.	86	47	86	85
Salvia pratensis	82	81	76	81
Knautia arvensis	100	63	74	66
Leontodon hispidus	55	81	70	81
Briza media	95	100	57	87
Centaurea jacea	91	84	65	64
Trifolium pratense	50	66	71	66
Trifolium montanum (c)	50	66	63	77
Leucanthemum vulgare agg.	82	56	60	72
Plantago media	91	50	60	64
Avenula pubescens	68	3	65	70
Pimpinella saxifraga	68	91	52	51
Centaurea scabiosa	77	88	51	49
Trisetum flavescens	32	13	62	64
Galium verum	14	72	46	70
Poa pratensis	77	.	57	53
Primula veris	50	59	39	77
Anthoxanthum odoratum	50	84	37	64
Viola hirta	18	44	42	70
Linum catharticum	73	91	29	49
Ranunculus bulbosus (b)	95	13	42	49
Daucus carota	86	53	36	43
Galium mollugo agg.	77	19	43	47
Medicago lupulina	86	9	43	38
Helianthemum nummularium	.	78	32	28
Onobrychis viciifolia	77	25	37	15
Buphthalmum salicifolium	.	75	20	43
Ranunculus polyanthemos agg.	.	72	20	38
Polygala comosa	68	16	17	21
Galium pumilum	.	63	12	23
Potentilla erecta	.	78	5	21
Allium carinatum	.	88	2	13
Polygala vulgaris	.	66	5	15
Column number	1	2	3	4
Vicia sepium	82	.	6	8
Abietinella abietina	32	69	?	?
Brachypodium rupestre	.	72	.	.
Avenula pratensis	.	66	1	.
Thuidium delicatulum	.	72	?	?
Rhinanthus glacialis	.	63	.	.

thum odoratum (6.2%), *Agrostis capillaris* (5.2%), *Holcus lanatus* (4.8%), *Bromus erectus* (4.8%), and *Nardus stricta* (3.9%). There are two subtypes which differ in soil moisture: The drier one (4.1a) (TPA cluster 29) is floristically related to the *Euphorbio verrucosae-Caricetum montanae*, while the wetter subtype (4.1b) (TPA cluster 35 p.p.; cluster F–G) is more closely related to the *Succiso-Molinietum* (association 7.1). However, we consider both subtypes as belonging to the same association, the *Anthoxantho-Agrostietum tenuis* sensu lato, which is reported for Austria here for the first time. We do not formally describe two subassociations since the association is probably in need of a supra-national revision. In particular, its delimitation towards the *Campanulo rotundifoliae-Dianthetum deltoidis* is unclear, although these two associations are usually placed in different alliances and even in different classes (see Appendix S4 and section 4.4).

(5.1) *Ranunculo bulbosi-Arrhenatheretum* Ellmauer 1993
(Table 2: 13, Table 6)
(Syn.: *Filipendulo vulgaris-Arrhenatheretum* Hundt & Hübl 1983 nom. inval. p.p. ["Subass. von *Centaurea scabiosa*"])
Typus: ELLMAUER & MUCINA 1993, p. 346 (holotypus).

The *Arrhenatherum* meadows of the Vienna Woods can be divided into three units. Two of them represent less nutrient-rich types used with intermediate intensity, which correspond to the TWINSPAN clusters H–I (association 5.2) and J–M (association 5.1). They are differentiated from the more nutrient-rich type (cluster D, association 5.3) by a group of *Festuco-Brometea* species (*Bromus erectus, Brachypodium pinnatum, Primula veris, Ranunculus bulbosus, Salvia pratensis, Trifolium montanum, Campanula glomerata* etc.). Many of these meadows are only rarely fertilised or not at all. Within this less nutrient-rich group, the *Ranunculo bulbosi-Arrhenatheretum* represents the type on base-rich, usually calcareous, and drier soils. It is mainly distributed in the limestone part of the Vienna Woods but also occurs on base-rich substrates in the Flysch zone.
The *Ranunculo bulbosi-Arrhenatheretum* is a widespread community in Central Europe (CHYTRÝ 2007, JANIŠOVÁ 2007). DIERSCHKE (1997) included it as "Subass.-Gr. von *Briza media*" in a broadly defined *Arrhenatheretum elatioris*, but according to our association concept, the less nutrient-rich *Arrhenatherum* meadows have to be treated as separate units. The diagnostic species given by ELLMAUER & MUCINA (1993) could only partly be confirmed, and probably the delimitation of this association is in need of a revision (see also next association).

(5.2) *Filipendulo vulgaris-Arrhenatheretum* Hundt & Hübl ex Ellmauer 1995
(Table 2: 14, Table 6, Fig. 8)
(Syn.: *Filipendulo vulgaris-Arrhenatheretum* Hundt & Hübl 1983 nom. inval. [Art. 5] p.p. ["typische Subass."])
Typus: HUNDT & HÜBL (1983, Table 1, rel. 3) (lectotypus ELLMAUER 1995).

This association includes the less nutrient-rich *Arrhenatherum* meadows on non-calcareous Flysch substrates. The soils are intermittently dry (with short wet and longer dry phases) but the moisture supply is usually better than in the corresponding semi-dry grasslands. *Bromus-erectus* can reach high cover (total cover: 13%) which occasionally even exceeds that of *Arrhenatherum elatius* (total cover: 16%). Floristically there is a continuous transition be-

Fig. 8. Stand of the *Filipendulo vulgaris-Arrhenatheretum* in the Gütenbach valley, Vienna (Photo: W. Willner, 12 June 2010).

Abb. 8. Bestand des *Filipendulo vulgaris-Arrhenatheretum* im Gütenbachtal, Wien (Foto: W. Willner, 12.06.2010).

tween the *Filipendulo-Brometum* and the *Filipendulo-Arrhenatheretum*. Quite often the latter occurs in the lower part of slopes, which have a better moisture supply, and the *Filipendulo-Brometum* in the upper part of the same slopes.

The *Filipendulo-Arrhenatheretum* is the most widespread *Arrhenatherion* community in the Vienna Woods. Unlike the *Ranunculo bulbosi-Arrhenatheretum*, however, this association has rarely been reported from other regions, although similar grasslands exist, e.g., in the White Carpathians. The *Pastinaco-Arrhenatheretum* sensu ŠKODOVÁ et al. (2011) mostly corresponds to the *Filipendulo-Arrhenatheretum*. In the TWINSPAN classification of the mesic meadows of the Vienna Woods, this unit formed a common group with the *Ranunculo bulbosi-Arrhenatheretum* (see above) while in the TPA, it was in the same cluster as the *Pastinaco-Arrhenatheretum* and *Ranunculo repentis-Alopecuretum* (WILLNER et al. 2013). We think that the *Filipendulo-Arrhenatheretum* is more closely related to the *Ranunculo bulbosi-Arrhenatheretum* and might even be treated as a subassociation of the latter, but this question can only be answered by a supra-regional comparison.

(5.3) *Pastinaco-Arrhenatheretum* Passarge 1964
(Table 2: 15, Table 7)

In *Arrhenatherum* meadows on very nutrient-rich soils, the *Festuco-Brometea* species are absent or have only negligible cover (< 1%). This grassland type, the *Pastinaco-Arrhenatheretum*, is probably the central association of the *Arrhenatherion*. It corresponds to the TWINSPAN cluster D. The community is widespread in Central Europe, but in the study region it is less common than the previous two associations. Most sites have been strongly fertilised in the past, and some are former arable land that has been transformed into mead-

ows. The stands are mown twice or thrice a year. If the first mowing takes place too early, *Arrhenatherum* declines in cover and can even completely disappear. Such meadows are usually dominated by *Trisetum flavescens*, and their species composition is similar to the *Poo-Trisetetum* Knapp ex Oberdorfer 1957. However, the status of this association is doubtful and its diagnostic species are not clear (see, e.g., Table 5 in CHYTRÝ 2007), so we included all these relevés in the *Pastinaco-Arrhenatheretum*.
CHYTRÝ (2007) identifies this association with the *Arrhenatheretum* Braun 1915, which was described from the Cévennes in southern France (see also KLESCZEWSKI 2000), but rejects the latter name as *nomen ambiguum propositum*. In our opinion, it is premature to decide whether the *Arrhenatheretum* Braun 1915 belongs to the same association as Central European *Arrhenatherum* meadows. Therefore, we keep the name *Pastinaco-Arrhenatheretum*, which is well established in all countries of eastern Central Europe.

(5.4) *Ranunculo repentis-Alopecuretum pratensis* Ellmauer 1993
(Table 2: 16, Table 7, Fig. 9)
(Syn.: *Filipendulo vulgaris-Arrhenatheretum* Hundt & Hübl 1983 nom. inval. p.p. ["Subass. von *Cirsium oleraceum*"])
Typus: ELLMAUER & MUCINA 1993, p. 348 (holotypus)

In meadows on intermittently wet soils (i.e., with longer wet and short dry phases), *Arrhenatherum elatius* is usually absent, and *Alopecurus pratensis* is the dominant grass species (total cover: 20%). Occasionally, *Poa trivialis* (total cover: 8%) or *Holcus lanatus* (total

Fig. 9. Stand of the *Ranunculo repentis-Alopecuretum pratensis* near Mauerbach (Photo: M. Staudinger, 22 May 2010).

Abb. 9. Bestand des *Ranunculo repentis-Alopecuretum pratensis* bei Mauerbach (Foto: M. Staudinger, 22.05.2010).

cover: 6%) are dominant. Differential species against the *Pastinaco-Arrhenatheretum* are species of wet meadows, such as *Ranunculus repens, Ajuga reptans, Lysimachia nummularia, Lychnis flos-cuculi, Carex hirta, Cirsium canum, Cirsium oleraceum* and others. The majority of stands probably developed from *Molinion* meadows after fertilisation. Some of them are rather intensively used.
This association corresponds to the TWINSPAN cluster E. Its assignment to the *Arrhenatherion* is not fully convincing as *Alopecurus pratensis* is usually considered a diagnostic species of the *Cnidion* or *Deschampsion cespitosae* s. lat. (e.g., BERG et al. 2004, JANIŠOVÁ 2007). However, as this question can only be answered in a large-scale comparison, we follow the original assignment of ELLMAUER & MUCINA (1993) here.

(6.1) *Plantagini-Lolietum* Beger 1932 nom. invers. propos.
(Table 2: 17)
(Syn.: *Lolietum perennis* Gams 1927 nom. inval. [Art. 3d])

This association is only poorly documented from them Vienna Woods, and the few relevés included here were rather sampled by chance. It occurs along paths, on playgrounds, and other sites which are nutrient-rich and frequently trampled. Intensively used, frequently mown meadows also belong here.
In the TWINSPAN classification of mesic grasslands, the *Plantagini-Lolietum* formed a group with *Arrhenatherum* meadows which are differentiated by the presence of ruderal species such as *Elymus repens* (sometimes co-dominant)*, Artemisia vulgaris, Cirsium arvense, Convolvulus arvensis* and others (clusters A–C). These ruderal grasslands correspond to the association *Tanaceto-Arrhenatheretum* Fischer 1985. However, the syntaxonomic position of this unit is not clear, as it has strong floristic relations to the *Artemisietea vulgaris*. More material would be necessary to evaluate both community types.

(6.2) *Cynosuro-Lolietum* Br.-Bl. & De Leeuw 1936

Mesic pastures are very rare in the study area, and there was only one plot that could be identified with this community (see below). It was included in cluster D (TPA cluster 34). However, more occurrences of the *Cynosuro-Lolietum* in the region are very likely, at least in the westernmost part of the Vienna Woods.

H. Rötzer, 2010/06/11, Gerichtsberg, 48.03897° N, 15.85661° E, 722 m, E, 5°; plot size: 25 m²; cover of herb layer: 80%. Bryophytes not recorded. TURBOVEG number 335090.
Trifolium repens 3, *Trisetum flavescens* 2a, *Dactylis glomerata* 2a, *Poa trivialis* 2a, *Cynosurus cristatus* 1, *Carum carvi* 1, *Plantago lanceolata* 1, *Trifolium pratense* 1, *Taraxacum officinale* agg. 1, *Ranunculus acris* 1, *Lolium perenne* +, *Achillea millefolium* agg. +, *Ajuga reptans* +, *Alchemilla monticola* +, *Arenaria serpyllifolia* +, *Cruciata laevipes* +, *Lathyrus pratensis* +, *Rumex acetosa* +, *Rumex obtusifolius* +, *Veronica chamaedrys* agg. +, *Vicia cracca* +, *Urtica dioica* +, *Vicia sepium* r.

(7.1) *Succiso-Molinietum caeruleae* (Kovács 1962) Soó 1969
(Table 2: 18, Table 8)

On nutrient-poor, intermittently wet soils, *Molinia* meadows with both *M. caerulea* and *M. arundinacea* are developed (TPA clusters 35 p.p., 45–48). This grassland type was probably more common in the past, but only few remnants can be found anymore in the Vienna Woods. These remnants are very similar to the *Molinia* meadows of the Vienna Basin, which is the *locus classicus* of the *Succiso-Molinietum caeruleae* (WAGNER 1950, ELLMAUER &

MUCINA 1993). The unit is only known from the Flysch part of the Vienna Woods, and 50% of the stands are located within the political borders of Vienna. Most of them are found in the "Lainzer Tiergarten" (a large protected area in the south-west of Vienna), including the most species-rich plot of a wet meadow in the Vienna Woods, with 77 vascular plant species on 30 m² (LEPUTSCH 1997, rel. 69).

(8.1) *Cirsietum rivularis* Nowiński 1928
(Table 2: 19, Table 8, Fig. 10)
(Incl. *Valeriano-Cirsietum oleracei* Kuhn 1937, *Cirsio-Brometum racemosi* Hundt & Hübl 1983)

In contrast to the previous association, nutrient-rich wet meadows of the *Calthion* are still relatively widespread in the Vienna Woods. The most characteristic species of these meadows is *Cirsium rivulare* (total cover 13%). The soil has a good water supply throughout the year, without pronounced phases of drought. Other conspicuous plants of this grassland type are *Trollius europaeus* and *Dactylorhiza majalis*, which make the stands very attractive during flowering time. The *Cirsietum rivularis* corresponds to the TPA clusters 35 p.p. and 54.

Fig. 10. Meadow with a strong moisture gradient and three different associations: *Caricetum davallianae* (in the foreground, with the hairy inflorescences of *Eriophorum angustifolium*), *Cirsietum rivularis* (the narrow strip with the yellow flowers of *Ranunculus acris*) and *Filipendulo vulgaris-Brometum* (on the slope behind) (near Wolfsgraben, Photo: W. Willner, 6 June 2010).

Abb. 10. Wiese mit einem starken Feuchtegradienten: Im Vordergrund ein *Caricetum davallianae* (mit den wolligen Köpfen von *Eriophorum angustifolium*), daran anschließend ein schmaler Streifen von *Cirsietum rivularis* (kenntlich an den zahlreichen gelben Blüten von *Ranunculus acris*), und am Hang dahinter ein *Filipendulo vulgaris-Brometum* (bei Wolfsgraben, Foto: W. Willner, 06.06.2010).

Cirsium oleraceum is only a minor element in the *Calthion* meadows of the Vienna Woods (total cover: 6%). ELLMAUER & MUCINA (1993) mention the *Valeriano-Cirsietum oleracei* for this region but state at the same time that this association is very similar to the *Cirsietum rivularis* and probably has to be included in the latter. According to our results, the diagnostic species indicated by ELLMAUER & MUCINA (1993) for these two associations do not work at all, so we treat the *Valeriano-Cirsietum oleracei* as a synonym of the *Cirsietum rivularis* (see also BURKART et al. 2004).

(8.2) *Scirpetum sylvatici* Rałski 1931

This grassland type was documented by a single relevé which was included in TPA cluster 41. The plot was situated within a larger wet meadow, which mainly belonged to the *Cirsietum rivularis*. The patch dominated by *Scirpus sylvaticus* was located on a slope toe adjacent to a stream. The status of this association is disputed by BURKART et al. (2004).

W. Willner, 2010/06/09, Irenental, 48.21167° N, 16.10171° E, 340 m, S, 5°; plot size: 25 m²; cover of herb layer: 95%. Bryophytes not recorded. TURBOVEG number 335286.
Scirpus sylvaticus 4, *Poa trivialis* 2b, *Ranunculus repens* 2b, *Carex hirta* 2a, *Alopecurus pratensis* 1, *Festuca pratensis* 1, *Bromus racemosus* +, *Caltha palustris* +, *Galium palustre* +, *Holcus lanatus* +, *Lysimachia nummularia* +, *Ranunculus acris* +, *Rumex obtusifolius* +, *Taraxacum officinale* agg. +, *Trifolium dubium* +, *Trifolium pratense* +, *Trifolium repens* +, *Veronica beccabunga* +, *Cardamine pratensis* agg. r, *Cerastium holosteoides* r, *Lythrum salicaria* r, *Mentha aquatica* r.

(9.1) *Mentho-Juncetum inflexi* Lohmeyer ex Oberdorfer 1957 nom. invers. propos.
(Table 2: 20, Table 8)

This association occurs on frequently disturbed sites with very nutrient-rich, clayey soils and longer wet phases. It usually forms rather small patches within larger grasslands. Most stands are frequently trampled by animals. However, heavy tractors probably have a similar effect. The majority of the relevés originate from the "Lainzer Tiergarten", which harbours an extremely dense population of wild boar. Besides *Juncus inflexus* (total cover: 15%), *Carex distans* can also become dominant (total cover: 11%). The unit corresponds to the TPA cluster 59.
The *Mentho-Juncetum inflexi* is probably not the only association of the *Potentillion anserinae* in the study area but no relevés or observations of other community types are available.

(10.1) *Caricetum davallianae* Dutoit 1924
(Table 2: 21, Table 9, Fig. 10)

Fens on nutrient-poor sites are rare and scattered in the Vienna Woods, and some sites are not much bigger than one relevé plot. They have many species in common with the *Succiso-Molinietum* and the *Cirsietum rivularis*, to which they are sometimes in direct contact (Fig. 10). Among the most abundant species are *Carex davalliana* (total cover: 13%), *C. panicea* (total cover: 7%), *Eriophorum angustifolium* (total cover: 7%) and *Valeriana dioica* (total cover: 5%). The unit corresponds to the TPA clusters 57, 58 and 60.

(10.2) *Junco subnodulosi-Schoenetum nigricantis* Allorge 1921 nom. mut. et invers. prop.
(Table 2: 22, Table 9)
(Incl. *Juncetum subnodulosi* Koch 1926)

This community is documented from only three localities in the Vienna Woods. Two stands are dominated by *Juncus subnodulosus*, and one stand by *Schoenus nigricans*. All three relevés were included in different TPA clusters (46, 47 and 57, respectively). STEINER (1993) regards the *Juncetum subnodulosi* as a separate association, but the delimitation between these two units remains unclear.

4.4 Syntaxonomy of the *Anthoxantho-Agrostietum tenuis* and related communities

Association 4.1 has close floristic relations to both the *Anthoxantho-Agrostietum tenuis* Sillinger 1933 and the *Campanulo rotundifoliae-Dianthetum deltoidis* Balátová-Tuláčková 1980. However, the delimitation between these two units is not clear despite the fact that they are usually placed in different alliances and even in different classes (Appendix S4). In a DCA of the relevés of our study area and pre-classified data of both associations from the Czech Republic and Slovakia (Fig. 11), the dry variant of the Vienna Woods (unit 4.1a) was largely congruent with the *Anthoxantho-Agrostietum tenuis* in the sense of CHYTRÝ (2007). Both groups were situated the lower left part of the diagram, while the moist variant of the Vienna Woods (unit 4.1b) occupied the lower right part. The *Anthoxantho-Agrostietum tenuis* and *Campanulo rotundifoliae-Dianthetum deltoidis* of the White Carpathians (ŠKODOVÁ et al. 2011) showed a strong overlap both with each other and with the original diagnosis of the *Anthoxantho-Agrostietum tenuis* (Low Tatra mountains, SILLINGER 1933). All Slovak data were situated in the centre of the diagram, while the *Campanulo rotundifoliae-Dianthetum deltoidis* of the Czech data set occupied its upper part.

In the light of these findings, we preliminarily classified unit 4.1 within a broadly defined *Anthoxantho-Agrostietum tenuis*, but the syntaxonomy of this and related associations is clearly in need of a revision. This concerns not only the internal classification of the group but also its assignment to higher syntaxonomic units. While the *Campanulo rotundifoliae-Dianthetum deltoidis* is unanimously placed in the *Violion caninae* (CHYTRÝ 2007, JANIŠOVÁ 2007), the syntaxonomic position of the *Anthoxantho-Agrostietum tenuis* is less clear. CHYTRÝ (2007) placed it into the *Cynosurion*, JANIŠOVÁ (2007) and ROZBROJOVÁ et al. (2010) into the *Arrhenatherion*. LICHTENECKER et al. (2003) described a similar grassland type from the Austrian part of the Bohemian Massif (Waldviertel) as *Diantho deltoidis-Festucetum rubrae* and classified it within the alliance *Phyteumo-Trisetion*. DIERSCHKE (1997) united analogous grasslands as "*Festuca rubra-Agrostis tenuis*-Gesellschaft" and considered them as "fragmentary" *Arrhenatheretalia* community, but he did not assign this community to any alliance.

Here we propose to classify the *Anthoxantho-Agrostietum tenuis* s. lat. into the *Violion caninae*. This solution is, of course, provisional, not least because the delimitation of the class which the *Violion caninae* is assigned to varies considerably between authors (with or without dwarf shrub communities, with or without the subalpine *Nardion strictae*; see, e.g., MUCINA et al. 1993, THEURILLAT et al. 1995, PEPPLER-LISBACH & PETERSEN 2001). Depending on the adopted class concept, the diagnostic species of the *Calluno-Ulicetea/Nardetea strictae* will be different and thus have a higher or lower portion compared to the *Molinio-Arrhenatheretea* species. Moreover, several species usually considered as character species of the *Molinio-Arrhenatheretea*, such as *Plantago lanceolata, Rumex acetosa, Leucanthe-*

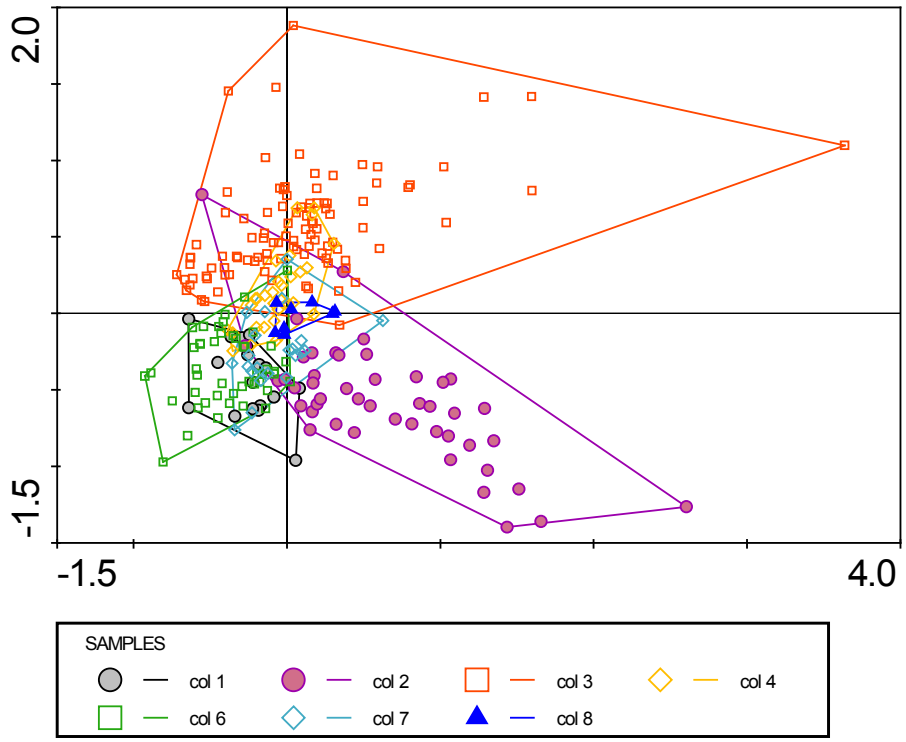

Fig. 11. DCA of the *Anthoxantho-Agrostietum* s. lat. in the study area and neighbouring countries (CZ: Czech Republic, SK: Slovakia). The columns in Appendix S4 are given as different symbols (see there for data sources); col. 1: dry variant (Vienna Woods); col. 2: moist variant (Vienna Woods); col. 3: *Campanulo rotundifoliae-Dianthetum deltoidis* (CZ); col. 4: *Campanulo rotundifoliae-Dianthetum deltoidis* (SK, White Carpathians); col. 6: *Anthoxantho-Agrostietum* (CZ); col. 7: *Anthoxantho-Agrostietum* (SK, White Carpathians); col. 8: *Anthoxantho-Agrostietum* (original diagnosis; SK, Low Tatra).

Abb. 11. DCA des *Anthoxantho-Agrostietum* s. lat. im Untersuchungsgebiet und Nachbarländern. Die Spalten in Anhang S4 sind durch unterschiedliche Symbole dargestellt (für Datenquellen siehe dort); col. 1: trockene Variante (Wienerwald); col. 2: feuchte Variante (Wienerwald); col. 3: *Campanulo rotundifoliae-Dianthetum deltoidis* (CZ); col. 4: *Campanulo rotundifoliae-Dianthetum deltoidis* (SK, Weiße Karpaten); col. 6: *Anthoxantho-Agrostietum* (CZ); col. 7: *Anthoxantho-Agrostietum* (SK, Weiße Karpaten); col. 8: *Anthoxantho-Agrostietum* (Originaldiagnose; SK, Niedere Tatra).

mum vulgare agg., *Holcus lanatus, Trifolium pratense, Ranunculus acris* or *Molinia caerulea* agg., regularly reach constancy values of >40% even in "classical" *Violion caninae* communities (see PEPPLER-LISBACH & PETERSEN 2001, CHYTRÝ 2007). If the *Anthoxantho-Agrostietum tenuis* and related associations is included in the *Calluno-Ulicetea/Nardetea strictae*, most of the aforementioned species would probably become shared differential species of this class and the *Molinio-Arrhenatheretea*. Obviously, a large-scale revision of the two classes is needed before a definite assignment of the *Anthoxantho-Agrostietum tenuis* can be achieved.

5. Conclusions

5.1 General thoughts on the process of vegetation classification

The Braun-Blanquet system aims at providing a universal classification of plant communities which is applicable on the local as well as on the global scale. This ambitious goal can only be reached by a stepwise process where results from both large-scale comparisons (e.g. ILLYÉS et al. 2007, DÚBRAVKOVÁ et al. 2010) and more detailed regional studies are integrated. While classifications of large data sets reveal the broad patterns of vegetation, which are reflected in the higher syntaxonomic units (classes, orders, alliances), regional studies are equally important for the delimitation of the basic units (the associations and subassociations). This does not mean that regionally described units should be treated as unchangeable components in supra-regional surveys. On the contrary, the association status of a regional unit can only be assessed by comparison on a broader geographical scale (see DENGLER 2003, WILLNER 2006). Moreover, local units which were originally considered as mere variants of an association, might be revealed to belong to different alliances or even classes, when examined from a global point of view. However, only the detailed classification of the plant communities within a relatively small area such as the Vienna Woods, where the syntaxonomic position of each single plot can be pondered, gives the Braun-Blanquet system the level of confidence and sharpness that is required for its application, e.g. in nature conservation and habitat mapping. The different levels of the syntaxonomic work can be compared to the construction of a house, where large-scale studies provide the general plan, but regional and local studies assure that the walls are smooth and have no holes. The first part of this series (WILLNER et al. 2013) surveyed a medium-sized wing of the building, while the present study, to stay with this picture, focused on a rather tiny room of the latter. However, even from this regional perspective major inconsistencies in the system of European grasslands could be detected (see section 4.4).

The development of a consistent syntaxonomic system of European grasslands (see DENGLER et al. 2013) will only be successful if unequivocal assignment criteria are provided for all vegetation units (DE CÁCERES & WISER 2012). These criteria should be designed in such way that the number of plots matching the definition of more than one unit or of none at all is minimized (DENGLER 2003, WILLNER 2011). In the present study, the summarised cover of diagnostic species proved to be an effective tool for this aim, although uncertainties in the diagnostic value of species for the higher syntaxa suggested using a more pragmatic hierarchy in the field determination key of the regional vegetation units (Appendix 1). Diagnostic species used for the assignment of relevés should not be uncritically derived from a single fidelity calculation (e.g., all species exceeding a certain phi coefficient) as the latter is inevitably affected by idiosyncrasies of the data set. We propose instead a supervised development of diagnostic species lists involving various data sources and approaches to calculate fidelity as well as expert knowledge about the ecological properties of the species (see also BECKER et al. 2012).

In addition to unambiguous floristic definitions, also the differences in site conditions and/or distribution areas among vegetation units should be provided as explicitly as possible (WILLNER 2006). Only a syntaxon that is defined by a certain species composition on the one hand and certain non-floristic characters on the other hand is a falsifiable hypothesis, thus making syntaxonomy a “real” science.

5.2 Nature conservation

The major part of the Vienna Woods was declared as landscape protection area in 1979, as Special Protection Area (Natura 2000 network of the European Union) in 2004, and as UNESCO Biosphere Reserve in 2005. Most grasslands are part of the so-called conservation zone of the Biosphere Reserve. In comparison to other regions of Austria, the meadows of the Vienna Woods are much less intensively used. The *Arrhenatherum* meadows are generally less fertilised and still rich in species. One explanation for this is that cattle are not very common in the Vienna Woods, and the hay is mostly fed to horses. Nevertheless, the most species rich semi-dry grasslands, the *Polygalo-Brachypodietum* and the *Euphorbio verrucosae-Caricetum montanae*, have strongly declined during the last decades, mainly due to abandonment and subsequent succession. There are several initiatives and projects which stem against this overall trend of abandonment on the one hand and intensification on the other hand. Numerous farmers have been involved in agri-environment schemes since 1995, and they have been paid for mowing and extensification of their meadows (e.g., reduction or cessation of fertilising). These measures decelerated the speed of the negative developments mentioned above. Since 2006, farmers are awarded for the best management of species-rich grasslands in a yearly, regional championship (*Wiesenmeisterschaft*). This competition raises the awareness for grasslands as habitats and old cultural heritage. Funding of the European Union could be used especially for the endangered dry and semi-dry grasslands. Between 2004 and 2008, the LIFE-Nature project "Pannonic Steppes and Dry Grasslands" successfully enlarged areas of dry grasslands through the means of acquisition of land, clearing of trees and shrubs, and initiating extensive pasturing with sheeps in some areas (http://www.steppe.at/en/index.html). In 2010, a project on dry grasslands was launched within the Rural Development Policy of the European Union. In the course of this project various measures were taken to improve the situation of dry and semi-dry grasslands in three municipalities at the easternmost border of the Vienna Woods.

Currently, a biotope mapping of all non-forest areas of the Biosphere Reserve Vienna Woods is conducted using the determination key presented in Appendix 1. This will provide detailed distribution maps of the grassland types within the Biosphere Reserve and a sound basis for their conservation as well as for the monitoring of future changes.

Erweiterte deutsche Zusammenfassung

Einleitung – Nachdem im ersten Teil dieser Serie ein allgemeiner Überblick über die pannonischen Rasengesellschaften Österreichs gegeben wurde (WILLNER et al. 2013), legen wir hier nun eine detaillierte Klassifikation für das Gebiet des Wienerwalds vor. Obwohl geographisch zu den Alpen gehörig, weist der Wienerwald enge floristische Beziehungen zum Pannonischen Becken auf. Die Wiesen und Trockenrasen dieser Region zählen zu den best erhaltenen in Österreich und dank der in den letzten zwanzig Jahren durchgeführten zahlreichen Freilanderhebungen auch zu den best dokumentierten. Allerdings lag bislang keine befriedigende Klassifikation dieser Pflanzengesellschaften vor. Die 2005 erfolgte Einrichtung des Biosphärenparks Wienerwald, und nachfolgende Pläne für eine flächendeckende Kartierung des Gebiets machten die Erarbeitung einer solchen Gliederung dringend notwendig. Dies gab – neben Unklarheiten in der Zuweisung der pannonischen Rasengesellschaften zu Natura 2000-Lebensraumtypen – den Anstoß zu der vorliegenden Untersuchung.

Untersuchungsgebiet – Als Wienerwald bezeichnet man den nordöstlichsten Ausläufer des Alpenbogens, nördlich der Talfurche der Flüsse Triesting und Gölsen (Abb. 1). Die Seehöhe beträgt zwischen 200 und 893 m ü. Adria. Geologisch hat der Wienerwald Anteil an der Flyschzone und den Nördlichen Kalkalpen sowie in geringem Ausmaß auch an der Molassezone. Klimatisch und biogeographisch

handelt es sich um eine Übergangszone zwischen der mitteleuropäischen und der pannonischen Region. Die mittlere Jahrestemperatur beträgt je nach Höhenlage zwischen 6 und 10 °C, der mittlere Jahresniederschlag zwischen 600 mm am Ostabfall zum Wiener Becken und 900 mm auf den höchsten Erhebungen.

Material und Methoden – Von 2005 bis 2010 wurden im Gebiet des Biosphärenparks Wienerwald mehr als 250 neue Vegetationsaufnahmen durchgeführt. Diese wurden mit allen verfügbaren Aufnahmen pannonischer Rasengesellschaften aus Ost-Österreich und Süd-Mähren zu einem Datensatz von 3384 Aufnahmen kombiniert (davon 1055 aus dem Wienerwald) und mit TWINSPAN klassifiziert (s. WILLNER et al. 2013 für Details). Aufnahme-Cluster, welche keine erkennbaren standörtlichen oder geographischen Unterschiede aufwiesen, wurden zusammengefasst. Aufnahmen, bei welchen die Deckungssumme der Verbands-, Ordnungs- und Klassencharakterarten eine andere Zuordnung nahelegte, wurden per Hand umsortiert. Für die weitere Bearbeitung wurde ein Auszug aus der Gesamttabelle erstellt, welcher nur die Aufnahmen aus dem Wienerwald enthielt. Die im ersten Schritt dem Verband *Arrhenatherion* zugeordneten Aufnahmen wurden zur besseren Auflösung der Variabilität nochmals mit TWINSPAN klassifiziert. Die finale Abgrenzung der Assoziationen und Subassoziationen erfolgte mit dem Ziel, Einheiten herauszuarbeiten, welche optimal durch diagnostische Arten gekennzeichnet und standörtlich möglichst informativ sind. Die Zuordnung der Einzelaufnahmen erfolgte nach der in WILLNER (2011) beschriebenen Deckungssummenmethode.

Ergebnisse und syntaxonomische Diskussion – Die TWINSPAN-Klassifikation der zunächst als *Arrhenatherion* eingestuften Aufnahmen ergab 13 Cluster, welche – um Verwechslungen mit den in WILLNER et al. (2013) beschriebenen Clustern des Gesamtdatensatzes zu vermeiden – mit Buchstaben bezeichnet sind (Tab. 1).

Die Rasengesellschaften des Wienerwalds wurden in 22 Assoziationen (plus zwei Subassoziationen) gegliedert, welche wir zu zehn Verbänden und vier Klassen stellen (s. syntaxonomisches Schema in Kap. 4.2.; für Anmerkungen zur Nomenklatur s. Anhang S1). Die regionalen diagnostischen sowie weitere häufige Arten sind in einer synoptischen Tabelle dargestellt (Tab. 2 in der Beilage, Herkunft der Aufnahmen: Anhang S2). Tabelle 3–9 in der Beilage enthalten neu erhobene Aufnahmen der Gesellschaften (man beachte, dass diese nicht unbedingt besonders typische Bestände repräsentieren, sondern bislang noch nicht untersuchte Flächen dokumentieren sollen; für weitere Kopfdaten s. Anhang S3). Ein Feld-Bestimmungsschlüssel für die Gesellschaften findet sich in Anhang 1. Die Übereinstimmung zwischen TWINSPAN-Gruppen und finaler Klassifikation ist in Tabelle 10 in der Beilage dargestellt.

Kurzbeschreibung der Gesellschaften:

(1.1) *Drabo aizoidis-Seslerietum albicantis*: Blaugrasrasen auf nordexponierten Felshängen.

(1.2) *Fumano-Stipetum eriocaulis* (Abb. 2): lückige, von *Stipa eriocaulis* und *Festuca stricta* dominierte Felstrockenrasen auf steilen Südhängen, meist auf Dolomit.

(1.3) *Scorzonero austriacae-Caricetum humilis* (Abb. 3): Trockenrasen auf weniger stark geneigten Dolomitböden, etwas tiefgründiger als in der vorigen Assoziation. Obwohl diese floristisch deutlich eigenständige Gesellschaft am Ostrand des Wienerwalds relativ großflächig auftritt (insbesondere auf der Perchtoldsdorfer Heide südlich von Wien), wurde sie bisher verkannt und mit den Halbtrockenrasen des *Polygalo-Brachypodietum* vereint (WENDELBERGER 1953). Ein Vergleich mit den *Carex humilis*-Rasen der Slowakei (Tab. 11) zeigte, dass diese Gesellschaft dem *Orthantho luteae-Caricetum humilis* Kliment & Bernátová 2000 nahe steht, aber doch durch zahlreiche Differentialarten von diesem getrennt ist.

(2.1) *Stipo capillatae-Festucetum valesiacae*: von *Festuca valesiaca* dominierte Trockenrasen auf tonreichen Böden über Jurakalk.

(2.2) *Salvio nemorosae-Festucetum rupicolae* (Abb. 4): meist von *Festuca rupicola* beherrschte Löss-Trockenrasen; im Gebiet nur auf dem Eichkogel bei Mödling vorhanden.

(2.3) *Medicagini-Festucetum valesiacae*: Walliserschwingelrasen auf stark trittbeeinflussten Dolomitböden. Diese von WAGNER (1941) beschriebene Gesellschaft vermittelt floristisch zwischen den Verbänden *Seslerio-Festucion pallentis* und *Festucion valesiacae*. Sie ist heute bis auf winzige Fragmente verschwunden.

(3.1) *Polygalo-Brachypodietum* (Abb. 5): sehr artenreiche Halbtrockenrasen auf tiefgründigen, aber relativ trockenen, karbonatreichen Böden.

(3.2) *Filipendulo vulgaris-Brometum* (Abb. 6): weniger artenreiche, meist stark von *Bromus erectus* dominierte Halbtrockenrasen auf besser wasserversorgten, relativ nährstoffreichen Böden. Diese Gesellschaft wurde von MUCINA & KOLBEK (1993) zum *Onobrychido-Brometum* (Verband *Bromion erecti*) gestellt. Ein Vergleich mit Halbtrockenrasen aus West-Österreich und Süd-Deutschland (Tab. 12) macht jedoch deutlich, dass sie nicht mit dem *Onobrychido-Brometum* identifiziert werden kann.

(3.3) *Euphorbio verrucosae-Caricetum montanae* (Abb. 7): sehr artenreiche Halbtrockenrasen auf tonreichen, wechseltrockenen, nährstoffarmen und etwas sauren Böden. Ähnliche Halbtrockenrasen sind aus den Weißen Karpaten als *Brachypodio-Molinietum* bekannt.

(4.1) *Anthoxantho-Agrostietum tenuis*: mäßig saure Magerrasen, welche floristisch zwischen *Arrhenatherion* und *Violion caninae* vermitteln. Diese von SILLINGER (1933) aus der Niederen Tatra beschriebene Assoziation wird hier zum ersten Mal für Österreich angegeben. Ihre syntaxonomische Stellung und Umgrenzung bedarf allerdings einer gründlichen Revision, wie ein Vergleich mit ähnlichen Rasentypen aus Tschechien und der Slowakei zeigt (Anhang S4, Abb. 11). So ist die Grenzziehung gegenüber dem aus Böhmen beschriebenen *Campanulo rotundifoliae-Dianthetum deltoidis* unklar, weshalb wir letzteres hier in ein sehr weit gefasstes *Anthoxantho-Agrostietum* einbeziehen. Diese Lösung, wie auch die von uns zur Diskussion gestellte Zuordnung der Gesellschaft zum *Violion caninae*, ist allerdings nur als vorläufig zu betrachten.

(5.1) *Ranunculo bulbosi-Arrhenatheretum*: magere Glatthaferwiesen auf karbonatreichen, trockenen Böden.

(5.2) *Filipendulo vulgaris-Arrhenatheretum* (Abb. 8): magere Glatthaferwiesen auf tonreichen, wechseltrockenen Böden.

(5.3) *Pastinaco-Arrhenatheretum*: nährstoffreiche, eher artenarme Glatthaferwiesen; meist auf frischeren Böden, oft auf ehemaligen Ackerstandorten.

(5.4) *Ranunculo repentis-Alopecuretum pratensis* (Abb. 9): nährstoffreiche, wechselfeuchte Fuchsschwanzwiesen, in vielen Fällen wahrscheinlich durch Düngung aus ehemaligen *Molinion*-Wiesen entstanden.

(6.1) *Plantagini-Lolietum*: Trittrasen und häufig gemähte Scherrasen. Die Gesellschaft ist im Gebiet nicht selten, aber kaum dokumentiert.

(6.2) *Cynosuro-Lolietum*: nährstoffreiche Weiden auf frischen Böden; bislang nur durch eine Aufnahme aus dem Gebiet belegt, aber zumindest im westlichen Wienerwald sicher weiter verbreitet.

(7.1) *Succiso-Molinietum*: nährstoffarme, wechselfeuchte Pfeifengraswiesen. Etwa die Hälfte der Bestände dieser ehemals wohl weiter verbreiteten Gesellschaft befinden sich innerhalb der politischen Grenzen Wiens, insbesondere im Naturschutzgebiet „Lainzer Tiergarten“, einem ehemaligen kaiserlichen Jagdgebiet, wo die Wiesen weniger intensiv genutzt werden als anderswo.

(8.1) *Cirsietum rivularis* (Abb. 10): nährstoffreiche Feuchtwiesen. Im Vergleich zu den Pfeifengraswiesen ist dieser Wiesentyp noch relativ häufig im Wienerwald anzutreffen.

(8.2) *Scirpetum sylvatici*: von *Scirpus sylvaticus* dominierter Bereich innerhalb einer größeren Feuchtwiese; nur durch eine Aufnahme belegt.

(9.1) *Mentho-Juncetum inflexi*: sehr nährstoffreiche, durch Wildbetritt stark gestörte Wiesenbestände auf regelmäßig vernässten, tonreichen Böden.

(10.1) *Caricetum davallianae* (Abb. 10): basenreiche Niedermoore mit *Carex davalliana*; im Gebiet meist nur sehr kleinflächig ausgebildet.

(10.2) *Junco subnodulosi-Schoenetum nigricantis*: Niedermoorgesellschaft mit *Juncus subnodulosus* und *Schoenus nigricans*; nur von drei Lokalitäten dokumentiert.

Schlussfolgerungen. Syntaxonomische Gebietsmonographien wie die vorliegende sind als Ergänzung zu großräumigen Bearbeitungen nach wie vor wichtig, da nur auf diesem Weg hinreichend scharfe, ökologisch aussagekräftige Gesellschaftseinheiten erarbeitet werden können, wie sie für naturschutzfachliche Kartierungen notwendig sind. Der Wienerwald ist seit 2005 als UNESCO Biosphärenreservat anerkannt und in seiner Gesamtheit Teil des Natura 2000-Netzwerks. Im Jahr 2011 wurde mit der flächendeckenden Kartierung des Offenlands im Biosphärenpark Wienerwald begonnen, bei welcher auch der hier präsentierte Bestimmungsschlüssel zum Einsatz kommt. Neben diesen mehr grundlagenorientierten Aktivitäten gibt es auch spezifische Naturschutz-Initiativen, wie eine „Wiesenmeisterschaft", bei welcher Bauern für besonders nachhaltige Bewirtschaftung wertvoller Wiesen ausgezeichnet werden. Im Rahmen von EU-kofinanzierten Projekten wurden zahlreiche Maßnahmen für die Trockenrasen am Ostrand des Wienerwaldes initiiert (Entbuschung, Wiedervernetzung, Beweidung).

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Supplements and Appendices

Supplement 1. Table 2. Synoptic table of the grassland communities of the Vienna Woods.

Beilage 1. Tabelle 2. Stetigkeitstabelle der Graslandgesellschaften im Wienerwald.

Supplement 2–8. Table 3–9. New relevés of the alliances *Seslerio-Festucion pallentis*, *Festucion valesiacae*, *Cirsio-Brachypodion*, *Molinion, Calthion*, *Potentillion anserinae* and *Caricion davallianae*, and the associations *Anthoxantho-Agrostietum tenuis*, *Ranunculo bulbosi-Arrhenatheretum*, *Filipendulo vulgaris-Arrhenatheretum, Pastinaco-Arrhenatheretum* and *Ranuculo repentis-Alopecuretum* from the Vienna Woods.

Beilage 2–8. Tabelle 3–9. Neue Vegetationsaufnahmen der Verbände *Seslerio-Festucion pallentis*, *Festucion valesiacae*, *Cirsio-Brachypodion*, *Molinion, Calthion*, *Potentillion anserinae* und *Caricion davallianae* und der Assoziationen *Anthoxantho-Agrostietum tenuis*, *Ranunculo bulbosi-Arrhenatheretum*, *Filipendulo vulgaris-Arrhenatheretum, Pastinaco-Arrhenatheretum* und *Ranuculo repentis-Alopecuretum* aus dem Wienerwald.

Supplement 9. Table 10. Correspondence between TWINSPAN clusters and the final classification.

Beilage 9. Tabelle 10. Vergleich zwischen TWINSPAN- und finaler Klassifikation der Aufnahmen.

Appendix 1. Field determination key for the grassland types of the Vienna Woods.

Anhang 1. Feld-Bestimmungsschlüssel für die Rasengesellschaften des Wienerwalds.

Important notes:

(i) Diagnostic species lists (D): If both alternatives contain a list of diagnostic species, follow the alternative where the summerised cover of the listed species is higher. If only one alternative contains a list of diagnostic species, follow this alternative if the species have a summerised cover > 1%, otherwise follow the other alternative ("species group absent").

(ii) The following units are not included in the key because their floristic composition could not be evaluated with certainty due to insufficient documentation in the data set:

(2.3) *Medicagini-Festucetum valesiacae*: grasslands dominated by *Festuca valesiaca* on dolomite.

(6.1) *Plantagini-Lolietum*: nutrient-rich, frequently trampled grasslands, usually dominated by *Lolium perenne*.

(6.2) *Cynosuro-Lolietum*: mesic pastures.

(8.2) *Scirpetum sylvatici*: wet meadows dominated by *Scirpus sylvaticus*.

(10.2) *Junco subnodulosi-Schoenetum nigricantis*: mires dominated by *Juncus subnodulosus* and/or *Schoenus nigricans*.

1 Dry grassland, usually dominated by *Festuca stricta, Stipa eriocaulis, Carex humilis, Sesleria caerulea, Festuca valesiaca* or *F. rupicola* **2**

– Semi-dry grassland, mesic to wet meadow or mire; not dominated by one of these species **6**

2 Rocky steppe; D: *Sesleria caerulea, Carex humilis, Globularia cordifolia, Leontodon incanus, Helianthemum canum, Scabiosa canescens, Scorzonera austriaca, Teucrium montanum, Seseli hippomarathrum, Allium montanum, Anthericum ramosum, Genista pilosa, Pulsatilla grandis, Linum tenuifolium* (*Seslerio-Festucion pallentis*) **3**

– Dry grassland on deeper soil and/or rich in fine earth; D: *Festuca valesiaca, Artemisia campestris, Astragalus onobrychis, Inula oculus-christi, Salvia nemorosa, Elymus hispidus, Poa bulbosa* (*Festucion valesiacae*) **5**

3 *Sesleria caerulea* grassland on north-facing cliffs; D: *Draba aizoides, Saxifraga paniculata, Asplenium trichomanes, Primula auricula, Achillea clavennae, Dianthus plumarius* subsp. *neilreichii, Acinos alpinus, Carex brachystachys*. **(1.1) *Drabo aizoidis-Seslerietum***

– Community different; species group absent **4**

4 Rocky grassland on shallow soil, usually on south-facing slopes; D: *Festuca stricta, Stipa eriocaulis, Fumana procumbens, Jurinea mollis, Campanula sibirica, Melica ciliata, Jovibarba globifera* subsp. *hirta, Poa badensis, Allium sphaerocephalon, Ononis pusilla, Alyssum montanum, Onosma visianii*. **(1.2) *Fumano-Stipetum eriocaulis***

– Grassland on less shallow soil, dominated by *Carex humilis*, more rarly by *Festuca rupicola* or *Bromus erectus*; D: *Prunella grandiflora, Seseli annuum, Adonis vernalis, Linum catharticum, Carex caryophyllea, Scorzonera purpurea, Brachypodium pinnatum, Briza media, Plantago lanceolata, Leontodon hispidus, Salvia pratensis, Carlina acaulis, Hypochaeris maculata, Stipa joannis, Aster amellus, Linum flavum*. **(1.3) *Scorzonero austriacae-Caricetum humilis***

5 (2) Grassland on hard rock, usually dominated by *Festuca valesiaca*; D: *Medicago minima, Poa bulbosa, Sedum sexangulare, Petrorhagia saxifraga, Cruciata pedemontana*. **(2.1) *Stipo capillatae-Festucetum valesiacae***

– Grassland on loess, usually dominated by *Festuca rupicola*; D: *Salvia nemorosa, Elymus hispidus, Bromus inermis, Viola ambigua, Oxytropis pilosa, Astragalus austriacus, Seseli pallasii*. **(2.2) *Salvio nemorosae-Festucetum rupicolae***

6 (1) Wet meadow or mire; D: *Ranunculus repens, Lychnis flos-cuculi, Lysimachia nummularia, Carex hirta, Carex panicea, Cirsium canum, Cirsium oleraceum, Cirsium rivulare, Silaum silaus, Succisa pratensis, Sesleria uliginosa, Molinia caerulea* agg., *Carex davalliana, Juncus effusus, Juncus articulatus, Deschampsia cespitosa, Dactylorhiza majalis, Scorzonera humilis* **15**

– Semi-dry or mesic grassland; species group absent **7**

7 Moderately acidic grassland; never dominated by *Bromus erectus* or *Arrhenatherum elatius*; D: *Carex pallescens, Agrostis capillaris, Danthonia decumbens, Nardus stricta, Polygala vulgaris, Galium pumilum, Viola canina, Thymus pulegioides, Potentilla erecta, Molinia caerulea* agg., *Calluna vulgaris, Veronica officinalis, Carex pilulifera, Dianthus armeria, Antennaria dioica* (*Violion caninae*) **14**

– Base-rich grassland; usually dominated by *Bromus erectus* or *Arrhenatherum elatius*; species group absent **8**

8 Nutrient-poor or moderately nutrient-rich grassland; D: *Bromus erectus, Brachypodium pinnatum, Primula veris, Ranunculus bulbosus, Salvia pratensis, Plantago media, Pimpinella saxifraga, Trifolium montanum, Ononis spinosa, Hypericum perforatum, Campanula glomerata, Festuca rupicola, Cirsium pannonicum, Ranunculus polyanthemos* **9**

– Nutrient-rich mesic meadow; species group absent (*Arrhenatherion* p.p.) **13**

9 Semi-dry grassland; usually dominated by *Bromus erectus*; D: *Helianthemum nummularium, Euphorbia cyperissias, Thesium linophyllon, Teucrium chamaedrys, Sanguisorba minor, Anthyllis vulneraria, Linum catharticum, Carlina acaulis, Carex caryophyllea, Trifolium alpestre, Koeleria pyramidata, Polygala major, Polygala comosa* (Cirsio-Brachypodion) **10**

– Mesic meadow; usually dominated by *Arrhenatherum elatius*; D: *Vicia sepium, Pimpinella major, Alopecurus pratensis* **12**

10 Grassland on very base-rich soil; D: *Dorycnium germanicum, Eryngium campestre, Bupleurum falcatum, Scabiosa ochroleuca, Asperula cynanchica, Peucedanum cervaria, Seseli annuum, Inula ensifolia, Stachys recta, Thymus odoratissimus, Potentilla incana, Chamaecytisus ratisbonensis, Aster linosyris, Aster amellus, Carex humilis, Pulsatilla grandis, Globularia punctata, Inula hirta, Geranium sanguineum, Adonis vernalis, Muscari neglectum, Cuscuta epithymum, Phleum phleoides, Prunella grandiflora, Scorzonera hispanica, Carex michelii, Hypochaeris maculata*.

(3.1) *Polygalo majoris-Brachypodietum*

– Grassland on less base-rich, loamy soil; D: *Filipendula vulgaris, Betonica officinalis, Trisetum flavescens, Festuca pratensis, Lathyrus pratensis, Rumex acetosa, Campanula patula, Colchicum autumnale, Ranunculus acris, Crepis biennis, Festuca rubra* agg., *Holcus lanatus* **11**

11 Grassland on rather nutrient-poor, intermittently dry soil; D: *Carex montana, Galium boreale, Euphorbia verrucosa, Chamaecytisus supinus, Galium pumilum, Trifolium ochroleucon*.

(3.3) *Euphorbio verrucosae-Caricetum montanae*

– Grassland on less nutrient-poor soil; species group absent. **(3.2) *Filipendulo vulgaris-Brometum***

12 (9) Meadow on base-rich soil without moist–wet phases; D: *Centaurea scabiosa, Festuca rupicola, Plantago media, Securigera varia, Onobrychis viciifolia, Buphthalmum salicifolium, Dianthus carthusianorum* agg., *Medicago falcata*. **(5.1) *Ranunculo bulbosi-Arrhenatheretum***

– Meadow on less base-rich soil with short moist–wet phases; D: *Holcus lanatus, Cynosurus cristatus, Alopecurus pratensis, Betonica officinalis, Galium boreale, Euphorbia verrucosa, Potentilla alba, Alchemilla* sp., *Knautia drymeia.* **(5.2) *Filipendulo vulgaris-Arrhenatheretum***

13 (8) Meadow without longer wet phases; usually dominated by *Arrhenatherum elatius*; D: *Avenula pubescens, Campanula patula, Knautia arvensis*. **(5.3) *Pastinaco-Arrhenatheretum***

– Meadow with longer wet phases; usually dominated by *Alopecurus pratensis*; D: *Ranunculus repens, Ajuga reptans, Lysimachia nummularia, Lychnis flos-cuculi, Carex hirta, Cirsium canum, Cirsium oleraceum, Carex panicea, Carex pallescens, Sanguisorba officinalis*.

(5.4) *Ranunculo repentis-Alopecuretum*

14 (7) Grassland on rather dry soil; D: *Chamaecytisus supinus, Hieracium pilosella, Helianthemum nummularium, Hypericum perforatum, Thesium linophyllon, Carex montana, Carex caryophyllea*.

(4.1a) *Anthoxantho-Agrostietum tenuis* (dry)

– Grassland on moist soil; D: species group absent. **(4.1b) *Anthoxantho-Agrostietum tenuis*** (moist)

15 (6) Mire community; D: *Carex davalliana, Carex hostiana, Carex pulicaris, Valeriana dioica, Epipactis palustris, Eriophorum angustifolium, Eriophorum latifolium, Parnassia palustris*.

(10.1) *Caricetum davallianae*

– Community not a mire; species group absent **16**

16 Grassland frequently disturbed by trampling animals; D: *Juncus inflexus, Carex distans, Pulicaria dysenterica, Eleocharis uniglumis, Potentilla reptans, Potentilla anserina, Agrostis stolonifera* agg., *Festuca arundinacea, Mentha aquatica, Mentha longifolia*.

(9.1) *Mentho-Juncetum inflexi*

– Grassland not frequently disturbed by trampling animals; species group absent **17**

17 Meadow on constantly wet soil; D: *Cirsium rivulare, Scirpus sylvaticus, Caltha palustris, Filipendula ulmaria, Carex nigra, Carex flava* agg., *Bromus racemosus*. **(8.1) *Cirsietum rivularis***

– Meadow on intermittently wet soil (with longer dry phase); species group absent **18**

18 Nutrient-rich meadow; usually dominated by *Alopecurus pratensis*; D: *Poa trivialis, Ranunculus repens, Cirsium oleraceum, Crepis biennis, Heracleum sphondylium, Ajuga reptans*.
(5.4) *Ranunculo repentis-Alopecuretum*

– Nutrient-poor meadow; usually dominated by *Molinia caerulea* agg.; D: *Briza media, Galium boreale, Betonica officinalis, Potentilla alba, Allium carinatum, Potentilla erecta, Bromus erectus, Trifolium montanum, Sesleria uliginosa, Carex tomentosa, Selinum carvifolia, Inula salicina, Succisa pratensis*. **(7.1) *Succiso-Molinietum***

Additional supporting information may be found in the online version of this article.

Zusätzliche unterstützende Information ist in der Online-Version dieses Artikels zu finden.

Appendix S1. Nomenclatural remarks.

Anhang S1. Nomenklatorische Anmerkungen.

Appendix S2. Data sources for Table 2.

Anhang S2. Herkunft der Aufnahmen in Tabelle 2.

Appendix S3. Additional header data for Tables 3–9.

Anhang S3. Weitere Kopfdaten zu den Tabellen 3–9.

Appendix S4. Synoptic table of the *Anthoxantho-Agrostietum* s. lat. in the study area and neighbouring countries.

Anhang S4. Synoptische Tabelle des *Anthoxantho-Agrostietum* s. lat. im Untersuchungsgebiet und Nachbarländern.

References

BECKER, T., SCHMIEGE, C., BERGMEIER, E., DENGLER, J. & NOWAK, B. (2012): Nutrient-poor grasslands on siliceous soil in the lower Aar valley (Middle Hesse, Germany) – neglected vegetation types in the intersection range of four classes. – Tuexenia 32: 281–318.

BERG, C., DENGLER, J., ABDANK, A. & ISERMANN, M. (Eds.) (2004): Die Pflanzengesellschaften Mecklenburg-Vorpommerns und ihre Gefährdung. Textband. – Weissdorn-Verlag, Jena: 606 pp.

BURKART, M., DIERSCHKE, H., HÖLZEL N., NOWAK B. & FARTMANN, T. (2004): *Molinio-Arrhenatheretea* (E1) – Kulturgrasland und verwandte Vegetationstypen. Teil 2: *Molinietalia*. Futter- und Streuwiesen feucht-nasser Standorte und Klassenübersicht *Molinio-Arrhenatheretea*. – Synopsis Pflanzenges. Dtschl. 9: 1–103.

CHYTRÝ, M. (Ed.) (2007): Vegetace České republiky 1. Travinná a keříčková vegetace (Vegetation of the Czech Republic 1. Grassland and heathland vegetation) [in Czech, with English summaries]. – Academia, Praha: 526 pp.

DE CÁCERES, M. & WISER, S.K. (2012): Towards consistency in vegetation classification. – J. Veg. Sci. 23: 387–393.

DENGLER, J. (2003): Entwicklung und Bewertung neuer Ansätze in der Pflanzensoziologie unter besonderer Berücksichtigung der Vegetationsklassifikation. – Arch. Naturwiss. Diss. 14: 1–297.

DENGLER, J., BERGMEIER, E., WILLNER, W. & CHYTRÝ, M. (2013): Towards a consistent classification of European grasslands. – Appl. Veg. Sci. 16: 518–520.

DIERSCHKE, H. (1997): *Molinio-Arrhenatheretea* (E1) – Kulturgrasland und verwandte Vegetationstypen. Teil 1: *Arrhenatheretalia*. Wiesen und Weiden frischer Standorte. – Synopsis Pflanzenges. Dtschl. 3: 1–74.

DÚBRAVKOVÁ, D., CHYTRÝ, M., WILLNER, W., ILLYÉS, E., JANIŠOVÁ, M. & KÁLLAYNÉ SZERÉNYI, J. (2010): Dry grasslands in the Western Carpathians and the northern Pannonian Basin: a numerical classification. – Preslia 82: 165–221.

ELLMAUER, T. (1995): Nachweis und Variabilität einiger Wiesen- und Weidegesellschaften in Österreich. – Verh. Zool.-Bot. Ges. Österreich 132: 13–60.

ELLMAUER, T. & MUCINA, L. (1993): *Molinio-Arrhenatheretea*. – In: MUCINA, L., GRABHERR, G. & ELLMAUER, T. (Eds.): Die Pflanzengesellschaften Österreichs, Teil I: 297–401. Gustav Fischer, Jena.

FISCHER, M.A., OSWALD, K. & ADLER, W. (2008): Exkursionsflora für Österreich, Liechtenstein, Südtirol. 3. Aufl. – Biologiezentrum des Österreichischen Landesmuseums, Linz: 1392 pp.

FREY, W., FRAHM, J.-P., FISCHER, E. & LOBIN, W. (1995): Die Moos- und Farnpflanzen Europas. Kleine Kryptogamenflora, Band IV, 6. Auflage. – Gustav Fischer, Jena: 426 pp.

GRABHERR, G. & MUCINA, L. (Eds.) (1993): Die Pflanzengesellschaften Österreichs. Teil II. Natürliche waldfreie Vegetation. – Gustav Fischer, Jena: 523 pp.

HILL, M.O. (1979): TWINSPAN – A FORTRAN program for arranging multivariate data in an ordered two-way table by classification of the individuals and attributes. – Cornell University, Ithaca, NY: 90 pp.

HUNDT, R. & HÜBL, E. (1983): Pflanzensoziologische, pflanzengeographische und landeskulturelle Aspekte des *Filipendulo-Arrhenatheretum* im Wiener Wald. – Tuexenia 3: 331–342.

ILLYÉS, E., CHYTRÝ, M., BOTTA-DUKÁT, Z., JANDT, U., ŠKODOVÁ, I., JANIŠOVÁ, M., WILLNER, W. & HÁJEK, O. (2007): Semi-dry grasslands along a climatic gradient across Central Europe: Vegetation classification with validation. – J. Veg. Sci. 18: 835–846.

JANIŠOVÁ, M. (Ed.) (2007): Travinnobylinná vegetácia Slovenska (elektronický expertný systém na identifikáciu syntaxónov) (Grassland vegetation of Slovakia – electronic expert system for identification of syntaxa) [in Slovak]. – Botanický ústav SAV, Bratislava: 263 pp.

JANIŠOVÁ, M. & DÚBRAVKOVÁ, D. (2010): Formalized classification of rocky Pannonian grasslands and dealpine *Sesleria*-dominated grasslands in Slovakia using a hierarchical expert system. – Phytocoenologia 40: 267–291.

KARRER, G. (1985a): Waldgrenzstandorte an der Thermenlinie (Niederösterreich). – Stapfia 14: 85–103.

KARRER, G. (1985b): Die Vegetation des Peilsteins, eines Kalkberges im Wienerwald, in räumlich-standörtlicher, soziologischer, morphologischer und chorologischer Sicht. – Verh. Zool.-Bot. Ges. Österreich 123: 331–414.

KILIAN, W., MÜLLER, F. & STARLINGER, F. (1994): Die forstlichen Wuchsgebiete Österreichs. Eine Naturraumgliederung nach waldökologischen Gesichtspunkten. – FBVA-Berichte 82: 1–60.

KLESCZEWSKI, M. (2000): Die Glatthaferwiesen im Bergmassiv des Mount Aigoual (Cevennen, Südfrankreich). – Tuexenia 20: 189–212.

KUYPER, T.W., LEEWENBERG, H.F.M. & HÜBL, E. (1978): Vegetationskundliche Studie an Feucht-, Moor- und Streuwiesen im Burgenland und östlichen Niederösterreich. – Linz. Biol. Beitr. 10: 231–321.

LEPUTSCH, S. (1997): Die Wiesen des Lainzer Tiergartens unter besonderer Berücksichtigung der Jagd-Tradition und der Erholungsnutzung. – Diplomarbeit, Univ. f. Bodenkultur, Wien: 141 pp.

LICHTENECKER, A., BASSLER, G. & KARRER, G. (2003): Klassifikation der Wirtschaftswiesen (*Arrhenatheretalia*) im Zentralraum des Waldviertels. – Wiss. Mitt. Niederösterr. Landesmus. 15: 49–84.

MACHOLD, C. (1996): Die Trespenwiesen des Walgaus. – Vorarlberger Naturschau 1: 153–232.

MUCINA, L., GRABHERR, G. & ELLMAUER, T. (Eds.) (1993): Die Pflanzengesellschaften Österreichs. Teil I: Anthropogene Vegetation. – Gustav Fischer, Jena: 578 pp.

MUCINA, L. & KOLBEK, J. (1993): *Festuco-Brometea*. – In: MUCINA, L., GRABHERR, G. & ELLMAUER, T. (Eds.): Die Pflanzengesellschaften Österreichs, Teil I: 420–492. Gustav Fischer, Jena.

MÜLLER, T. (1966): Die Wald-, Gebüsch-, Saum-, Trocken- und Halbtrockenrasen–gesellschaften des Spitzbergs. – Nat. Landschaftsschutzgeb. Baden-Württ. 3: 278–475.

NIKLFELD, H. (1964): Zur xerothermen Vegetation im Osten Niederösterreichs. – Verh. Zool.-Bot. Ges. Wien 103/104: 152–181.

NIKLFELD, H., SCHRATT-EHRENDORFER, L. & ENGLISCH, T. (2008): Muster der Artenvielfalt der Farn- und Blütenpflanzen in Österreich. – In: SAUBERER, N., MOSER, D. & GRABHERR, G. (Eds.), Biodiversität in Österreich. Räumliche Muster und Indikatoren der Arten- und Lebensraumvielfalt: 87–102. Haupt, Zürich.

PEPPLER-LISBACH, C. & PETERSEN, J. (2001): *Calluno-Ulicetea* (G3). Teil 1: *Nardetalia strictae*. Borstgrasrasen. – Synopsis Pflanzenges. Dtschl. 8: 1–117.

PFUSTERSCHMID, S. (1998): Die Trockenrasengesellschaften der westlichen Steilhänge des Bisamberges bei Wien. – Diplomarbeit, Univ. f. Bodenkultur, Wien: 98 pp.
REICHENBERGER, G. (1990): Das Naturschutzgebiet Glaslauterriegel-Heferlberg. Vegetation und Struktur. – Diplomarbeit, Univ. f. Bodenkultur: Wien. 98 pp.
ROZBROJOVÁ, Z., HÁJEK, M. & HÁJEK, O. (2010): Vegetation diversity of mesic meadows and pastures in the West Carpathians. – Preslia 82: 307–332.
SAUBERER, N. & BUCHNER, P. (2001): Die Trockenrasen-Vegetation des nördlichen Steinfeldes. – In: BIERINGER, G., BERG, H.-M. & SAUBERER, N. (Eds.): Die vergessene Landschaft. Beiträge zur Naturkunde des Steinfeldes. – Stapfia 77: 113–128.
SILLINGER, P. (1933): Monografická studie o vegetaci Nízkých Tater (Monographical study of the vegetation of the Nízké Tatry (Low-Tatra-Mountains) in Czechoslovakia) [in Czech]. – Orbis, Praha: 339 pp.
SIX, U. (1986): Die Vegetation der Perchtoldsdorfer Heide. – Diplomarbeit, Univ. f. Bodenkultur, Wien: 129 pp.
ŠKODOVÁ, I., DEVÁNOVÁ, K. & SENKO, D. (2011): Subxerophilous and mesophilous grasslands of the Biele Karpaty Mts. (White Carpathian Mts.) in Slovakia. – Tuexenia 31: 235–269.
STEINBUCH, E. (1995): Wiesen und Weiden der Ost-, Süd- und Weststeiermark. – Diss. Bot. 253: 1–210.
STEINER, G.M. (1993): *Scheuchzerio-Caricetea fuscae*. – In: GRABHERR, G. & MUCINA, L. (Eds.) (1993): Die Pflanzengesellschaften Österreichs, Teil II: 131–165. Gustav Fischer, Jena.
SUSKE, W., HABERREITER, B. & RÖTZER, H. (Eds.) (2003): Wiesen und Weiden Niederösterreichs. – Amt der NÖ Landesregierung, Abteilung Naturschutz, St. Pölten.: 291 pp.
TICHÝ, L. (2002): JUICE, software for vegetation classification. – J. Veg. Sci. 13: 451–453.
THEURILLAT, J.-P., AESCHIMANN, D., KÜPFER, P. & SPICHIGER, R. (1995): The higher vegetation units of the Alps. – Coll. Phytosoc. 23: 189–239.
WAGNER, H. (1941): Die Trockenrasengesellschaften am Alpenostrand. Eine Pflanzensoziologische Studie. – Denkschr. Akad. Wiss. Wien, Math.-Nat. Kl., 104: 1–81.
WAGNER, H. (1950): Das *Molinietum coeruleae* (Pfeifengraswiese) im Wiener Becken. – Vegetatio 2: 128–165.
WEBER, H.E., MORAVEC, J. & THEURILLAT, J.-P. (2000): International Code of Phytosociological Nomenclature. 3rd edition. – J. Veg. Sci. 11: 739–768.
WENDELBERGER, G. (1953): Die Trockenrasen im Naturschutzgebiet auf der Perchtoldsdorfer Heide bei Wien. – Angew. Pflanzensoziol. (Vienna) 9: 1–51.
WILLNER, W. (2006): The association concept revisited. – Phytocoenologia 36: 67–76.
WILLNER, W. (2011): Unambiguous assignment of relevés to vegetation units: the example of the *Festuco-Brometea* and *Trifolio-Geranietea sanguinei*. – Tuexenia 31: 271–282.
WILLNER, W., JAKOMINI, C., SAUBERER, N. & ZECHMEISTER, H.G. (2004): Zur Kenntnis kleiner Trockenraseninseln im Osten Österreichs. – Tuexenia 24: 215–226.
WILLNER, W., SAUBERER, N., STAUDINGER, M. & SCHRATT-EHRENDORFER, L. (2013): Syntaxonomic revision of the Pannonian grasslands of Austria – Part I: introduction and general overview. – Tuexenia 33: 399–420.
WILLNER, W., TICHÝ, L. & CHYTRÝ, M. (2009): Effects of different fidelity measures and contexts on the determination of diagnostic species. – J. Veg. Sci. 20: 130–137.
WIRTH, V. (1995): Flechtenflora. Bestimmung und ökologische Kennzeichnung der Flechten Südwestdeutschlands und angrenzender Gebiete. 2. Auflage. – Ulmer, Stuttgart: 661 pp.
ZUKRIGL, K. (2005): Die Vegetation des Wiener Leopoldsberges. – Abh. Zool.-Bot. Ges. Österreich 35: 1–76. Wien.

Table 2. Synoptic table of the grassland communities of the Vienna Woods. Values are percentage constancies. When a species reaches a total cover of >12%, then the constancy is given in bold; when the total cover is >25%, then the value is additionally underlined. Diagnostic species are shaded (note that their context is restricted to the region and to the next higher syntaxonomic level). Diagnostic species of higher syntaxonomic units are framed. Values in italics indicate untypically high values for the association because of local peculiarities. Species are arranged according to decreasing frequency in the respective species group. Only species reaching a constancy of 20% in at least one column are shown (67% for the columns containing only 3 relevés), plus a few rarer but diagnostically important species. A "?" indicates doubtful records. Cryptogam species are given at the end of the table. Constancy values of the latter were calculated on the basis of the subset of relevés in which these plants were recorded.

Tabelle 2. Stetigkeitstabelle der Graslandgesellschaften im Wienerwald. Dargestellt ist die Stetigkeit in Prozent. Bei einer totalen Deckung von >12% ist die Stetigkeit fett, bei einer totalen Deckung von >25% zusätzlich unterstrichen. Diagnostische Arten sind grau hinterlegt (man beachte, dass deren Gültigkeit auf die Region und die nächsthöhere syntaxonomische Einheit beschränkt ist). Diagnostische Arten von höheren Syntaxa sind eingerahmt. Kursiv gesetzte Werte deuten einen für die Assoziation untypisch hohen Wert an, welcher auf lokale Eigentümlichkeiten zurückzuführen ist. Die Arten sind nach absteigender Häufigkeit in der jeweiligen Artengruppe sortiert. Arten, welche in keiner Spalte zumindest 20% Stetigkeit erreichen (67% für die nur 3 Aufnahmen enthaltenden Spalten), sind weggelassen, mit Ausnahme einiger seltener, aber diagnostisch wichtiger Arten. Ein Fragezeichen bedeutet, dass die Angaben für dieses Syntaxon zweifelhaft erscheinen. Die Stetigkeit der Kryptogamen wurde auf Basis jener Aufnahmen berechnet, welche Kryptogamen-Angaben enthielten.

Column number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Alliance	1				2			3			4		5				6	7	8	9	10	
Association number	**1.1**	**1.2**	**1.2**	**1.3**	**2.1**	**2.2**	**2.3**	**3.1**	**3.2**	**3.3**	**4.1**	**4.1**	**5.1**	**5.2**	**5.3**	**5.4**	**6.1**	**7.1**	**8.1**	**9.1**	**10.1**	**10.2**
Subassociation		a	b								a	b										
Number of relevés	13	11	70	76	3	8	12	112	145	53	18	47	59	120	112	46	7	39	35	14	22	3
1.1 Drabo aizoidis-Seslerietum																						
Draba aizoides subsp. beckeri	54	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Asplenium trichomanes	46	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Saxifraga paniculata	31	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Achillea clavennae	31	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Primula auricula	31	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Euphrasia salisburgensis	23	.	10	12	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Dianthus plumarius subsp. neilreichii	23	9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Scabiosa lucida	23	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1.1 Drabo aizoidis-Seslerietum, 1.2.a Fumano-Stipetum minuartietosum setaceae																						
Seseli austriacum	92	100	27	5	.	.	17	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Campanula rotundifolia	69	36	.	3	.	.	.	.	3	9	28	13	2	3	2	.	.	3	.	.	.	.
Asplenium ruta-muraria	46	27	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Erysimum sylvestre	23	36	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Hieracium bifidum	31	18	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Festuca pallens	23	18	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1.2.a Fumano-Stipetum minuartietosum setaceae																						
Euphorbia saxatilis	.	82	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Hieracium glaucum	15	82	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Minuartia setacea	8	73	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cardaminopsis petraea	15	55	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Aethionema saxatile	.	55	.	.	.	.	.	1	1	.	.	.	.	.	.	.	.	.	.	.	.	.
Biscutella laevigata subsp. austriaca	8	55	4	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.
Hieracium echioides	.	27	.	.	.	.	8	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1.2 Fumano-Stipetum, (2.3 Medicagini-Festucetum valesiacae)																						
Fumana procumbens	8	64	81	16	.	.	33	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Festuca stricta subsp. stricta	8	55	70	11	.	.	?	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Stipa eriocaulis	.	36	**77**	8	.	.	42	3	.	.	.	.	.	.	.	.	*14*	.	.	.	.	.
Jurinea mollis	.	55	47	12	.	*13*	17	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Onosma visianii	.	82	19	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Campanula sibirica	.	36	29	1	.	*25*	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alyssum montanum	.	27	6	.	.	.	33	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.
Rhamnus saxatilis	8	.	24	11	.	.	25	16	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ononis pusilla	.	.	24	7	.	.	33	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Trinia glauca	.	.	9	.	.	.	42	10	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1 Seslerio-Festucion pallentis, 2.3 Medicagini-Festucetum valesiacae, (3.1 Polygalo-Brachypodietum)																						
Sesleria caerulea	**100**	100	66	61	.	.	25	16	4	2	.	.	.	.	.	.	.	.	.	.	.	.
Teucrium montanum	54	82	91	79	.	*25*	42	13	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Dorycnium germanicum	15	100	93	96	.	38	58	46	3	6	.	.	2	.	.	.	*14*	.	.	.	.	.
Carex humilis	23	55	**94**	**97**	.	*38*	.	26	.	.	.	.	2	.	.	.	*14*	.	.	.	.	.
Globularia cordifolia	54	82	71	54	.	.	33	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Galium lucidum	62	100	50	17	?	.	50	8	1	2	.	.	2	.	.	.	.	.	.	.	.	.
Helianthemum canum	8	91	84	61	.	.	**67**	4	1	.	.	.	.	.	.	.	.	.	.	.	.	.
Linum tenuifolium	.	82	79	76	.	*25*	33	18	.	.	.	.	.	.	.	.	*14*	.	.	.	.	.
Anthericum ramosum	.	82	66	80	.	.	50	19	2	2	6	.	2	.	.	.	.	.	.	.	.	*33*
Seseli hippomarathrum	8	82	67	42	.	.	75	8	.	.	.	.	.	.	.	.	*14*	.	.	.	.	.
Leontodon incanus	15	91	47	43	.	.	42	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Genista pilosa	23	45	49	76	.	.	17	11	1	.	11	.	.	.	.	.	.	.	.	.	.	.
Thymus praecox	15	91	71	13	.	.	58	7	6	2	.	.	2	3	1	.	*14*	.	.	.	.	.
Pulsatilla grandis	15	18	73	76	33	*25*	83	29	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Scorzonera austriaca	15	27	69	57	.	*13*	67	9	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Allium senescens subsp. montanum	31	82	21	33	.	.	8	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Phyteuma orbiculare	31	36	6	17	.	.	.	4	3	4	.	.	2	.	.	2	.	.	.	.	.	*33*
Thalictrum minus s.lat.	31	27	16	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Scabiosa canescens	8	18	44	63	.	.	.	8	.	.	.	.	3	.	.	.	.	.	.	.	.	.
1.3 Scorzonero-Caricetum humilis, (3.1 Polygalo-Brachypodietum)																						
Adonis vernalis	.	.	26	53	.	*13*	.	24	.	.	.	.	3	.	.	.	.	.	.	.	.	.
Prunella grandiflora	.	.	7	53	.	.	8	22	3	9	6	.	2	2	.	.	*14*	.	.	7	.	*33*
Inula hirta	.	.	17	46	.	*25*	.	23	2	4	.	.	2	.	.	.	.	3	.	.	.	.
Scorzonera purpurea	.	.	9	38	.	*13*	.	11	.	.	.	.	2	.	.	.	.	.	.	.	.	.
Linum flavum	.	.	.	16	.	.	.	9	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Stipa joannis	.	.	6	16	.	13	.	9	.	.	.	.	3	.	.	.	.	.	.	.	.	.
1.1 Drabo aizoidis-Seslerietum, 1.2 Fumano-Stipetum, 2.1 Stipo-Festucetum valesiacae, 2.3 Medicagini-Festucetum valesiacae																						
Melica ciliata	31	64	46	4	67	25	50	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Jovibarba globifera subsp. hirta	31	91	37	1	33	.	50	10	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Sedum album	15	18	26	.	67	.	50	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Poa badensis	31	9	41	.	.	.	50	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1.2 Fumano-Stipetum, 2.1 Stipo-Festucetum valesiacae, 2.3 Medicagini-Festucetum valesiacae																						
Arenaria serpyllifolia agg.	.	18	40	1	100	13	58	7	8	4	.	2	.	1	8	.	.	.	6	.	.	.
Allium sphaerocephalon	.	55	34	.	67	13	42	1	.	.	.	.	2	2	.	.	.	.	.	.	.	.
Petrorhagia saxifraga	.	9	26	1	100	.	67	3	.	.	.	.	.	.	.	.	*14*	.	.	.	.	.
Cerastium pumilum agg.	.	.	37	3	33	25	58	5	.	.	.	.	.	2	.	.	.	.	.	.	.	.
Thlaspi perfoliatum	.	.	27	5	33	25	33	13	3	6	.	.	.	.	.	.	.	.	.	.	.	.
Alyssum alyssoides	.	.	23	.	33	13	50	7	1	.	.	.	.	.	.	.	.	.	.	.	.	.
Arabis hirsuta agg.	.	.	29	4	.	.	67	27	20	26	6	.	20	4	2	.	*14*	.	.	.	.	.
Hornungia petraea	8	9	33	.	.	.	25	2	1	.	.	.	.	.	.	.	.	.	.	.	.	.
Acinos arvensis	.	.	14	.	.	.	50	2	1	.	.	.	.	.	.	.	.	.	.	.	.	.
Arabis auriculata	.	.	16	.	.	13	33	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.
2.1 Stipo-Festucetum valesiacae, 2.3 Medicagini-Festucetum valesiacae																						
Medicago minima	.	.	.	.	100	.	50	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Sedum sexangulare	.	.	9	1	67	.	67	11	4	9	11	.	.	4	.	.	.	.	.	.	.	.
Poa bulbosa	.	.	9	.	33	.	67	1	2	.	.	.	2	.	.	.	.	.	.	.	.	.
Veronica praecox	.	.	3	.	33	*13*	33	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
2.1 Stipo-Festucetum valesiacae																						
Cruciata pedemontana	.	.	.	.	67	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Trifolium arvense	.	.	.	.	67	.	.	1	.	.	.	.	.	1	.	.	.	.	.	.	.	.
Carex supina	.	.	.	.	33	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
2.2 Salvio-Festucetum rupicolae																						
Salvia nemorosa	.	.	.	1	.	75	.	13	.	.	.	.	2	.	1	.	.	.	.	.	.	.
Elymus hispidus	.	.	3	3	33	63	.	14	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Erysimum diffusum s.str.	.	.	11	1	.	63	17	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Viola ambigua	.	.	.	.	.	50	.	6	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Oxytropis pilosa	.	.	.	1	.	38	8	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Pulsatilla pratensis subsp. nigricans	.	.	4	1	.	38	8	9	1	2	.	.	.	.	.	.	.	.	.	.	.	.
Melampyrum barbatum	.	.	.	.	.	25	.	5	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Bromus inermis	.	.	.	3	.	25	17	10	.	.	.	.	.	1	.	2	.	.	.	.	.	.
Astragalus austriacus	.	.	.	.	.	25	.	6	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Seseli pallasii	.	.	.	.	.	13	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
2.3 Medicagini-Festucetum valesiacae																						
Stipa capillata	.	.	26	14	.	.	50	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Silene otites s.lat.	.	.	4	3	.	.	42	6	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Holosteum umbellatum	.	.	9	.	.	.	25	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.
Bothriochloa ischaemum	.	.	7	.	.	.	25	4	.	2	.	.	.	.	.	.	.	.	.	.	.	.
2 Festucion valesiacae																						
Festuca valesiaca	.	.	9	4	**100**	63	**100**	17	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Artemisia campestris	.	.	7	.	67	13	58	2	1	.	.	.	.	.	.	.	.	.	.	.	.	.
Inula oculus-christi	.	.	7	.	67	38	17	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Astragalus onobrychis	.	.	7	1	.	50	58	17	3	2	.	.	.	.	.	.	*14*	.	.	.	.	.
1 Seslerio-Festucion pallentis, 2 Festucion valesiacae, 3.1 Polygalo-Brachypodietum																						
Potentilla incana	38	73	90	67	100	63	100	34	6	2	6	.	7	1	.	.	.	.	.	.	.	.
Teucrium chamaedrys	8	18	69	71	**100**	88	92	69	25	21	17	2	10	1	.	.	.	.	.	.	.	.
Asperula cynanchica	23	91	79	78	.	13	83	46	11	8	.	.	3	2	1	.	*14*	10	.	.	.	.
Scabiosa ochroleuca	23	18	70	67	67	13	67	44	9	4	.	.	7	1	.	.	*14*	3	.	.	.	.
Sanguisorba minor	.	18	74	87	33	.	83	62	19	23	.	.	12	5	2	.	*14*	.	.	7	5	.
Centaurea stoebe s.lat.	.	18	54	26	100	25	83	16	.	.	.	.	2	.	.	.	.	.	.	.	.	.
Bupleurum falcatum	54	18	51	88	.	.	58	50	1	4	.	.	3	.	.	.	.	.	.	.	.	.
Eryngium campestre	.	.	10	18	100	63	75	42	10	.	6	.	2	.	.	.	*14*	.	.	.	.	.
Aster linosyris	8	9	69	75	.	38	67	32	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Inula ensifolia	.	.	73	96	.	50	25	39	1	.	.	.	.	.	.	.	.	.	.	.	.	.
Stachys recta	.	9	31	12	100	50	42	38	6	4	.	.	8	.	.	.	.	.	.	.	.	.
Anthyllis vulneraria	8	9	67	78	.	.	67	53	19	25	.	.	10	1	.	.	*14*	3	.	.	.	.
Iris pumila	.	.	19	4	**100**	75	33	13	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Thymus odoratissimus	.	.	21	14	67	50	50	35	5	9	6	.	2	.	.	.	.	.	.	.	.	.
Chamaecytisus ratisbonensis	.	.	44	72	.	38	42	32	3	2	.	.	5	.	.	.	.	.	.	.	.	.
Odontites luteus	.	.	59	53	33	.	50	21	.	.	.	.	2	.	.	.	.	.	.	.	.	.
Phleum phleoides	.	.	3	4	100	25	58	19	7	8	6	.	.	1	.	.	.	.	.	.	.	.
Muscari neglectum	8	.	13	.	100	.	42	24	3	4	.	.	.	.	.	.	.	.	.	.	.	.
Linaria genistifolia	.	9	13	.	100	.	58	7	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cuscuta epithymum	.	9	16	16	67	.	42	25	1	6	.	.	2	.	.	.	.	.	3	.	.	.
Seseli annuum	.	.	27	66	.	25	17	40	4	4	.	.	2	.	.	.	*14*	.	.	.	.	.
Polygonatum odoratum	8	9	46	8	33	.	25	15	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Allium flavum	.	18	26	11	33	13	25	16	1	.	.	.	.	.	.	.	.	.	.	.	.	.
Globularia punctata	.	.	37	7	.	25	33	27	1	.	.	.	.	.	.	.	.	.	.	.	.	.
Koeleria macrantha	.	.	16	8	.	38	50	13	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Senecio jacobaea	.	27	10	30	.	.	.	13	.	.	.	.	3	.	.	.	*14*	.	.	.	.	.
3.1 Polygalo-Brachypodietum																						
Aster amellus	.	.	7	22	.	13	.	30	.	4	.	.	2	1	.	.	.	.	.	.	.	.
Scorzonera hispanica	.	.	3	11	.	13	.	21	2	.	.	.	3	.	.	.	.	.	.	.	.	.
Hypochaeris maculata	.	.	7	14	.	.	.	20	6	6	11	.	.	.	.	.	.	.	.	.	.	.
Carex michelii	.	.	.	3	.	.	.	20	6	2	.	.	2	1	.	.	.	.	.	.	.	.
3.3 Euphorbio-Caricetum montanae (and 4.1a)																						
Euphorbia verrucosa	.	.	.	.	.	.	.	2	13	43	11	4	2	13	.	2	.	5	.	7	.	.
Carex montana	.	.	.	.	.	.	.	7	1	55	61	15	5	7	2	.	.	13	.	7	.	.
Trifolium ochroleucon	.	.	.	.	.	.	.	.	1	15	17	11	.	2	.	.	.	13	.	.	.	.
3.3 Euphorbio-Caricetum montanae, (5.2 Filipendulo-Arrhenatheretum, 7 Molinion)																						
Galium boreale	.	.	.	.	.	.	.	3	7	53	33	68	2	33	7	20	*14*	72	37	29	41	67
Betonica officinalis	.	.	.	3	.	.	.	6	19	64	39	60	12	43	11	15	.	38	26	.	23	.
3 Cirsio-Brachypodion, (1.3, 4.1a, 5.1)																						
Polygala major	.	.	.	8	.	.	.	21	8	15	.	.	.	.	.	.	.	.	.	.	.	.
Polygala comosa	.	.	.	.	.	.	.	4	17	21	.	.	3	3	1	.	.	3	.	.	5	.
Buphthalmum salicifolium	.	.	.	12	.	.	.	25	20	43	.	.	27	5	1	.	.	.	.	.	.	.
Onobrychis viciifolia	.	.	.	8	.	50	.	26	37	15	.	.	36	5	.	2	.	.	.	.	.	.
Linum catharticum	.	.	4	50	.	.	.	29	29	49	67	11	10	8	.	.	.	23	6	7	32	33
Carlina acaulis	.	.	6	42	.	.	.	23	23	38	44	6	8	13	.	2	*14*	3	.	.	.	.
Carex caryophyllea	.	.	1	4	.	.	17	17	22	55	61	6	12	3	1	.	.	.	.	.	.	33
3 Cirsio-Brachypodion, 5.1- 5.2 Ranunculo bulbosi- and Filipendulo-Arrhenatheretum, (1.3, 4.1a, 7)																						
Bromus erectus	.	9	64	**84**	***67***	***88***	83	**95**	**100**	**100**	**89**	51	**81**	**90**	21	17	*29*	46	.	21	5	33
Pimpinella saxifraga s.lat.	8	.	29	70	.	38	8	60	52	51	61	28	36	32	8	2	*29*	10	.	.	.	.
Salvia pratensis	.	.	6	34	.	25	.	69	76	81	11	9	97	45	10	.	.	3	.	.	.	.
Medicago falcata	.	.	17	26	67	63	83	66	31	26	6	2	19	6	.	4	*43*	.	.	.	.	.
Plantago media	.	.	11	71	.	25	8	59	60	64	39	.	54	13	4	4	*29*	8	.	7	5	.
Brachypodium pinnatum	.	.	9	42	.	13	.	52	39	58	83	34	12	37	4	4	.	23	.	.	.	.
Trifolium montanum	.	.	3	5	.	.	.	37	63	77	61	13	31	27	4	.	.	36	6	14	14	.
Primula veris	.	.	.	3	.	.	.	27	39	77	50	26	36	42	5	2	.	10	.	7	.	.
Ranunculus bulbosus	.	.	.	.	.	.	.	18	42	49	39	17	44	33	*29*	7	*14*	5	3	.	.	.
Ononis spinosa	.	.	.	1	.	.	.	13	36	60	39	17	36	20	1	2	*14*	21	.	36	5	33
Securigera varia	.	.	3	4	33	.	17	27	13	25	6	.	25	5	.	2	*14*	3	.	.	.	.
Ranunculus polyanthemos agg.	.	.	.	1	.	.	.	11	19	38	6	15	32	8	3	.	*14*	8	.	.	.	33
Campanula glomerata	.	.	1	18	.	.	.	9	15	17	6	6	2	14	1	2	.	13	.	.	.	.
3.2-3.3 Filipendulo-Brometum and Euphorbio-Caricetum montanae, 5.2 Filipendulo-Arrhenatheretum, 7 Molinion																						
Filipendula vulgaris	.	.	.	1	33	.	.	5	54	77	50	70	19	78	26	35	.	72	23	50	18	33
Cirsium pannonicum	.	.	.	8	.	13	.	18	30	62	39	13	7	28	1	9	.	21	.	7	.	.
Festuco-Brometea, 4.1a Anthoxantho-Agrostietum (dry), 5.1 Ranunculo bulbosi-Arrhenatheretum																						
Euphorbia cyparissias	23	55	67	68	100	25	67	57	32	34	56	19	14	7	4	.	*14*	.	.	.	.	.
Helianthemum nummularium s.lat.	8	9	71	84	33	38	92	71	32	28	83	6	14	4	.	.	*14*	5	.	.	.	.
Festuca rupicola	.	.	57	68	33	25	75	67	65	62	33	6	56	23	4	.	.	3	.	.	5	.
Centaurea scabiosa	15	73	39	74	.	13	42	81	51	49	6	.	64	6	1	2	*14*	.	.	.	.	.
Thesium linophyllon	.	55	43	83	.	.	8	38	23	51	56	2	10	6	.	.	.	.	.	.	.	.
Dianthus carthusianorum agg.	8	.	11	7	100	38	33	49	34	26	17	4	24	10	.	.	.	.	.	.	.	.
Orobanche gracilis	.	.	47	18	33	.	42	9	2	15	33	2	5	11	1	2	*14*	5	.	7	.	.
Avenula pratensis	.	.	11	8	.	.	25	.	1	.	17	2	.	1	.	.	.	.	.	.	.	.
Calluno-Ulicetea (and 3.2-3.3, 5.2-5.4)																						
Anthoxanthum odoratum	.	.	.	.	.	.	.	6	37	64	89	85	24	78	48	59	14	33	46	.	41	.
Luzula campestris agg.	.	.	.	.	.	.	.	6	37	57	83	68	15	38	9	11	.	15	14	.	9	.
Carex pallescens	.	.	.	.	.	.	.	.	5	19	61	81	2	18	7	33	.	31	26	7	18	33
Festuca rubra agg.	.	.	.	.	.	.	.	4	23	28	78	64	14	46	29	35	14	18	31	14	9	33
Potentilla erecta	.	.	.	.	.	.	.	2	5	21	72	66	.	8	4	2	.	72	14	21	82	100
Polygala vulgaris	.	.	.	.	.	.	.	1	5	15	94	38	2	4	.	.	.	3	.	.	.	.
Agrostis capillaris	.	.	.	.	.	.	.	.	3	15	78	53	2	19	12	11	14	21	.	.	5	.
Galium pumilum	.	.	.	.	.	13	.	5	12	23	72	38	5	5	.	.	.	5	.	.	.	.
Danthonia decumbens	.	.	.	.	.	.	.	.	2	4	83	26	.	2	.	.	.	13	3	.	9	33
Viola canina	.	.	.	.	.	.	.	2	4	8	72	36	2	3	.	.	.	15	.	.	.	.
Thymus pulegioides	.	.	.	.	.	.	.	4	8	15	72	32	2	3	.	.	.	10	.	.	.	.
Chamaecytisus supinus	.	.	.	.	.	.	.	1	10	30	78	9	2	4	.	.	.	3	.	.	5	.
Veronica officinalis	.	.	.	.	.	.	.	.	2	4	67	13	2	1	.	2	.	5	.	.	.	.
Nardus stricta	.	.	.	.	.	.	.	.	.	.	44	26	.	.	.	.	.	3	.	.	5	.
Koeleria pyramidata	.	.	.	.	.	.	.	13	15	26	56	13	3	3	.	.	.	15	.	.	.	.
Hypochaeris radicata	.	.	.	.	.	.	.	.	1	2	39	9	.	3	4	2	.	.	6	.	.	.
Prunella laciniata	.	.	.	1	.	.	.	6	8	21	44	4	2	2	1	.	.	5	.	.	.	33
Hieracium bauhinii	.	.	7	1	.	.	.	4	1	4	44	.	.	1	.	.	.	.	.	.	.	.
Genista tinctoria	.	.	.	5	.	38	.	11	8	13	28	6	2	4	1	.	.	5	.	.	.	.
5.1-5.3 Ranunculo bulbosi-, Filipendulo- and Pastinaco-Arrhenatheretum																						
Arrhenatherum elatius	.	.	1	11	.	13	25	35	42	58	17	13	**100**	**97**	**93**	39	.	8	3	7	.	.
5.3-5.4 Pastinaco-Arrhenatheretum and Ranunculo repentis-Alopecuretum																						
Poa trivialis	.	.	.	.	.	.	.	1	3	2	.	21	3	21	63	74	14	8	49	36	5	.
Bromus hordeaceus	.	.	.	.	.	.	.	1	1	4	.	6	.	5	26	33	.	.	.	.	.	.
Rumex obtusifolius	.	.	.	.	.	.	.	.	.	.	.	4	.	2	15	28	.	.	3	.	.	.
3.2-3.3 Filipendulo-Brometum and Euphorbio-Caricetum montanae, 5 Arrhenatherion																						
Trisetum flavescens	.	.	.	.	.	.	.	9	62	64	56	45	80	93	85	63	14	13	11	14	5	.
Avenula pubescens	.	.	1	11	.	13	8	15	65	70	56	57	66	75	49	26	.	21	17	14	9	.
Veronica chamaedrys agg.	.	.	.	1	.	13	.	14	46	57	22	49	46	76	71	61	14	10	20	7	.	.
Knautia arvensis	.	.	.	7	.	.	.	31	74	66	39	23	86	73	38	17	14	21	9	7	.	.
Campanula patula	.	.	.	.	.	.	.	4	32	34	50	43	34	53	33	13	14	5	3	.	5	.
Crepis biennis	.	.	.	.	.	.	.	2	22	11	.	2	49	38	46	26	.	.	11	14	.	.
Heracleum sphondylium	.	.	.	.	.	.	.	2	12	11	11	2	44	34	46	20	.	5	.	.	.	.
Vicia sepium	.	.	.	.	.	.	.	.	6	8	.	6	15	34	54	37	.	5	6	7	5	.
Pastinaca sativa	.	.	.	.	.	.	.	4	12	9	.	.	34	17	16	11	.	3	3	21	.	.
Trifolium campestre	.	.	.	.	.	13	.	2	15	9	11	4	20	12	6	7	.	3	.	.	.	.
Vicia angustifolia	.	.	.	.	.	.	.	1	10	8	6	4	32	12	9	4	.	.	.	.	.	.
6 Cynosurion																						
Trifolium repens	.	.	.	1	.	.	.	4	26	36	33	64	49	48	57	57	**71**	31	34	36	5	.
Lolium perenne	.	.	.	.	.	.	.	2	3	.	.	2	3	3	10	2	**100**	3	.	14	.	.
Plantago major	.	.	.	.	.	.	.	2	3	2	6	2	5	1	6	11	71	8	6	29	.	.
Phleum pratense	.	.	.	.	.	.	.	1	1	6	.	17	2	12	13	22	43	13	14	7	.	.
Leontodon autumnalis	.	.	.	.	.	.	8	.	.	2	.	2	.	.	1	2	29	.	.	.	.	.
Poa annua	.	.	.	.	.	.	.	1	.	.	.	.	.	1	1	.	29	.	.	.	.	.
7 Molinion																						
Molinia caerulea agg.	.	.	.	.	.	.	.	5	2	9	22	26	.	2	.	4	.	**97**	17	**64**	68	**67**
Carex tomentosa	.	.	.	.	.	.	.	1	6	19	.	17	3	6	.	13	.	59	17	50	14	33
Selinum carvifolia	.	.	.	.	.	.	.	1	3	.	.	17	.	2	1	.	.	26	3	.	5	.
Inula salicina	.	.	.	.	.	13	.	6	9	13	6	4	3	10	.	9	.	26	6	14	.	33
Ophioglossum vulgatum	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	10	.	.	.	.
8 Calthion																						
Cirsium rivulare	.	.	.	.	.	.	.	.	1	.	.	9	.	.	1	9	.	21	**94**	36	64	67
Cirsium oleraceum	.	.	.	.	.	.	.	.	.	.	.	4	2	5	10	30	.	8	49	21	23	.
Carex nigra	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4	.	3	23	.	5	.
Caltha palustris	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	23	.	14	.
9 Potentillion anserinae																						
Juncus inflexus	.	.	.	.	.	.	.	.	.	.	.	2	.	.	1	2	.	10	26	**71**	27	.
Carex distans	.	.	.	.	.	.	.	.	1	.	.	2	.	.	.	.	.	18	6	57	18	67
Agrostis stolonifera agg.	.	.	.	.	.	.	.	2	1	4	11	9	2	6	2	11	*29*	21	20	57	9	.
Pulicaria dysenterica	.	.	.	.	.	.	.	.	.	.	.	.	.	2	1	.	.	18	3	50	27	.
Lythrum salicaria	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	7	.	10	11	50	9	.
Eleocharis uniglumis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	43	.	.
Potentilla reptans	.	.	.	.	.	.	.	.	4	6	6	11	.	3	12	15	*29*	21	6	43	.	.
Potentilla anserina	.	.	.	.	.	.	.	.	.	.	.	2	.	.	1	.	.	3	9	36	.	.
Festuca arundinacea	.	.	.	.	.	.	.	.	3	.	.	6	.	3	2	2	.	15	.	29	5	.
Mentha aquatica	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	6	29	14	.
5.4 Ranunculo repentis-Alopecuretum, 8 Calthion, (4.1b)																						
Ranunculus repens	.	.	.	.	.	.	.	.	1	2	.	9	.	2	19	54	*43*	8	60	43	36	33
Alopecurus pratensis	.	.	.	.	.	.	.	.	6	4	.	19	8	23	46	**89**	.	3	20	21	.	.
Lychnis flos-cuculi	.	.	.	.	.	.	.	.	3	2	.	32	2	13	13	33	.	5	69	7	14	.
Trifolium dubium	.	.	.	.	.	.	.	1	7	6	28	15	5	13	4	13	*29*	5	26	7	9	.
Lysimachia nummularia	.	.	.	.	.	.	.	.	1	6	.	19	2	11	13	41	.	23	63	36	9	.
Carex hirta	.	.	.	.	.	.	.	.	.	.	.	34	.	4	10	33	*29*	15	54	36	.	.
Cirsium canum	.	.	.	.	.	.	.	.	1	2	.	11	2	2	1	22	.	28	11	50	23	.
Silaum silaus	.	.	.	.	.	.	.	1	5	4	.	21	2	9	2	9	.	49	37	14	18	.
Molinietalia, Caricetalia davallianae																						
Scorzonera humilis	.	.	.	.	.	.	.	.	.	2	6	13	.	3	.	2	.	15	20	.	36	100
Dactylorhiza maculata et majalis	.	.	.	.	.	.	.	.	1	.	.	15	.	1	1	2	.	21	43	.	59	33
Succisa pratensis	.	.	.	.	.	.	.	.	.	.	11	11	.	.	.	.	.	28	9	7	36	67
Equisetum palustre	.	.	.	.	.	.	.	.	1	.	.	2	.	.	.	.	.	10	29	.	55	33
Trollius europaeus	.	.	.	.	.	.	.	.	.	.	.	6	.	1	.	2	.	10	37	.	27	.
Juncus conglomeratus	.	.	.	.	.	.	.	.	1	.	.	15	.	1	.	7	.	10	23	7	27	.
Veratrum album	.	.	.	.	.	.	.	.	1	.	.	13	.	1	.	.	.	18	9	7	32	.
Molinietalia, Potentillo-Polygonetalia, Caricetalia davallianae, (4.1b)																						
Carex panicea	.	.	.	.	.	.	.	.	6	6	11	49	.	3	1	15	.	74	63	64	95	67
Sesleria uliginosa	.	.	.	.	.	.	.	.	8	8	6	15	2	.	.	2	.	62	31	36	64	100
Juncus articulatus	.	.	.	.	.	.	.	.	1	.	.	6	.	.	.	4	.	26	43	71	45	.
Deschampsia cespitosa	.	.	.	.	.	.	.	1	1	.	6	21	.	4	3	9	*14*	33	26	57	18	33
Juncus effusus	.	.	.	.	.	.	.	.	.	.	.	19	.	1	.	4	.	18	40	29	27	.
Lysimachia vulgaris	.	.	.	.	.	.	.	.	.	2	.	2	.	1	.	11	.	21	9	21	14	33
Lotus maritimus	.	.	.	.	.	.	.	.	1	8	.	2	.	.	.	.	.	31	.	29	5	100
Equisetum arvense	.	.	.	.	.	.	.	1	4	4	.	15	2	7	9	13	.	18	34	29	45	33
Molinio-Arrhenatheretea																						
Plantago lanceolata	.	.	13	38	.	.	17	38	91	94	94	98	93	92	93	93	57	59	77	43	50	33
Dactylis glomerata	.	.	3	25	.	50	17	66	89	91	61	72	100	97	97	80	86	62	46	50	14	33
Trifolium pratense	.	.	1	1	.	.	.	17	71	66	50	77	76	82	90	89	86	51	80	57	45	.
Ranunculus acris	.	.	.	.	.	.	.	.	28	38	39	81	36	79	84	87	57	69	91	71	45	33
Centaurea jacea	.	.	.	5	.	.	.	20	65	64	83	66	69	86	46	37	14	62	66	64	41	33
Holcus lanatus	.	.	.	.	.	.	.	1	25	45	78	96	15	88	53	76	14	74	97	64	32	33
Festuca pratensis	.	.	.	.	.	.	.	5	43	42	33	66	61	78	75	72	71	38	77	57	23	.
Leontodon hispidus	.	.	3	32	.	.	.	25	70	81	100	64	66	74	34	22	14	44	14	36	27	67
Lathyrus pratensis	.	.	.	.	.	.	.	3	41	47	11	55	66	80	61	74	.	49	86	64	36	.
Rumex acetosa	.	.	.	.	.	.	.	1	37	49	50	62	51	83	68	74	29	31	54	14	9	.
Colchicum autumnale	.	.	.	.	.	.	.	4	28	40	33	64	44	60	37	52	.	64	63	21	32	.
Galium mollugo agg.	.	.	3	7	.	.	.	13	43	47	11	28	64	78	85	76	14	15	40	21	5	.
Leucanthemum vulgare agg.	.	.	.	.	.	.	.	13	60	72	78	57	53	63	34	17	.	31	31	7	18	.
Cerastium holosteoides	.	.	.	1	.	.	.	5	37	45	39	57	37	51	47	54	29	26	49	21	14	.
Cynosurus cristatus	.	.	.	.	.	.	.	.	18	26	61	77	5	51	27	43	29	38	60	50	23	.
Rhinanthus minor	.	.	.	.	.	.	.	9	49	49	67	47	54	55	27	24	.	15	37	7	.	.
Prunella vulgaris	.	.	.	.	.	.	.	1	14	36	61	62	12	35	18	28	29	56	49	36	45	33
Tragopogon orientalis	.	.	.	12	.	.	.	28	59	57	22	23	78	65	46	20	.	23	6	7	.	.
Taraxacum officinale agg.	.	.	1	5	.	.	.	12	38	25	6	4	63	28	65	61	43	8	17	21	.	.
Stellaria graminea	.	.	.	.	.	.	.	1	18	34	56	53	20	58	30	30	14	18	17	7	.	.
Vicia cracca agg.	.	.	.	3	.	13	.	23	54	62	6	6	58	35	24	11	14	8	26	29	.	.
Ajuga reptans	.	.	.	.	.	.	.	.	8	13	28	32	2	15	13	39	.	10	37	.	14	.
Pimpinella major	.	.	.	.	.	.	.	2	3	8	28	6	27	27	31	17	.	10	14	7	9	.
Alchemilla sp.	.	.	.	.	.	.	.	4	5	17	33	23	.	25	22	33	.	5	29	.	5	.
Veronica arvensis	.	.	1	.	33	.	.	2	12	6	6	2	24	16	20	7	14	3	.	.	.	.
10.1 Caricetum davallianae																						
Carex davalliana	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	8	11	29	**91**	.
Polygala amarella	.	.	.	.	.	.	.	1	1	2	.	.	.	.	.	.	.	.	.	.	32	.
10.2 Junco-Schoenetum nigricantis																						
Juncus subnodulosus	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	**67**
Schoenus nigricans	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	**33**
Scheuchzerio-Caricetea fuscae																						
Valeriana dioica	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	8	14	21	73	67
Eriophorum latifolium	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	9	.	50	33
Parnassia palustris	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	3	.	45	33
Carex pulicaris	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	8	.	.	32	33
Carex flava agg.	.	.	.	.	.	.	.	.	.	.	.	9	.	.	.	.	.	5	26	.	45	.
Carex hostiana	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	8	.	.	41	.
Eriophorum angustifolium	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	5	.	7	36	.
Epipactis palustris	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	13	.	.	32	.
Pine forest species																						
Pinus nigra	46	91	21	13	.	13	8	8	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Amelanchier ovalis	23	64	43	16	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Polygala chamaebuxus	15	18	6	22	.	.	.	1	1	.	.	.	.	.	.	.	.	.	.	.	.	.
Sorbus aria	23	.	3	9	.	.	.	1	.	2	.	.	.	.	.	.	.	.	.	.	.	.
Hippocrepis emerus	31	.	.	3	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Other species																						
Achillea millefolium agg.	.	.	11	38	67	88	67	66	86	85	94	55	95	76	70	48	100	26	11	21	14	.
Lotus corniculatus agg.	.	.	26	51	.	25	42	62	78	79	89	89	69	79	53	48	57	69	57	50	50	33
Poa pratensis agg.	.	.	1	3	67	38	50	36	57	53	28	28	81	70	71	57	86	31	17	29	5	.
Briza media	.	.	14	50	.	.	.	34	57	87	94	66	22	56	5	11	.	54	34	43	55	100
Galium verum agg.	.	.	.	3	.	63	25	39	46	70	72	51	25	51	13	15	.	69	29	50	27	67
Carex flacca	.	.	3	4	.	.	.	17	32	47	56	47	10	16	1	9	14	85	43	79	91	100
Medicago lupulina	.	.	3	.	33	.	33	16	43	38	22	2	53	25	20	11	14	5	23	21	5	.
Viola hirta	.	.	4	14	.	13	.	36	42	70	44	17	32	24	8	4	.	26	3	.	5	33
Hypericum perforatum	.	.	10	3	100	.	17	23	20	36	50	9	12	23	13	11	.	10	3	.	.	.
Fragaria viridis	.	.	1	3	33	.	8	39	37	45	22	13	19	16	6	2	14	13	.	.	.	.
Daucus carota	.	.	1	.	.	.	8	14	36	43	17	4	32	33	14	9	14	3	11	7	.	.
Cruciata laevipes	.	.	.	.	.	.	.	3	10	21	28	30	15	44	29	33	.	5	9	.	.	.
Clinopodium vulgare	.	.	1	.	.	.	.	6	21	40	39	21	14	28	15	11	.	15	.	7	.	.
Crataegus monogyna	.	.	6	29	.	.	8	32	8	19	33	19	3	3	.	2	.	10	.	7	.	.
Hieracium pilosella	.	.	23	11	.	13	25	16	6	9	56	9	2	.	1	.	.	.	.	.	.	.
Potentilla alba	.	.	.	.	.	.	.	.	7	30	39	13	7	15	3	2	.	21	.	.	.	33
Carpinus betulus	.	.	.	4	.	.	8	12	15	15	72	13	3	6	1	.	.	13	.	.	5	.
Calamagrostis epigejos	.	.	.	1	.	.	.	2	6	9	22	34	3	9	7	9	.	23	.	36	5	.
Glechoma hederacea	.	.	.	.	.	.	.	2	4	6	6	11	5	15	26	26	29	10	6	14	.	.
Trifolium alpestre	.	.	1	3	33	.	.	14	14	36	39	9	7	2	1	.	.	.	.	.	.	.
Rosa canina agg.	.	.	3	3	33	38	.	20	4	9	22	4	2	4	1	.	.	5	.	.	.	.
Vincetoxicum hirundinaria	.	.	24	24	67	.	.	19	2	6	.	.	3	2	.	.	.	.	.	.	.	.
Peucedanum cervaria	.	.	13	22	.	25	17	40	8	8	.	.	5	4	.	.	.	.	.	.	.	.
Geranium sanguineum	.	.	9	16	33	25	17	25	6	8	.	.	3	.	.	.	.	.	.	.	.	.
Lathyrus pannonicus s.lat.	.	.	.	1	.	13	.	4	6	19	.	2	.	2	.	2	.	21	11	7	27	.
Elymus repens	.	.	.	.	.	38	8	4	5	4	.	4	7	3	8	9	.	3	.	21	.	.
Falcaria vulgaris	.	.	.	3	.	88	.	11	3	2	.	.	5	.	.	.	.	.	.	.	.	.
Trifolium medium	.	.	.	.	.	.	.	5	10	19	33	4	2	19	4	2	.	3	3	7	.	.
Echium vulgare	.	.	14	1	67	.	17	9	1	.	.	.	.	.	1	.	.	.	.	.	.	.
Asperula tinctoria	.	.	4	11	.	25	.	7	4	15	22	4	.	3	.	.	.	15	.	.	.	33
Allium carinatum	.	.	.	.	.	.	.	1	2	13	6	11	.	8	4	4	.	28	3	21	.	.
Galium glaucum	.	.	1	12	.	63	8	12	1	.	.	.	2	.	.	.	.	.	.	.	.	.
Bellis perennis	.	.	.	.	.	.	.	1	8	.	.	.	7	8	18	22	14	5	11	.	5	.
Silene vulgaris	.	.	.	1	.	13	.	10	10	13	.	.	29	13	4	2	.	.	3	.	.	.
Scirpus sylvaticus	.	.	.	.	.	.	.	.	.	.	.	4	.	.	.	.	.	3	37	.	50	.
Tanacetum corymbosum	.	.	4	14	.	.	.	18	11	30	.	.	12	5	.	.	.	.	.	.	.	.
Carum carvi	.	.	.	.	.	.	.	2	4	2	11	4	8	6	18	22	.	3	14	.	.	.
Medicago sativa agg.	.	.	.	.	.	.	.	4	18	13	.	.	36	8	11	2	.	.	.	.	.	.
Dorycnium herbaceum	.	.	1	.	.	.	8	1	2	6	50	13	.	.	.	.	.	8	.	.	.	33
Minuartia rubra	.	9	11	.	33	.	25	1	1	.	.	.	.	.	.	.	.	.	.	.	.	.
Quercus cerris	.	.	.	3	.	.	.	5	2	11	44	9	.	1	.	.	.	3	.	.	.	.
Knautia drymeia	.	.	.	.	.	.	.	2	4	9	6	6	.	23	10	4	.	3	3	.	.	.
Dictamnus albus	.	.	21	16	.	25	.	8	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Myosotis ramosissima	.	.	9	.	.	.	50	2	1	2	.	.	3	1	.	.	.	.	.	.	.	.
Peucedanum alsaticum	.	.	.	3	.	38	.	16	.	.	.	.	3	.	1	.	.	.	.	.	.	.
Veronica prostrata	.	.	6	3	.	.	33	6	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Gymnadenia conopsea	.	.	.	7	.	.	.	4	1	2	6	2	.	.	.	.	.	13	.	7	5	67
Geum urbanum	.	.	.	.	.	.	.	3	1	.	.	.	.	2	7	4	29	.	.	.	.	.
Senecio rupestris	.	.	16	1	.	.	25	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cirsium vulgare	.	.	.	.	.	.	.	1	3	.	.	4	.	1	3	.	29	.	.	.	.	.
Capsella bursa-pastoris	.	.	.	.	.	.	.	.	2	.	.	.	.	2	4	.	29	.	.	.	.	.
Muscari tenuiflorum	.	.	6	.	.	25	.	2	1	.	.	.	2	.	.	.	.	.	.	.	.	.
Crepis paludosa	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	9	.	23	33
Erodium cicutarium	.	.	.	.	.	25	8	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.
Rapistrum perenne	.	.	.	4	.	25	.	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Taraxacum palustre	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	.	21	9	.
Valerianella carinata	.	.	.	.	.	.	33	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Sideritis montana	.	.	6	.	.	.	25	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Gentiana pneumonanthe	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	33
Cryptogams																						
# of rel. with cryptogams recorded	13	11	46	51	2	1	8	39	41	17	7	15	30	18	12	2	3	11	9	1	7	2
Abietinella abietina	.	.	24	21	.	.	26	23	32	19	.	.	28	13	.	.	.	.	.	.	16	.
Tortella tortuosa	23	36	62	16	.	.	87	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Plagiomnium affine	8	.	.	.	.	.	.	11	28	34	.	.	47	53	9	.	.	.	.	.	.	.
Rhytidiadelphus triquetrus	.	.	.	.	.	.	.	3	28	34	.	13	20	13	.	.	.	18	.	.	16	.
Rhytidium rugosum	.	.	9	18	.	.	.	11	21	34	.	.	.	.	.	.	.	.	.	.	.	.
Homalothecium lutescens	.	.	9	30	.	.	.	17	4	.	.	.	.	.	.	.	.	.	.	.	.	.
Tortula ruralis	.	9	30	.	.	.	87	3	4	.	.	.	6	.	.	.	.	.	.	.	.	.
Fissidens taxifolius	.	.	.	.	.	.	.	11	28	19	.	.	14	7	9	.	.	.	.	.	.	.
Thuidium delicatulum	.	.	.	.	.	.	.	6	28	19	.	.	16	20	.	.	.	.	.	.	16	.
Calliergonella cuspidata	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	46	.	53	101	.	85	50
Homalothecium sericeum	.	.	.	.	.	.	.	.	39	19	.	.	10	13	.	.	.	.	.	.	.	.
Toninia sp.	.	82	29	.	.	.	12	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Hypnum cupressiforme	8	.	5	.	.	.	.	6	14	19	15	.	6	20	.	.	.	.	.	.	.	.
Scleropodium purum	.	.	.	.	.	.	.	.	11	19	15	13	6	20	.	.	.	28	.	.	.	.
Cladonia sp.	15	.	32	.	.	.	38	3	4	6	.	.	.	.	.	.	.	.	.	.	.	.
Plagiomnium undulatum	.	.	.	.	.	.	.	3	18	12	.	.	10	7	9	46	.	.	.	.	.	.
Plagiomnium rostratum	.	.	.	.	.	.	.	.	.	.	.	13	.	.	.	.	.	28	43	.	85	.
Tortella inclinata	.	.	29	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ditrichum flexicaule	.	.	30	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Brachythecium sp.	.	.	.	.	.	.	.	.	7	.	.	.	14	20	.	46	.	.	.	.	.	.
Squamarina cartilaginea	.	45	14	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Grimmia orbicularis	.	9	20	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Campylium stellatum	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	18	.	.	72	50
Psora decipiens	.	55	5	.	.	.	12	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Climacium dendroides	.	.	.	.	.	.	.	.	.	.	.	.	.	7	.	46	33	.	43	.	28	.
Campylium stellatum	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	18	.	.	72	50
Fissidens adianthoides	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	23	.	72	50
Hypnum cupressiforme	8	.	.	7	.	.	26	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Peltigera rufescens	.	.	5	.	.	.	38	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Tomentypnum nitens	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	44	50
Thuidium philibertii	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	46	.	11	23	.	.	.
Drepanocladus revolvens	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	44	50
Bryum sp.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	56	50
Barbula convoluta	.	.	2	.	.	100	.	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Table 3. New relevés of the alliances *Seslerio-Festucion pallentis* and *Festucion valesiacae* from the Vienna Woods. Cover a = 2a, b = 2b. Code "n" in header data: no data available. Square brackets refer to syntaxa not shown in the table.

Tabelle 3. Neue Vegetationsaufnahmen der Verbände *Seslerio-Festucion pallentis* und *Festucion valesiacae* aus dem Wienerwald. Ein "n" in den Standortsdaten bedeutet, dass der betreffende Parameter nicht erhoben wurde. Eckige Klammern verweisen auf nicht in der Tabelle dargestellte Syntaxa.

Association	1.2b Fumano-Stipetum eriocaulis typicum															1.3 Scorzonero-Caricetum humilis											2.1
Running number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Altitude (m)	330	330	320	320	340	340	340	340	340	340	295	297	320	330	320	330	330	320	320	315	315	320	320	305	310	520
Aspect (degrees)	180	180	180	158	203	203	135	135	135	113	180	180	135	135	180	180	113	158	158	158	293	180	135	-	135	180
Slope (degrees)	15	20	10	12	25	10	5	5	3	4	18	8	6	5	12	5	5	10	10	4	5	3	1	0	5	20
Cover herb layer (%)	75	75	40	80	60	90	85	75	97	80	85	65	96	100	99	95	80	70	80	97	95	99	98	93	98	95
Cover moss layer (%)	n	n	n	n	n	n	n	n	n	n	5	60	10	1	10	n	n	n	n	5	4	50	20	50	20	0
Plot size (m²)	25	25	25	25	25	25	25	24	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
TWINSPAN Cluster	8	8	7	8	8	8	8	8	11	11	25	6	6	10	9	11	11	11	11	10	10	10	10	10	10	23
Number of vascular plants	30	40	37	46	59	45	40	44	45	61	37	42	41	43	41	45	52	45	52	60	47	50	45	54	37	34
[1.1 and 1.2a]																										
Phyteuma orbiculare	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	+	+	+	1	.	+	.	.	.	.	.
Thalictrum minus	.	.	+	r	.	+	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.	.
Seseli austriacum	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Hieracium glaucum	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1.2 Fumano-Stipetum																										
Stipa eriocaulis	4	2	.	2	3	4	3	3	1	+	b	a	3	r	1	.	.	.	.	+	+	.	+	+	.	.
Festuca stricta subsp. stricta	+	2	.	+	1	1	2	1	1	1	.	a	a	1	1	.	+	+	.	1	+	+	.	+	.	.
Fumana procumbens	.	1	.	+	+	+	+	.	.	.	.	1	1	.	+	.	.	.	.	+	.	.	.	.	.	.
Jurinea mollis	+	+	.	1	+	r	.	+	.	1	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.
Ononis pusilla	+	.	.	.	+	+	.	.	.	.	.	.	.	.	+	.	.	.	.	r	.	+	.	.	.	.
Campanula sibirica	+	r	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Jovibarba globifera subsp. hirta	.	.	+	.	.	.	.	.	.	.	+	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Onosma visianii	.	.	+	r	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.
Poa badensis	.	.	.	.	+	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1 Seslerio-Festucion pallentis																										
Carex humilis	1	2	+	3	2	2	+	1	1	2	.	a	b	3	b	2	1	3	3	3	a	a	b	3	a	.
Dorycnium germanicum	.	1	1	1	1	+	+	1	+	1	3	a	1	a	a	.	+	+	.	1	a	a	a	a	a	.
Teucrium montanum	1	1	2	1	+	+	1	1	.	+	.	+	1	1	1	+	+	+	.	+	1	+	1	a	+	.
Sesleria albicans	.	.	+	+	.	+	+	+	1	3	.	.	.	a	.	2	2	1	2	.	a	.	1	.	+	.
Scorzonera austriaca	+	+	r	+	+	+	+	+	+	+	.	.	1	.	+	+	+	+	+	+	+	+	.	+	.	.
Anthericum ramosum	.	+	.	1	.	+	+	+	+	+	.	.	1	1	.	1	+	1	1	1	1	+	+	+	+	.
Helianthemum canum	+	.	+	+	+	+	1	+	.	.	.	a	a	+	1	.	.	+	.	1	1	.	.	a	.	.
Pulsatilla grandis	.	+	.	+	+	+	+	1	.	+	.	.	.	+	+	+	.	+	.	1	1	1	1	1	.	.
Scabiosa canescens	.	.	.	.	.	+	.	+	.	.	.	+	1	1	+	+	.	.	.	1	b	a	1	1	a	.
Linum tenuifolium	+	+	r	.	+	.	.	.	.	.	+	1	+	+	+	.	.	.	.	+	+	+	1	+	+	.
Thymus praecox	+	1	2	1	1	1	2	1	1	1	.	.	.	.	.	+	.	+	.	.	.	.	.	.	.	.
Globularia punctata	+	+	.	1	+	2	1	+	.	1	.	.	.	.	.	1	+	+	.	.	.	.	.	.	.	.
Leontodon incanus	.	.	.	+	.	.	.	.	.	.	.	+	+	+	.	.	.	+	.	a	+	r	1	1	+	.
Genista pilosa	.	.	+	.	.	.	.	.	.	.	.	.	.	1	1	+	.	.	+	.	1	+	a	+	.	.
Seseli hippomarathrum	.	+	r	+	+	.	.	.	.	.	.	1	.	.	+	+	.	r	.	.	+	r	.	.	.	.
Globularia cordifolia	.	.	.	.	+	.	.	.	.	.	.	b	.	.	1	.	.	.	.	+	b	.	.	1	.	.
Galium lucidum	.	.	.	.	+	.	.	.	+	1	.	1	.	.	.	.	.	.	.	.	r	.	.	.	.	.
Viola rupestris	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	+	.	.	.
1.3 Scorzonero-Caricetum humilis																										
Adonis vernalis	.	.	.	.	r	+	.	+	+	.	.	.	+	.	1	+	+	.	.	a	r	1	1	+	1	.
Inula hirta	.	.	.	.	.	1	+	1	.	2	.	.	.	.	.	+	1	+	.	1	.	a	1	.	.	.
Stipa joannis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	+	1	a	.	1	+	.
Prunella grandiflora	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	+	1	a	a	1	.	.
Linum flavum	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	a	.	.	.
Scorzonera purpurea	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	+	.	.	r	+	+	.
1.2 Fumano-Stipetum, 2.1 Stipo-Festucetum valesiacae																										
Alyssum alyssoides	1	1	1	.	+	+	+	+	+	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+
Arenaria serpyllifolia agg.	.	1	1	1	+	+	+	+	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r
Melica ciliata	+	.	+	.	+	+	.	+	.	+	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Arabis hirsuta agg.	.	.	.	r	r	.	+	.	.	.	.	r	.	+	.	.	.	.	r	r	.	.	.	.	.	.
Cerastium glutinosum	+	+	.	1	.	+	+	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.
Thlaspi perfoliatum	1	.	.	.	+	+	.	.	.	.	.	.	.	.	.	+	.	+	+	.	.	.	.	.	.	.
Allium sphaerocephalon	.	.	1	.	+	.	.	+	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Sedum album	.	.	+	.	+	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Petrorhagia saxifraga	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.	.	.	.	.	.	.	+
Arabis auriculata	1	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Hornungia petraea	.	.	1	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Bothriochloa ischaemum	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.
2.1 Stipo-Festucetum valesiacae																										
Medicago minima	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r
Cruciata pedemontana	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+
[2.2 Salvio-Festucetum rupicolae]																										
Elymus hispidus	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+
2 Festucion valesiacae																										
Festuca valesiaca	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	a
Artemisia campestris	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+
Inula oculus-christi	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1
All. 1 and 2																										
Inula ensifolia	1	.	.	2	.	+	+	1	1	1	+	1	.	a	b	2	1	1	2	+	b	1	b	1	.	.
Teucrium chamaedrys	+	+	1	2	1	2	.	+	2	2	.	1	b	a	a	+	+	.	.	1	.	1	.	1	+	1
Potentilla incana	.	+	+	1	1	1	2	2	1	1	.	a	1	1	1	+	.	2	.	+	.	.	.	1	1	+
Aster linosyris	+	1	.	1	+	1	1	1	1	+	.	.	+	+	1	+	.	1	+	1	+	1	+	+	1	.
Anthyllis vulneraria	.	.	.	.	.	1	1	+	+	.	.	1	1	1	b	+	r	.	.	a	a	1	1	1	a	.
Sanguisorba minor	.	.	.	.	+	r	+	+	+	+	1	1	1	1	+	1	.	+	.	1	1	1	+	+	1	.
Asperula cynanchica	.	.	1	.	+	+	+	+	.	+	+	1	+	+	+	+	.	.	.	+	.	+	+	+	.	.
Chamaecytisus ratisbonensis	.	.	.	.	.	+	.	.	+	+	.	.	+	+	+	.	.	1	+	1	+	1	+	a	1	.
Scabiosa ochroleuca	.	+	.	.	+	+	.	+	+	+	.	+	+	.	+	.	.	.	r	+	.	.	.	+	+	+
Seseli annuum	.	.	.	.	.	+	+	+	+	.	.	.	+	+	.	.	r	.	.	1	+	+	+	1	+	.
Centaurea stoebe	.	.	.	+	.	.	.	.	.	.	.	+	1	+	r	.	.	+	.	1	+	+	.	+	+	+
Iris pumila	2	2	.	.	1	1	1	2	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	a
Thymus odoratissimus	.	.	.	.	.	.	.	.	.	.	.	+	a	+	1	.	.	.	.	1	+	.	+	1	1	.
Stachys recta	+	+	.	r	+	+	1	+	.	+	.	.	.	.	.	.	.	+	.	.	.	.	.	.	1	.
Cuscuta epithymum	.	.	.	.	+	+	.	.	+	+	+	.	.	1	.	.	.	.	.	+	.	.	.	+	1	.
Senecio jacobaea	.	.	.	.	.	.	.	.	.	+	.	+	+	.	.	.	.	.	.	+	.	+	r	+	.	.
Odontites luteus	.	.	.	.	.	.	.	.	.	.	.	1	+	1	+	.	.	.	.	+	.	.	.	+	.	.
Stipa capillata	.	.	+	.	.	.	+	+	.	.	.	.	+	.	.	1	.	.	.	.	.	.	.	.	.	.
Eryngium campestre	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	+	.	.	.	.	.	1
Linaria genistifolia	.	.	r	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+
Muscari neglectum	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	+
Koeleria macrantha	.	.	.	.	+	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Allium flavum	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Phleum phleoides	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1
1.3 Scorzonero-Caricetum humilis [and All. 3]																										
Pimpinella saxifraga	.	.	.	r	.	.	.	.	.	.	.	+	+	1	+	.	r	.	.	+	+	+	+	+	+	.
Plantago media	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	1	+	a	1	1	+	.
Salvia pratensis	.	.	.	.	.	+	.	.	.	.	.	.	.	.	+	1	.	.	.	a	.	1	.	+	.	.
Medicago falcata	.	.	.	.	.	.	.	.	+	+	.	+	.	.	.	.	.	.	.	+	.	.	.	+	.	+
Carlina acaulis	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	+	.	r	a	.	.	.
Hypochaeris maculata	.	r	.	r	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.	.	.	.
Carex caryophyllea	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	1	.	1	.	.	.
Linum catharticum	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	+	.	+	.	.	.
Scorzonera hispanica	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.
Securigera varia	.	.	.	.	r	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Aster amellus	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Primula veris	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.
Campanula glomerata	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Buphthalmum salicifolium	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.
Polygala major	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.
Festuco-Brometea																										
Bromus erectus	.	.	.	.	+	.	.	.	+	.	.	b	a	b	a	.	.	.	2	b	a	b	a	a	4	3
Brachypodium pinnatum	.	.	.	.	.	.	.	.	3	1	.	.	.	.	.	3	3	.	+	.	.	.	1	.	.	.
Helianthemum nummularium	+	r	+	1	1	+	+	1	+	1	1	.	1	1	1	+	+	+	+	a	1	a	1	1	a	.
Euphorbia cyparissias	+	+	r	+	+	+	+	+	.	+	1	.	.	.	.	+	+	+	+	+	.	r	+	+	1	+
Thesium linophyllon	.	.	.	+	+	+	.	.	.	+	.	.	+	.	1	+	+	+	+	+	+	+	1	+	.	.
Centaurea scabiosa	.	.	r	.	.	.	.	+	+	1	.	.	r	1	.	.	r	.	r	a	+	1	1	1	+	.
Achillea collina	.	.	.	.	.	.	.	.	.	.	.	+	.	+	.	.	.	.	.	1	.	+	.	.	+	+
Orobanche gracilis	.	.	.	.	r	.	.	+	.	.	.	r	.	.	.	.	.	.	.	.	.	r	.	r	.	.
Dianthus carthusianorum agg.	+	+	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+
Festuca rupicola	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	+	.	.	.	+
Hieracium bauhinii	.	+	+	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Stipa pulcherrima	.	.	.	.	.	.	.	.	.	.	.	.	.	.	a	.	.	.	.	.	.	.	.	.	.	.
Ophrys apifera	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.
Ophrys holoserica	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Molinio-Arrhenatheretea																										
Plantago lanceolata	.	.	.	.	.	.	.	.	.	.	.	+	+	+	.	.	.	.	.	1	+	+	+	1	1	.
Galium mollugo agg.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	+	.	.	.	+	+	.	+	.	+	.	.
Avenula pubescens	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	1	1	1	.
Dactylis glomerata	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	+	.	+	.	+	+	.
Tragopogon orientalis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	+	r	+	.	.
Arrhenatherum elatius	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	1	.	.	.	+	.	.
Leontodon hispidus	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	r	.	.	.	.	.
Veronica arvensis	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r
Knautia arvensis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.
Centaurea jacea	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.
Cerastium holosteoides	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.
Other species																										
Polygonatum odoratum	+	2	+	1	1	2	2	2	2	1	.	.	.	.	.	1	2	2	1	.	.	.	.	.	.	.
Rhamnus saxatilis	.	2	+	.	+	+	+	+	2	1	.	.	.	.	1	+	2	.	+	.	.	.	.	.	.	.
Bupleurum falcatum	+	.	.	r	.	.	.	.	.	+	.	.	.	1	+	+	+	.	+	+	+	+	+	1	+	.
Amelanchier ovalis	+	.	+	+	+	.	.	+	+	1	.	.	.	.	.	1	1	1	1	.	.	1	.	.	.	.
Lotus corniculatus agg.	.	.	.	.	+	.	.	.	.	.	.	+	+	.	+	.	.	.	.	a	1	+	+	1	.	.
Vincetoxicum hirundinaria	.	.	.	r	+	r	+	+	1	+	.	.	.	.	.	+	1	.	.	.	.	.	.	.	.	.
Dictamnus albus	+	+	.	.	.	r	+	+	+	+	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.
Myosotis arvensis	1	1	+	+	+	.	.	.	.	.	.	.	.	.	.	+	.	+	1	.	.	.	.	.	.	.
Carex halleriana	.	.	.	+	+	.	.	.	.	+	a	.	.	.	.	.	+	.	1	.	.	.	.	.	.	.
Cornus sanguinea	.	.	.	.	.	.	.	.	2	.	a	.	.	.	.	.	+	+	+	.	.	.	.	.	.	.
Quercus pubescens	.	r	.	.	.	.	.	.	.	r	1	.	.	.	.	+	+	r	r	.	.	.	.	.	.	.
Briza media	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	+	1	+	1	1	+	.
Crataegus monogyna	.	.	.	.	+	.	.	.	.	.	+	.	.	.	.	r	.	.	+	.	+	.	r	.	.	.
Erysimum odoratum	.	.	.	.	+	.	+	+	+	+	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.
Peucedanum cervaria	.	.	.	.	.	.	.	.	1	+	.	.	.	.	.	.	+	+	+	.	.	.	.	.	.	.
Viola hirta	.	.	.	.	.	.	.	.	+	+	+	.	.	.	.	+	+	.	.	.	.	.	.	.	.	.
Geranium sanguineum	.	.	.	.	r	.	.	r	.	+	.	.	.	.	.	.	+	.	r	.	.	.	.	.	.	.
Berberis vulgaris	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	1	r	+	.	.	.	.	.	.	.
Fraxinus excelsior	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	+	r	r	+	.	.	.	.	.	.	.
Rosa pimpinellifolia	.	.	+	.	.	.	.	.	.	+	.	.	.	.	.	+	+	.	1	.	.	.	.	.	.	.
Sorbus aria	.	.	.	.	.	.	.	.	1	+	.	.	.	.	.	+	.	r	1	.	.	.	.	.	.	.
Hypericum perforatum	.	r	.	.	+	.	r	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	+
Acer campestre	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	+	.	r	r	.	.	.	.	.	.	.
Melittis melissophyllum	.	.	.	.	.	.	r	.	+	+	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.
Mercurialis ovata	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.	+	.	+	.	.	.	.	.	.	.
Muscari tenuiflorum	.	.	.	.	.	.	+	+	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Rosa canina agg.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	r	r	.	.	.	.	.	.	+
Asperula tinctoria	.	.	.	+	.	.	.	.	1	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.
Centaurea triumfettii	.	.	.	.	r	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	+
Convolvulus cantabrica	.	+	.	1	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Euonymus verrucosus	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.
Ligustrum vulgare	.	.	.	.	1	.	.	.	.	.	r	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.
Poa angustifolia	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	+	.	+
Hieracium pilosella	.	.	.	.	.	.	.	.	.	.	a	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.
Carlina vulgaris agg.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	+	.	.	.	.	+	.	.	.
Seseli libanotis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	1	.	.	.	.	.	.	.
Tanacetum corymbosum	.	.	.	.	+	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Buglossoides purpurocaerulea	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.
Clematis vitalba	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.
Cornus mas	.	.	+	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Corylus avellana	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	r	.	.	.	.	.	.	.
Hieracium hoppeanum	.	.	.	.	.	.	.	.	.	.	.	.	r	.	+	.	.	.	.	.	.	.	.	.	.	.
Pinus nigra	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	1	.	.	.	.	.	.	.	.	.
Prunus mahaleb	.	.	.	.	.	.	.	.	.	r	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Viburnum lantana	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	+	.	.	.	.	.	.	.
Euphrasia stricta	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	+	.
Taraxacum sp.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	r	.	.	.	.	.	.	.

Other species occurring in one relevé: Allium vineale: 11: r; Arabis turrita: 17: +; Berteroa incana: 9: r; Carduus acanthoides: 19: r; Carduus nutans: 14: r; Cirsium arvense: 19: +; Clinopodium vulgare: 11: r; Convolvulus arvensis: 26: r; Conyza Canadensis: 12: r; Cotoneaster integerrimus: 21: +;Daucus carota: 11: r; Euphorbia angulata: 17: +; Fragaria viridis: 22: 1; Galium glaucum: 10: +; Galium verum: 22: +; Gymnadenia conopsea: 16: r; Inula conyza: 19: +; Laburnum anagyroides: 15: r; Lactuca serriola: 19: r; Lathyrus latifolius: 11: +; Lepidium campestre: 20: +; Melampyrum arvense: 11: 1; Melampyrum cristatum: 4: r; Melampyrum nemorosum: 17: +; Origanum vulgare: 19: +; Ornithogalum kochii: 12: +; Petrorhagia prolifera: 11: +; Picris hieracioides: 11: r; Poa compressa: 13: 1; Polygala amara: 9: +; Polygala chamaebuxus: 18: r; Prunus spinosa: 3: +; Pyrus pyraster: 26: +; Quercus petraea: 18: r; Rhamnus cathartica: 10: +; Sideritis montana: 12: r; Silene vulgaris: 25: +; Stellaria media: 7: r; Tephroseris integrifolia: 21: r; Tragopogon dubius: 11: r; Trifolium alpestre: 26: 1; Verbascum chaixii subsp. austriacum: 11: r; Viola arvensis: 26: +

Table 4. New relevés of the alliance *Cirsio-Brachypodion* from the Vienna Woods. Cover a = 2a, b = 2b. Code "n" in header data: no data available. Land use codes: G: grazed, M: mown, O: occasionally mown, A: abandoned. Square brackets refer to syntaxa not shown in the table.

Tabelle 4. Neue Vegetationsaufnahmen des Verbands *Cirsio-Brachypodion* aus dem Wienerwald. Ein "n" in den Standortsdaten bedeutet, dass der betreffende Parameter nicht erhoben wurde. Bewirtschaftung: G: beweidet, M: gemäht, O: unregelmäßig gemäht, A: verbracht. Eckige Klammern verweisen auf nicht in der Tabelle dargestellte Syntaxa.

Association	3.1 Polygalo-Brachypodietum															3.2 Filipendulo vulgaris-Brometum																											3.3 Euph.verr.-Caricetum montanae								
Running number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51
Altitude (m)	360	255	303	324	465	380	343	385	300	310	320	325	330	335	350	300	422	468	273	242	281	581	357	367	414	507	275	338	435	472	317	325	320	362	595	382	275	310	420	380	460	290	316	517	331	326	329	280	340	335	375
Aspect (degrees)	135	225	180	225	135	180	-	135	180	158	135	45	45	90	360	45	90	180	338	-	293	135	45	180	225	180	-	315	90	225	225	135	180	180	203	180	-	180	225	270	225	225	32	225	360	90	180	225	135	135	180
Slope (degrees)	15	12	10	35	10	15	0	3	3	3	3	5	2	2	8	20	3	5	5	0	10	5	2	1	5	5	0	2	15	15	27	5	2	2	6	5	0	20	10	5	5	10	5	20	2	2	20	15	10	5	8
Cover herb layer (%)	85	75	98	96	90	75	95	80	90	99	100	100	100	98	100	90	98	100	100	100	95	95	95	95	98	90	98	95	95	90	95	98	98	100	90	100	95	95	95	90	98	100	100	95	85	98	98	98	99	98	95
Cover moss layer (%)	n	n	n	n	n	10	0	15	40	0	0	0	0	5	30	n	5	2	5	2	1	n	n	n	n	n	n	n	n	n	n	n	n	1	0	0	5	0	2	5	1	1	5	n	n	n	n	n	n	n	0
Plot size (m²)	25	25	25	25	25	25	25	27	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	24	25	25	25	25	25
TWINSPAN Cluster	30	26	26	27	26	21	27	25	23	26	26	27	26	26	30	28	34	30	30	32	32	34	30	30	34	30	30	32	30	30	30	34	35	32	30	32	32	31	30	34	34	32	30	30	35	35	30	30	30	35	30
Number of vascular plants	47	29	38	43	38	21	45	45	41	52	50	43	52	51	64	53	46	46	41	27	28	23	39	35	29	34	38	32	47	37	32	41	30	42	34	35	32	36	40	47	34	32	47	31	32	51	36	37	38	36	58
Land use	G	M	M	O	G	G	A	A	A	G	G	G	G	G	G	G	M	O	M	O	M	M	M	M	M	M	M	M	M	G	M	M	M	M	M	M	M	A	M	M	M	M	M	M	M	M	M	M	M	M	O
3.1 Polygalo-Brachypodietum [and All. 1]																																																			
Dorycnium germanicum	.	.	.	+	.	.	+	.	a	a	1	+	r	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Carex humilis	+	.	.	.	.	.	.	.	.	1	1	+	+	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Pulsatilla grandis	.	.	.	.	.	.	1	.	1	.	+	1	r	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Linum tenuifolium	.	.	.	.	.	.	.	a	.	+	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Festuca stricta	.	.	.	.	.	.	.	.	+	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Sesleria albicans	.	.	.	.	.	.	+	.	.	.	.	.	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
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Scabiosa canescens	.	.	.	.	.	.	.	.	r	.	1	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Anthericum ramosum	.	.	.	.	.	.	1	.	.	.	.	.	.	+	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Globularia punctata	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Stipa eriocaulis	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Fumana procumbens	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Scorzonera austriaca	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Teucrium montanum	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Galium lucidum	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Seseli hippomarathrum	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Thymus praecox	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
3.1 Polygalo-Brachypodietum [and 1.3]																																																			
Carex michelii	1	.	a	.	+	.	.	+	.	1	+	1	+	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	+
Inula hirta	.	.	.	.	.	.	+	.	.	+	.	.	.	+	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.
Prunella grandiflora	.	.	+	.	.	.	1	.	.	+	.	+	+	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Adonis vernalis	.	.	.	.	.	.	1	.	.	a	1	.	a	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Scorzonera purpurea	.	.	.	.	.	.	.	.	.	r	+	.	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Stipa joannis	.	.	.	.	.	a	.	.	.	1	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Hypochaeris maculata	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Scorzonera hispanica	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
2 Festucion valesiacae																																																			
Astragalus onobrychis	+	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Elymus hispidus	.	.	.	.	.	.	.	.	.	.	.	.	.	a	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Salvia nemorosa	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
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Festuca valesiaca	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Artemisia campestris	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Astragalus austriacus	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Spring Annuals																																																			
Arenaria serpyllifolia agg.	.	.	.	.	.	+	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	+	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Petrorhagia saxifraga	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alyssum alyssoides	.	.	.	.	.	r	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Arabis hirsuta agg.	.	.	.	.	.	.	.	.	.	.	+	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	r	.	r	.	.	.	r	.	.	.	.	r	.	.	.	.
Acinos arvensis	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Thlaspi perfoliatum	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+
3.1 Polygalo-Brachypodietum [and All. 1-2]																																																			
Teucrium chamaedrys	.	.	+	+	+	1	.	a	b	1	1	+	+	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	1	.	.	.	.	.	+	.	.	.	.	.	.	1
Anthyllis vulneraria	+	a	+	+	+	.	.	.	.	a	1	+	r	+	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Thymus odoratissimus	+	1	.	.	.	3	.	a	+	+	1	+	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	+	.	.	+
Sanguisorba minor	+	+	.	.	+	.	+	1	1	1	a	+	+	a	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.
Potentilla incana	.	.	+	.	+	+	.	.	1	1	1	.	.	.	.	+	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Scabiosa ochroleuca	.	.	+	.	.	+	.	.	1	.	+	.	.	.	r	.	.	.	r	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Asperula cynanchica	.	.	.	.	+	r	.	.	1	+	+	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	r	.	.	.	.	.
Inula ensifolia	.	.	.	a	.	.	1	.	.	1	+	1	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Eryngium campestre	+	.	.	.	.	.	.	.	+	1	+	r	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Seseli annuum	.	.	.	.	.	.	.	.	+	+	+	+	+	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Chamaecytisus ratisbonensis	.	.	.	.	.	.	.	.	.	1	1	+	+	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Muscari neglectum	.	.	.	.	.	.	.	.	r	r	r	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Odontites luteus	.	.	.	.	.	.	.	.	+	.	+	.	r	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cuscuta epithymum	.	.	.	.	.	.	.	+	.	.	1	+	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Centaurea stoebe	.	.	.	.	.	.	.	.	r	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Aster linosyris	.	.	.	.	.	.	.	.	.	.	+	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Stachys recta	r	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Senecio jacobaea	.	.	.	.	.	.	.	.	.	r	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Koeleria macrantha	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
3.3 Euphorbio verrucosae-Caricetum montanae																																																			
Betonica officinalis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	+	r	+	.	r	+	.	+	+	.	.	.	.	.	.	.	.	.	1	r	.	+	.	+	+	+
Galium boreale	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	1	+	1	1	.	.	+	+	.
Carex montana	.	.	a	a	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	1	+	.	.
Euphorbia verrucosa	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	+	.	.	.	.	+	+	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	1	1
Trifolium ochroleucon	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.
3 Cirsio-Brachypodion																																																			
Bromus erectus	a	4	3	3	4	b	1	1	3	3	4	b	3	a	1	3	3	4	3	1	3	b	3	3	a	4	3	3	4	4	4	4	3	b	3	3	4	3	3	3	3	4	3	4	1	b	3	3	3	3	3
Salvia pratensis	+	+	1	a	a	+	.	a	.	a	+	1	.	.	a	.	r	+	+	+	a	.	+	+	.	a	a	+	.	b	r	.	.	1	a	a	1	1	+	.	.	1	1	.	.	.	.	a	1	.	1
Brachypodium pinnatum	3	.	a	1	1	1	a	a	.	1	.	3	b	1	a	a	.	.	.	.	.	.	.	.	.	.	.	.	1	.	1	.	1	.	.	1	.	+	.	1	.	1	.	1	a	b	.	1	+	.	b
Trifolium montanum	1	.	a	.	+	.	+	.	a	.	.	1	.	+	a	+	r	+	.	.	.	.	+	+	.	1	.	.	.	a	.	.	.	.	a	1	.	.	1	+	.	.	+	+	.	+	1	1	1	.	a
Ranunculus bulbosus	+	.	.	.	.	.	.	.	.	.	+	.	+	+	1	+	.	.	+	.	+	+	1	.	1	+	+	1	1	+	+	+	+	1	a	.	r	.	+	.	+	.	+	.	.	r	.	+	+	+	r
Pimpinella saxifraga	+	r	+	+	.	r	+	.	.	+	+	+	+	.	+	.	.	+	.	+	+	.	+	.	+	.	.	+	1	+	.	.	.	+	.	.	+	+	.	r	.	.	+	r	.	r	.	.	.	.	.
Plantago media	r	.	+	+	+	.	r	.	+	1	1	+	.	+	+	+	.	+	+	.	+	.	.	.	.	.	.	+	.	+	.	.	.	a	a	.	.	.	.	.	+	.	.	.	.	.	+	.	.	+	+
Filipendula vulgaris	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	+	.	1	+	.	1	+	a	+	+	.	.	+	.	1	+	b	+	.	1	1	1	+	.	.	b	a	1
Cirsium pannonicum	+	.	.	a	a	.	.	.	.	.	.	1	.	.	a	1	.	.	.	.	.	.	.	+	.	.	.	.	.	+	.	.	.	.	.	+	.	1	+	.	.	.	r	1	.	.	+	1	1	.	a
Medicago falcata	+	a	+	.	.	.	1	a	a	+	+	1	1	+	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1
Carex caryophyllea	.	.	.	.	.	a	.	.	+	.	.	.	+	.	+	.	.	+	1	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	a	.	.	.	.	.	.	.	a	.	.	.	.	.	.	.	+
Primula veris	.	.	.	.	r	.	.	.	.	.	.	.	.	.	+	+	+	.	+	.	.	.	1	+	.	.	.	.	r	.	+	r	.	.	.	.	.	.	+	+	.	.	+	.	.	.	.	.	r	+	1
Ononis spinosa	+	.	r	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	r	.	+	.	.	.	.	.	.	.	1	.	1	+	.	.	.	.	r	.	+
Buphthalmum salicifolium	+	.	a	.	+	.	.	+	.	.	.	1	.	.	a	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	1	.	.	1
Linum catharticum	r	+	.	.	.	.	.	.	.	.	.	+	.	+	+	+	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	1	r	.	.	.	.	.	r	.	.	.	.	+
Securigera varia	+	1	.	.	.	.	.	.	.	1	.	.	1	+	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.
Onobrychis viciifolia	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	a	.	.	.	.	.	.	.	.	.	.	.	.	.	1	a	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.
Carlina acaulis	.	.	.	.	r	.	.	.	.	.	.	.	+	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Polygala comosa	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	1	+	.	.	.	.	.	.	.	.	.	.	+
Ranunculus polyanthemos agg.	.	.	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.
Polygala major	.	.	.	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.
Campanula glomerata	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.
Festuco-Brometea																																																			
Festuca rupicola	+	a	1	1	b	1	+	3	+	.	1	+	+	1	+	+	+	1	a	4	a	a	b	.	.	1	1	a	.	a	.	.	.	.	1	b	.	a	.	.	.	1	1	a	.	.	a	1	.	.	a
Centaurea scabiosa	1	a	1	1	+	.	+	+	.	1	+	1	a	b	a	+	.	.	.	.	.	.	.	.	.	1	a	+	+	1	.	.	.	1	+	1	1	+	+	.	.	.	.	1	.	.	.	1	.	.	+
Helianthemum nummularium	+	.	.	.	+	a	+	1	.	a	1	+	+	1	+	+	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	+	.	.	.	.	+	.	.	.	.	.	.	.	.
Euphorbia cyparissias	.	.	+	+	+	r	+	.	+	.	.	.	.	+	.	r	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.
Thesium linophyllon	.	.	+	.	.	.	.	.	.	+	.	.	+	+	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	1	+	.	.	.
Dianthus carthusianorum agg.	.	r	.	.	+	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	+	.	.	+	.	.	.	.	r	.	.	.	1	.	.	.	.
Orobanche gracilis	.	.	r	r	.	.	.	.	+	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	r
Avenula pratensis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ophrys apifera	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calluno-Ulicetea																																																			
Anthoxanthum odoratum	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	1	a	.	.	1	b	+	a	.	1	.	+	.	b	+	1	.	.	.	.	.	+	a	.	1	.	.	a	+	.	.	+	.	.
Luzula campestris agg.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	+	1	.	.	.	+	.	+	.	.	.	.	.	1	+	+	.	1	.	.	.	+	+	.	1	.	.	1	.	.	.	+	+	.
Festuca rubra agg.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	a	.	a	1	.	.	.	.	.	+	a	.	.	.	1	.	r	.	+	.	.	.	.	.	.	+	+	.	.	.	3	.	.	.	.	.	.
Galium pumilum	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	+	.	.	.	.	.	+	.	.	r	r	.
Thymus pulegioides	.	.	.	.	a	.	.	.	.	.	.	.	.	.	.	.	.	a	.	.	.	.	+	.	.	.	.	.	.	+	r	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.
Carex pallescens	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	+	1	.	.	.	.	.	.	+	.	.	.	.	+	.	.	.	.	+	.
Polygala vulgaris	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.
Potentilla erecta	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.
Chamaecytisus supinus	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1
Veronica officinalis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
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Danthonia decumbens	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Molinio-Arrhenatheretea																																																			
Dactylis glomerata	+	.	.	1	1	.	.	+	.	+	+	1	a	1	1	1	1	1	+	+	+	a	+	+	1	1	+	+	1	.	+	1	1	+	1	a	1	1	1	1	1	1	1	+	+	1	1	1	+	+	1
Plantago lanceolata	1	.	.	+	.	.	.	.	.	1	1	+	+	+	1	.	a	+	+	1	+	1	+	+	a	1	1	+	+	+	1	+	1	a	1	1	+	.	1	+	r	1	1	+	+	+	1	+	1	1	+
Avenula pubescens	.	.	.	.	.	.	.	.	.	a	+	.	.	.	a	.	.	+	1	.	+	3	a	a	1	.	1	b	1	.	1	1	1	b	a	1	a	.	1	a	1	2	1	.	1	+	1	.	1	.	.
Trifolium pratense	+	+	.	.	.	.	.	+	.	.	.	+	.	.	1	.	a	.	a	.	1	.	+	+	1	1	a	a	1	+	1	1	.	a	.	+	a	.	+	1	1	1	1	.	a	1	+	+	1	1	.
Knautia arvensis	a	+	+	+	.	r	.	.	.	.	.	.	+	.	1	.	+	+	1	.	+	+	+	+	.	+	1	1	+	+	+	1	.	1	+	+	+	+	+	+	a	1	r	+	.	.	1	+	+	+	+
Trisetum flavescens	1	.	.	.	.	.	.	.	.	.	.	.	.	.	a	a	a	1	1	+	1	a	.	.	1	+	1	1	.	.	.	1	1	.	.	1	1	1	a	+	b	1	1	.	.	1	.	.	1	1	+
Arrhenatherum elatius	+	.	1	.	.	.	.	.	r	r	.	.	a	b	1	1	.	a	.	a	1	.	.	.	.	.	+	.	1	.	.	1	.	.	.	.	a	b	+	+	+	.	a	.	.	.	1	+	1	.	+
Leontodon hispidus	.	1	+	.	.	.	+	.	.	+	.	.	+	.	.	.	+	.	1	.	.	+	1	+	a	+	.	+	1	+	+	+	a	b	+	.	+	.	.	.	.	.	+	+	b	.	.	.	1	+	+
Centaurea jacea	+	.	.	+	.	.	.	.	.	1	.	+	.	1	a	.	a	+	1	.	.	.	.	1	1	.	+	+	a	.	r	1	.	.	+	+	.	+	+	+	+	1	.	.	.	.	+	1	+	.	+
Leucanthemum vulgare agg.	.	+	+	.	+	.	.	.	.	.	.	.	.	.	+	.	+	+	r	.	+	.	.	.	.	+	+	.	+	1	r	+	.	.	+	+	1	.	+	+	.	.	1	+	a	.	+	+	+	.	.
Tragopogon orientalis	+	.	+	.	.	.	.	.	.	.	.	.	1	1	.	.	r	.	r	+	.	+	+	.	.	+	+	+	1	+	.	r	+	1	+	.	1	.	+	r	.	r	+	.	.	.	+	+	r	r	.
Galium album	.	r	.	.	.	.	.	r	.	1	1	.	.	.	.	+	+	1	.	+	.	+	.	.	1	.	1	+	+	.	r	1	.	+	.	.	+	+	+	r	.	1	.	.	.	.	.	.	1	+	.
Festuca pratensis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	a	+	1	a	1	.	.	.	1	+	+	+	.	.	.	.	.	.	.	.	+	.	.	+	a	2	a	.	1	1	.	.	.	.	+
Veronica chamaedrys agg.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	+	.	+	1	r	.	.	+	+	+	1	.	+	+	.	.	+	.	.	+	+	.	r	1	+	+	.	.	r	.	+	r	.	.	.	.	.
Vicia cracca agg.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	+	.	.	.	.	.	.	+	+	r	.	+	+	+	+	a	.	.	.	.	.	3	.	+	.	.	.	+	.	.	.	.	a	a	.	.	+
Rhinanthus minor	.	.	.	.	+	.	.	.	.	.	.	.	.	.	1	.	a	.	+	.	.	.	+	+	.	.	.	+	.	.	.	1	.	.	.	.	.	.	a	1	.	1	.	+	.	+	.	.	+	r	.
Rumex acetosa	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	r	.	.	+	.	.	+	+	+	r	+	.	.	+	.	+	.	.	+	.	+	+	.	r	r	.	+	r	.	.	r	.	.
Holcus lanatus	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	a	.	1	.	.	.	1	+	1	.	.	.	1	.	a	1	a	.	.	.	.	.	+	+	.	1	.	.	1	1	.	.	1	1	.
Colchicum autumnale	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	+	.	r	1	.	.	.	.	+	.	.	+	.	.	.	.	.	.	.	1	.	.	a	.	.	r	1	+	+	1	.
Cerastium holosteoides	.	.	.	.	.	.	.	.	.	.	.	.	+	.	+	.	+	.	+	+	+	.	.	.	1	.	.	.	.	.	.	.	.	+	+	.	r	.	+	.	+	r	r	.	r	.	.	.	.	.	.
Lathyrus pratensis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	+	r	+	.	.	.	.	.	.	.	+	+	.	.	+	+	+	.	.	+	r	+	+	.	+	.	.	.	.	.	.	1	+	.
Taraxacum officinale agg.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	+	+	.	+	.	.	+	1	+	.	r	.	r	.	+	+	+	r	+	.	.	.	.	+	+	.	.	+	.	.	.	.	.
Campanula patula	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	r	+	+	.	.	.	.	+	r	.	+	+	.	+	.	.	.	.	.	.	1	+	.	.	r	r	+	.	.	.	.	.	.
Trifolium repens	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	a	1	.	.	.	1	.	.	.	+	1	.	+	.	.	+	+	+	.	.	.	.	.	.	+	.	.	.	.	+	.	.	.	.	.
Ranunculus acris	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	+	.	.	+	+	+	.	.	.	.	.	1	.	+	.	.	+	+	.	.	.	+	.
Prunella vulgaris	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	a	.	.	1	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	r	.	1	+	.	.	.	.	.
Vicia angustifolia	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	+	+	+	.	.	.	.	.	.	.	r	.	.	.	.
Cynosurus cristatus	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	+	.	.	.	.	.	+	1	.	.	.	.	+	1	.	.	.	+	.
Trifolium campestre	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	+	.	.	.	.	.	1	.	.	.	.	.	.
Crepis biennis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	1	r	.	.	1	.	+	.	.	.	.	.	.	.	.	.	.	.	.
Trifolium dubium	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	r	.	.	r	.	.	.	.	.
Stellaria graminea	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	r	.	.	.	.	+	.	.	.	.	.	.	.	+	.	.	.	.	+	.	.	.	+	.	.
Heracleum sphondylium	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	+	+	.	.	.	.	.	+	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
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Pastinaca sativa	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	a	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.
Molinia caerulea agg.	.	.	.	.	.	.	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Festuca arundinacea	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	+	a	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Pimpinella major	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.
Veronica arvensis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	r	.	.	.	r	.	.	.	.	.	.	.	.	.	.
Inula salicina	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	a
Alopecurus pratensis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.
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Silaum silaus	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.
Serratula tinctoria	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lychnis flos-cuculi	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.
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Sesleria uliginosa	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
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Bellis perennis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lolium perenne	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.
Potentilla reptans	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
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Other species																																																			
Lotus corniculatus	+	+	+	1	1	.	+	1	.	1	1	+	1	1	1	1	a	1	1	+	.	+	+	+	1	+	1	.	+	1	.	+	+	1	+	+	.	+	+	1	1	.	r	.	.	+	+	+	+	+	+
Achillea millefolium agg.	1	+	+	+	.	.	.	.	+	1	1	+	+	+	+	.	+	+	+	+	+	a	+	.	+	.	+	1	+	+	+	+	.	+	+	+	1	+	+	.	+	+	+	.	+	r	.	+	+	.	+
Poa pratensis agg.	+	.	1	.	.	.	.	1	.	.	.	.	1	1	+	+	.	.	1	a	+	.	.	.	a	a	+	a	1	.	.	.	.	1	.	1	1	1	.	+	a	.	.	.	.	+	1	1	.	.	1
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Galium verum	+	+	.	.	+	.	.	.	.	+	.	.	a	1	.	.	.	.	.	.	.	.	+	+	.	.	.	.	+	1	1	.	+	1	.	.	r	+	.	.	r	.	+	1	.	+	.	.	+	.	+
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Daucus carota	.	r	.	.	+	.	.	+	.	.	.	.	+	.	.	.	a	+	r	1	+	.	.	.	.	+	.	.	r	+	+	+	.	.	.	.	.	.	.	.	.	.	.	1	.	+	+	+	r	.	r
Carex flacca	.	.	a	1	.	.	.	.	.	+	.	.	.	.	.	.	.	+	a	.	.	.	.	1	.	.	.	.	.	.	+	.	.	1	+	.	.	.	.	1	+	1	1	.	.	1	.	.	.	1	+
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Viola hirta	.	.	r	+	.	.	+	+	.	.	.	.	+	.	+	+	.	a	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	1	.	+	r	.	+	.	.	1	.	.	.	.	+
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Vincetoxicum hirundinaria	+	.	.	.	.	.	+	r	.	.	.	.	+	+	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
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Salvia verticillata	r	1	.	.	.	.	.	.	.	1	.	1	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Origanum vulgare	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	r	.	.	.	+	.	.	.	+	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
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Potentilla alba	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	a	1	.
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Tanacetum corymbosum	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+
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Fraxinus excelsior	.	.	.	.	.	.	r	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.
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Bupleurum falcatum	.	.	.	r	.	.	.	.	.	1	1	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Crepis capillaris	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	1	.	1	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
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Potentilla recta	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.
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Cytisus nigricans	.	+	.	.	.	.	+	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
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Trifolium medium	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	+	.	.	.	.	+	.	.	.	.	.
Melilotus officinalis	.	+	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Astragalus cicer	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	+
Acer platanoides	.	.	.	.	.	.	.	r	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Aquilegia vulgaris	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.
Astragalus glycyphyllos	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Dorycnium herbaceum	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.
Euphorbia esula	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.
Juglans regia	.	.	.	.	.	.	r	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lotus maritimus	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	1
Pinus nigra	.	.	.	.	.	.	.	r	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Quercus cerris	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r
Rosa pimpinellifolia	.	.	.	r	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Viola reichenbachiana	.	.	.	.	.	.	.	.	.	.	r	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alchemilla sp.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Other species occurring in one relevé: Acer pseudoplatanus: 16: +; Ajuga genevensis: 51: +; Allium oleraceum: 14: r; Amelanchier ovalis: 7: 1; Anemone sylvestris: 4: +; Anthriscus sylvestris: 28: r; Berberis vulgaris: 1: r; Calamagrostis epigejos: 8: +; Calystegia sepium: 42: +; Campanula persicifolia: 16: +; Campanula rotundifolia: 22: +Carduus nutans: 11: r; Carex halleriana: 8: 1; Carex panicea: 50: +; Carex sylvatica: 18: +; Carlina vulgaris agg.: 8: +; Cerinthe minor: 26: +; Circaea sp.: 43: r; Cirsium arvense: 50: r; Coronilla coronata: 4: +; Cotoneaster integerrimus: 10: 1; Cotoneaster tomentosus: 16: 1; Echinops sphaerocephalus: 34: r; Echium vulgare: 2: r; Euonymus europaeus: 9: r; Galium austriacum: 15: +; Genista germanica: 16: +; Geranium pyrenaicum: 28: r; Gymnadenia conopsea: 7: r; Hieracium pilosella: 47: r; Hieracium piloselloides: 4: +; Hieracium sabaudum: 7: r; Hieracium umbellatum: 16: +; Himantoglossum adriaticum: 4: r; Hypericum montanum: 16: +; Laserpitium latifolium: 9: +; Ligustrum vulgare: 4: +; Melampyrum arvense: 16: 1Melampyrum nemorosum: 4: 1; Mentha arvensis: 46: +; Mentha longifolia: 46: r; Mercurialis ovata: 7: r; Minuartia rubra: 30: +; Orchis mascula: 23: +; Orchis militaris: 24: +; Orchis ustulata: 17: r; Peucedanum alsaticum: 15:+; Peucedanum oreoselinum: 48: +; Potentilla heptaphylla: 19: +; Primula vulgaris: 467: 1; Prunus avium: 16: r; Quercus petraea: 8: +; Rhamnus cathartica: 1: r; Rhinanthus serotinus: 29: +; Robinia pseudacacia: 13: r; Rosa arvensis: 46: r; Rumex acetosella: 23: +; Scabiosa columbaria: 48: +; Silene nutans: 12: +; Syringa vulgaris: 9: 1; Trifolium rubens: 16: +; Verbascum chaixii subsp. austriacum: 8: r; Veronica serpyllifolia: 25: r; Viola odorata: 32: +

Table 5. New relevés of the *Anthoxantho-Agrostietum tenuis* from the Vienna Woods. Cover a = 2a, b = 2b. Code "n" in header data: no data available. Land use codes: G: grazed, M: mown, O: occasionally mown.

Tabelle 5. Neue Vegetationsaufnahmen des *Anthoxantho-Agrostietum tenuis* aus dem Wienerwald. Ein "n" in den Standortsdaten bedeutet, dass der betreffende Parameter nicht erhoben wurde. Bewirtschaftung: G: beweidet, M: gemäht, O: unregelmäßig gemäht.

Subassociation	4.1a				4.1b														
Running number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Altitude (m)	495	250	419	430	291	481	324	324	380	268	319	346	367	330	300	290	455	500	300
Aspect (degrees)	338	-	270	180	23	360	360	360	45	180	360	360	225	90	45	45	360	360	225
Slope (degrees)	18	0	10	10	3	30	2	3	3	4	2	2	2	3	2	2	6	20	10
Cover herb layer (%)	90	96	85	95	100	70	60	94	96	98	95	85	95	99	97	99	90	95	95
Cover moss layer (%)	2	n	n	5	2	n	n	n	n	n	n	n	n	n	n	n	40	2	0
Plot size (m²)	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
TWINSPAN Cluster	29	29	29	29	35	35	36	35	35	35	35	35	35	35	35	35	35	35	35
Number of vascular plants	61	48	35	53	38	54	40	45	30	24	24	34	38	42	30	38	54	39	42
Land use	G	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	G	O	M
Subass. 4.1a (dry)																			
Helianthemum nummularium	.	+	+	a	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Festuca rupicola	.	+	.	1	.	.	.	+	.	.	.	.	.	.	.	.	+	.	.
Euphorbia cyparissias	+	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Dianthus carthusianorum agg.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Thesium linophyllon	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Orobanche gracilis	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Eryngium campestre	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Teucrium chamaedrys	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Subass. 4.1b (moist)																			
Carex panicea	.	.	.	.	a	.	.	+	a	.	3	1	a	1	1	1	.	.	.
Alopecurus pratensis	.	.	.	.	1	.	.	.	.	+	.	.	1	1	b	3	.	.	.
Carex hirta	.	.	.	.	+	.	.	.	1	.	.	.	.	1	.	+	.	.	+
Sanguisorba officinalis	.	.	.	.	+	r	.	.	.	.	+	1	1	.	.	r	.	.	.
Carex tomentosa	.	.	.	.	a	.	.	.	.	.	.	.	.	1	+	1	.	.	.
Lychnis flos-cuculi	.	.	.	.	.	.	.	.	+	a	.	+	r	.	.	.	.	.	.
Juncus effusus	.	.	.	.	+	.	.	.	.	.	a	.	.	1	.	.	.	.	.
Ranunculus repens	.	.	.	.	.	.	.	.	.	.	.	.	+	r	.	.	.	.	.
Trifolium dubium	.	+	.	.	.	.	+	+	.	.	.	.	.	.	.	.	+	.	.
Lysimachia nummularia	.	.	.	.	.	.	.	.	1	.	.	.	+	.	.	r	.	.	.
Cirsium canum	.	.	.	.	r	.	.	.	1	.	.	.	.	.	.	.	.	.	.
Silaum silaus	.	.	.	.	.	.	.	r	.	.	.	.	.	+	.	.	.	.	.
Succisa pratensis	.	.	.	.	.	.	r	+	.	.	.	.	.	.	.	.	.	.	.
Molinia caerulea agg.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.
Inula salicina	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cirsium rivulare	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.
Juncus inflexus	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
Agrostis stolonifera	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.
Festuca arundinacea	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.
Carex flava	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
Dactylorhiza majalis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.
Sesleria uliginosa	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.
[3.3 Euphorbio-Caricetum montanae]																			
Betonica officinalis	.	.	.	.	+	+	.	+	+	.	.	1	+	+	a	1	.	.	+
Galium boreale	+	.	.	.	+	+	.	1	.	.	.	a	r	.	1	a	.	.	.
Carex montana	.	1	1	.	.	+	+	1	.	.	.	.	.	.	.	.	.	.	.
Trifolium ochroleucon	.	+	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.
Calluno-Ulicetea																			
Carex pallescens	+	r	+	.	a	a	1	1	a	1	1	a	1	a	a	a	1	1	a
Anthoxanthum odoratum	a	1	+	a	+	1	a	a	b	1	1	1	a	+	+	+	.	a	b
Festuca rubra agg.	b	a	+	a	.	a	1	.	1	+	.	3	.	.	1	1	3	b	a
Luzula campestris agg.	r	+	r	1	.	+	.	.	.	1	+	1	+	.	+	+	1	r	1
Potentilla erecta	+	.	1	.	.	+	+	+	.	.	+	.	.	r	.	+	1	a	.
Viola canina	+	+	+	+	.	+	+	+	.	.	.	.	.	.	.	+	a	.	.
Polygala vulgaris	r	+	+	+	.	r	+	r	.	.	.	.	.	.	.	.	+	+	.
Galium pumilum	r	r	r	a	.	r	+	.	.	.	.	.	.	.	.	.	1	+	.
Agrostis capillaris	.	b	+	.	.	1	a	a	.	.	.	.	.	.	.	.	.	.	.
Danthonia decumbens	.	b	a	1	.	+	+	+	.	.	.	.	.	.	.	.	.	.	.
Thymus pulegioides	.	a	b	a	.	.	b	.	.	.	.	.	.	.	.	.	.	.	.
Veronica officinalis	+	+	1	.	.	+	r	.	.	.	.	.	.	.	.	.	+	.	.
Chamaecytisus supinus	.	a	+	.	.	r	r	.	.	.	.	.	.	.	.	.	.	.	.
Hypochaeris radicata	.	a	.	1	.	.	r	.	.	.	.	.	.	.	.	.	r	.	.
Nardus stricta	.	1	1	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.
Antennaria dioica	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calluna vulgaris	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Vaccinium myrtillus	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.
Festuco-Brometea																			
Bromus erectus	a	.	+	a	+	1	.	.	.	.	.	+	.	1	b	+	+	a	.
Filipendula vulgaris	.	.	.	.	+	+	.	1	1	.	.	a	+	1	a	a	.	r	.
Brachypodium pinnatum	a	1	a	.	.	1	1	1	.	.	.	.	.	.	.	+	.	+	.
Ranunculus bulbosus	+	r	.	.	+	.	+	+	.	.	.	.	.	.	+	.	+	.	+
Primula veris	1	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	a	+	.
Pimpinella saxifraga	+	.	.	+	.	r	.	.	.	.	.	.	.	.	.	.	+	.	.
Carex caryophyllea	1	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+
Trifolium montanum	+	.	.	a	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Carlina acaulis	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	r	.
Linum catharticum	+	.	.	.	.	r	r	.	.	.	.	.	.	.	.	.	.	.	.
Cirsium pannonicum	+	.	.	.	.	r	.	.	.	.	.	.	.	+	.	.	.	.	.
Ononis spinosa	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	+	.	.	.
Ranunculus polyanthemos agg.	.	.	.	.	.	+	.	.	.	.	.	1	.	.	.	.	.	.	.
Avenula pratensis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	b	.
Securigera varia	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Campanula glomerata	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
[5 Arrhenatherion]																			
Avenula pubescens	.	1	.	.	+	.	.	.	.	1	.	1	.	+	1	a	+	.	.
Campanula patula	.	r	.	r	.	.	r	r	.	.	.	.	.	.	r	.	+	r	+
Trisetum flavescens	+	.	.	1	.	.	+	.	1	1	.	.	.	.	.	1	1	.	b
Veronica chamaedrys agg.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	r	+	.	+
Knautia arvensis	r	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	+
Heracleum sphondylium	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r
Vicia sepium	.	.	.	.	.	.	.	.	+	.	.	.	r	.	.	.	.	.	.
Bromus hordeaceus	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	r
Phleum pratense	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+
Arrhenatherum elatius	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.
Crepis biennis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.
Rumex obtusifolius	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.
Plantago major	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.
Veronica arvensis	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Molinio-Arrhenatheretea																			
Plantago lanceolata	a	a	+	a	1	1	1	1	1	.	1	1	+	1	+	+	a	+	1
Holcus lanatus	+	.	.	+	a	a	.	1	1	3	1	+	a	1	1	1	1	+	1
Cynosurus cristatus	1	1	.	a	+	1	1	a	.	1	+	+	1	+	+	+	1	.	b
Ranunculus acris	.	.	.	.	+	.	.	+	a	a	1	1	a	a	1	1	+	+	+
Trifolium pratense	+	.	.	.	+	.	r	r	.	1	+	a	a	1	+	+	+	.	a
Dactylis glomerata	a	r	.	.	+	+	.	+	1	1	r	+	.	+	1	1	.	+	b
Leontodon hispidus	a	+	+	1	.	r	a	1	.	a	.	+	r	+	.	.	a	.	.
Festuca pratensis	.	.	.	.	1	+	.	1	a	1	a	1	b	+	.	.	.	.	+
Rhinanthus minor	+	+	.	a	.	.	.	r	+	.	.	a	+	r	.	.	1	.	1
Rumex acetosa	.	.	.	r	+	.	.	r	+	.	+	+	r	.	+	+	1	+	+
Centaurea jacea	+	r	.	a	r	1	.	r	.	a	.	+	.	.	.	.	1	.	1
Trifolium repens	+	+	.	.	.	.	1	+	.	1	.	1	1	+	+	+	.	.	+
Prunella vulgaris	+	+	+	.	.	1	.	1	+	.	.	+	r	+	.	.	+	.	.
Stellaria graminea	+	.	.	+	r	.	.	.	.	.	r	+	.	r	1	r	+	.	r
Ajuga reptans	+	.	.	.	.	.	.	r	.	+	+	.	+	r	.	r	+	+	.
Cerastium holosteoides	.	.	.	+	.	+	.	r	+	+	.	.	+	.	.	.	+	.	r
Lathyrus pratensis	.	.	.	.	+	.	.	.	+	.	r	+	+	+	+	+	.	+	.
Leucanthemum vulgare agg.	+	.	.	+	.	+	r	+	.	.	.	.	.	.	.	.	1	.	+
Galium mollugo agg.	+	.	.	.	+	.	.	.	1	.	.	.	r	1	.	.	.	+	+
Poa trivialis	.	.	.	.	1	.	.	.	.	.	b	.	.	.	.	.	.	.	.
Pimpinella major	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+
Taraxacum officinale agg.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.
Other species																			
Lotus corniculatus	r	a	.	+	+	1	a	r	1	a	.	+	+	+	+	r	+	.	+
Briza media	+	+	.	1	1	1	+	.	.	.	.	b	.	+	a	1	.	b	r
Colchicum autumnale	r	.	.	.	1	a	.	.	1	.	+	+	r	r	+	+	r	.	r
Carex flacca	+	.	.	.	a	1	1	b	.	.	.	+	.	1	.	.	.	+	.
Achillea millefolium agg.	+	+	.	+	.	.	r	.	.	+	.	.	+	r	.	.	+	.	+
Galium verum agg.	.	.	.	r	+	+	.	r	.	.	.	+	.	r	.	+	.	.	.
Dorycnium herbaceum	.	a	1	.	.	.	a	+	.	.	.	.	.	.	.	.	.	.	.
Poa pratensis	.	r	.	.	+	.	+	.	.	1	.	.	1	.	.	.	.	.	+
Alchemilla sp.	1	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	1	+	.
Carpinus betulus	.	r	+	.	.	+	r	.	.	.	.	.	.	.	.	.	.	.	r
Crataegus monogyna	1	.	r	+	.	.	.	.	.	.	.	.	.	.	r	.	r	.	.
Quercus cerris	.	r	.	r	.	.	r	.	.	.	.	.	.	.	.	.	r	+	.
Trifolium alpestre	.	+	.	1	.	+	.	.	.	.	.	.	.	.	.	.	.	a	.
Cruciata laevipes	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	r	.
Fraxinus excelsior	.	.	.	.	.	r	.	.	.	.	.	.	.	r	r	r	.	.	.
Ranunculus auricomus agg.	r	.	.	.	.	.	.	.	.	.	.	.	.	r	r	+	.	.	.
Hypericum perforatum	1	r	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.
Koeleria pyramidata	.	r	.	+	.	.	r	.	.	.	.	.	.	.	.	.	.	+	.
Calamagrostis epigejos	.	.	.	.	.	1	.	r	.	.	.	.	.	.	.	.	r	.	.
Daucus carota	+	.	.	+	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.
Betula pendula	.	r	.	.	.	r	.	.	.	.	.	.	.	.	.	.	+	.	.
Listera ovata	+	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	+	.	.
Rosa canina agg.	1	.	.	.	.	r	.	.	.	.	.	.	.	+	.	.	.	.	.
Hieracium pilosella	.	+	1	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Hieracium bauhinii	.	+	a	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Viola hirta	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.
Carex leporina	.	.	.	.	.	.	.	.	.	.	b	.	.	.	.	.	.	.	.
Chamaecytisus hirsutus	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	a	.
Clinopodium vulgare	+	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.
Equisetum arvense	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.
Pyrus pyraster	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.
Quercus petraea	.	.	r	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Rosa arvensis	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	+	.	.
Saxifraga bulbifera	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.
Carex pilulifera	.	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Trifolium medium	+	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.
Genista pilosa	.	.	1	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Prunella laciniata	.	r	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Other species occurring in one relevé: Agrimonia eupatoria:14: r; Anemone nemorosa: 6: r; Anemone sylvestris: 13: r; Arenaria serpyllifolia agg.: 17: +; Avenella flexuosa: 3: +; Campanula persicifolia: 6: r; Campanula rotundifolia: 7: r; Carex sylvatica: 13: +; Carum carvi: 19: +; Cirsium palustre: 11: +; Cirsium vulgare: 13: a; Dactylorhiza incarnata: 9: 1; Fagus sylvatica: 2: r; Filago vulgaris: 1: +; Fragaria moschata: 19: +; Fragaria vesca: 1: 1; Fragaria viridis: 18: +; Glechoma hederacea: 13: +; Gymnadenia conopsea: 6: r; Hypericum maculatum: 17: r; Knautia drymeia: 19: +; Leontodon autumnalis: 19: 1; Luzula luzuloides: 18: +; Lysimachia nemorum: 11: 1; Lysimachia vulgaris:14: 3; Medicago lupulina: 7: +; Orchis ustulata: 6: r; Phragmites australis. 5: r; Picea abies: 17: r; Pinus sylvestris: 3: r; Platanthera bifolia: 6: +; Polygala serpyllifolia: 17: +; Populus tremula: 18: 1; Potentilla alba: 5: +; Potentilla incana: 4: r; Potentilla neumanniana: 4: 1; Primula vulgaris: 8; r; Quercus robur: 1: r; Rumex acetosella: 4: +; Scleranthus annuus: 4: +; Thymus odoratissimus: 4: +;Tilia platyphyllos: 17: r; Trifolium rubens: 6: +; Verbena officinalis: 2: r; Viola riviniana: 19: +

Table 6. New relevés of the *Ranunculo bulbosi-Arrhenatheretum* and *Filipendulo vulgaris-Arrhenatheretum* from the Vienna Woods. Cover a = 2a, b = 2b. Code "n" in header data: no data available. Land use codes: G: grazed, M: mown, O: occasionally mown, A: abandoned.

Tabelle 6. Neue Vegetationsaufnahmen des *Ranunculo bulbosi-Arrhenatheretum* und *Filipendulo vulgaris-Arrhenatheretum* aus dem Wienerwald. Ein "n" in den Standortsdaten bedeutet, dass der betreffende Parameter nicht erhoben wurde. Bewirtschaftung: G: beweidet, M: gemäht, O: unregelmäßig gemäht, A: verbracht.

Association	5.1 Ranunculo bulbosi-Arrhenatheretum															5.2. Filipendulo vulgaris-Arrhenatheretum																																						
Running number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54
Altitude (m)	261	280	221	265	306	302	428	393	277	320	310	445	340	315	260	467	442	506	369	437	272	444	262	425	310	294	351	444	319	369	329	309	287	300	277	303	239	330	330	310	320	295	300	315	470	460	500	570	285	280	350	505	380	380
Aspect (degrees)	360	338	225	180	360	90	180	158	180	135	45	-	45	45	-	25	130	100	270	203	360	225	-	135	158	360	45	-	360	360	90	90	360	270	158	315	45	135	113	135	135	135	180	225	135	360	113	-	-	-	225	-	45	45
Slope (degrees)	8	10	3	7	2	15	2	2	10	2	5	0	1	3	0	20	5	4	20	4	5	10	0	2	8	2	7	0	1	5	7	2	2	10	5	4	5	2	10	1	1	1	4	3	2	1	5	0	0	0	15	0	10	20
Cover herb layer (%)	100	100	99	0	85	98	85	98	99	98	98	100	100	100	100	95	100	100	100	100	100	95	100	90	98	90	100	95	100	96	95	80	85	98	99	98	98	98	99	99	98	100	99	98	100	100	100	100	97	97	95	97	97	98
Cover moss layer (%)	5	1	n	n	n	n	n	n	n	n	n	0	0	5	0	8	2	0	0	0	0	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	0	30	10	1	1	0	0	0	0	1
Plot size (m²)	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
TWINSPAN Cluster	32	32	31	32	32	30	32	32	32	32	32	34	32	25	32	30	30	34	34	34	34	34	34	34	34	30	34	34	34	34	34	34	34	34	34	30	30	34	34	34	34	34	34	34	34	34	30	34	34	32	30	34	34	34
Number of vascular plants	33	44	29	37	34	49	36	21	33	37	40	31	33	43	37	49	55	52	42	56	42	24	38	38	32	45	38	32	28	33	38	31	40	34	37	40	48	31	41	20	37	23	35	36	35	67	60	45	39	35	33	41	39	52
Land use	M	M	M	M	M	M	M	M	M	M	M	M	G	G	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	O	M	M	M	M
5.1 Ranunculo bulbosi-Arrhenatheretum																																																						
Festuca rupicola	a	a	a	.	.	1	a	1	1	.	r	.	+	.	.	.	+	1	a	1	1	1	.	.	.	.	1	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.
Centaurea scabiosa	.	r	1	r	r	+	1	.	.	.	.	+	a	a	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	+	.	.	.
Plantago media	+	.	.	r	r	.	+	.	.	r	+	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	r	.	+	.	.	.	.	.	.
Securigera varia	.	.	.	1	.	.	+	.	1	.	.	.	1	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.
Buphthalmum salicifolium	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.
Ranunculus polyanthemos agg.	.	.	1	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Onobrychis viciifolia	.	+	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Euphorbia cyparissias	.	.	.	.	.	.	1	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Helianthemum nummularium	.	.	.	.	.	+	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Dianthus carthusianorum agg.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
5.2. Filipendulo vulgaris-Arrhenatheretum																																																						
Holcus lanatus	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	a	1	1	a	1	3	1	.	+	1	r	+	.	a	1	a	.	a	1	.	+	1	a	1	1	a	.	a	+	1	1	a	1	.	.	a	1	r	a
Alopecurus pratensis	.	.	1	.	.	.	.	.	.	.	+	.	.	.	.	.	a	+	.	.	.	.	.	.	+	.	.	.	b	.	.	.	+	.	1	+	.	.	1	1	1	.	1	a	.	.	.	.	1	1	+	b	.	.
Cynosurus cristatus	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	+	1	+	.	.	.	.	.	.	+	+	1	.	+	.	.	.	1	1	.	1	.	1	+	.	1	+	.	+	.	.	1	.	.	a	.	1
Knautia drymeia	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	+	+	.	.	.	.	.	.	.	.	+	.	.	.	+	.	.	1	.	.	.	.	.	.	.	.	a	1	1	.	.	.	.	+	1
Galium boreale	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	1	+	.	.	.	.	.	+	a	.	.	.	.	.	.	1	.	.	a	.	+	.	1	.	a	.	.	.	.	.	+	.	.	.	.	.
Betonica officinalis	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	a	1	1	.	.	.	.	.	.	+	.	.	.	.	.	.	.	+	.	1	.	+	.	.	.	.	.	.	.	+	.	r	.	.	.	+	.
Poa trivialis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	a	.	.	.	.	+	a	.	.	.	.	.	1	.	.	.	.	.	.	a	a	.	.	+	.	.	.	.	.	1	.	+
Potentilla alba	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	3	.	.	.	.	.	.	.	1	+	.	.	a	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
5.1 and 5.2																																																						
Bromus erectus	.	b	.	3	b	b	3	3	3	3	3	.	+	+	a	b	3	b	a	a	3	+	.	a	3	3	b	a	+	.	b	3	+	1	1	3	a	+	3	a	1	1	a	b	a	+	1	b	+	b	.	b	b	b
Ranunculus bulbosus	.	1	1	.	+	+	+	+	.	+	+	1	+	.	+	+	+	+	.	+	1	1	1	.	+	.	1	.	+	+	1	+	.	+	.	+	1	.	+	+	.	+	+	r	+	1	.	.	+	+	.	+	.	.
Salvia pratensis	a	1	+	a	1	1	+	1	a	1	1	.	1	1	+	a	+	.	.	1	.	.	1	.	1	1	.	r	.	.	r	+	.	.	+	r	1	.	.	.	.	.	.	.	.	.	1	.	r	+	+	.	.	.
Filipendula vulgaris	.	+	1	.	.	.	.	.	.	+	.	.	.	.	.	a	a	1	.	.	.	1	.	.	1	+	+	.	.	.	+	.	.	a	r	+	a	.	a	+	a	.	r	+	.	1	1	.	1	1	+	+	+	1
Primula veris	.	+	.	.	r	+	.	.	.	.	+	.	.	.	.	.	+	+	r	r	.	.	.	+	.	.	.	.	.	1	.	.	r	.	.	.	+	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	r	.
Brachypodium pinnatum	.	.	1	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	1	.	.	.	.	.	.	a	.	.	.	.	.	.	.	.	.	.	.	1	a	a	.	.	a	.	3	+
Pimpinella saxifraga	+	+	.	.	.	+	.	.	.	.	.	.	r	+	.	.	+	1	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.
Trifolium montanum	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	+	1	.	.	.	.	.	.	.	.	+	+	.	.	.	+	.	.	+
Cirsium pannonicum	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	1	1	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	1	+	.	.	.	.	.	+
Ononis spinosa	.	+	.	.	.	+	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.
Campanula glomerata	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	+	r	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.
Carex caryophyllea	+	a	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.
Medicago falcata	.	.	.	.	.	.	+	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Linum catharticum	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	r	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Carlina acaulis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Thesium linophyllon	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
5 Arrhenatherion																																																						
Arrhenatherum elatius	3	4	b	a	1	a	3	a	1	1	1	a	4	4	3	+	a	a	a	a	1	3	b	b	1	1	+	3	1	1	+	a	b	a	a	+	1	1	1	b	1	3	.	+	b	1	1	.	3	3	b	r	b	b
Trisetum flavescens	a	1	.	a	1	1	+	a	1	1	1	a	1	.	a	a	a	+	.	1	a	.	a	a	.	1	1	1	a	1	+	a	a	.	a	b	1	a	1	a	a	1	1	1	3	a	1	1	a	a	1	a	1	a
Avenula pubescens	1	.	a	+	1	a	1	.	a	a	a	1	.	.	a	a	.	1	1	1	.	a	1	a	a	a	a	b	1	a	a	1	+	a	+	.	a	.	1	+	a	1	1	1	1	+	.	a	+	a	1	b	a	.
Veronica chamaedrys agg.	.	+	+	+	+	+	+	.	1	r	+	a	.	.	+	.	+	r	.	+	+	+	+	1	r	.	.	+	+	+	.	+	+	.	+	.	+	.	r	.	+	r	r	+	+	1	+	1	+	.	1	+	+	+
Knautia arvensis	+	+	1	+	.	.	.	1	+	+	+	+	1	r	+	a	+	.	+	+	+	1	.	r	+	.	.	1	.	.	+	r	r	.	+	+	.	.	+	+	+	+	.	.	.	1	+	.	1	1	1	+	+	+
Campanula patula	.	+	.	+	r	.	.	.	+	.	.	+	.	.	.	+	+	+	+	+	+	.	.	+	+	r	r	+	.	+	.	r	r	.	.	r	+	r	.	.	.	.	.	.	.	+	.	+	.	.	.	r	+	.
Crepis biennis	+	.	.	.	.	.	.	.	.	+	r	+	a	.	+	1	.	.	1	1	+	.	+	.	.	.	.	+	.	.	.	.	.	+	.	.	+	.	.	+	.	.	.	.	.	+	+	1	+	.	.	+	.	a
Vicia sepium	.	.	.	.	.	.	.	.	.	+	.	+	.	.	.	.	.	.	.	+	1	.	1	.	.	.	1	.	+	.	.	.	.	+	1	.	+	.	+	a	.	1	.	1	+	+	+	1	.	.	.	+	.	+
Heracleum sphondylium	+	+	.	.	+	+	.	.	.	+	.	.	.	.	.	a	+	.	.	.	+	.	1	.	+	.	.	+	.	.	1	.	+	.	.	.	.	.	.	.	.	1	.	.	.	.	r	.	+	.	.	.	.	.
Vicia angustifolia	.	.	.	.	+	.	+	+	.	r	.	.	.	.	+	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	r	+	.	r	.	.
Pastinaca sativa	1	.	.	.	.	.	.	+	.	.	.	.	1	.	+	1	.	.	.	.	.	.	.	r	.	+	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	+	.
Veronica arvensis	.	.	.	.	.	.	.	.	.	.	.	+	.	r	+	r	.	.	.	.	1	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	r	.	.	.	.	.
Trifolium campestre	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	r	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Molinio-Arrenatheretea																																																						
Dactylis glomerata	1	a	a	1	a	a	a	1	1	1	1	1	1	1	1	1	1	1	1	a	+	a	b	a	+	1	1	+	a	1	a	1	1	a	1	1	.	1	1	b	1	a	a	+	b	a	a	1	a	b	b	b	1	a
Festuca pratensis	1	a	b	1	a	1	1	.	a	1	+	3	.	.	.	.	a	1	+	1	b	.	a	a	1	b	.	1	1	1	1	1	a	1	a	b	a	a	1	a	.	a	a	a	1	a	1	1	a	1	b	b	1	1
Plantago lanceolata	+	1	.	1	a	1	1	+	+	1	+	a	+	1	+	.	a	1	1	.	1	a	+	a	+	1	+	a	1	1	1	1	1	1	1	1	1	+	+	+	1	+	+	+	+	+	+	1	+	r	.	+	+	1
Trifolium pratense	a	1	.	+	b	1	.	a	a	a	.	1	1	.	1	1	1	a	a	a	a	a	1	a	1	a	1	a	1	1	a	a	a	.	b	a	.	a	1	1	1	1	a	+	a	1	+	1	b	.	.	1	+	+
Galium album	1	r	+	+	.	1	+	1	+	+	1	1	.	.	1	1	+	+	+	+	+	+	.	1	1	+	1	+	1	a	+	1	.	a	1	r	.	1	1	1	1	1	1	1	+	+	+	1	1	+	+	+	a	.
Centaurea jacea	+	1	1	1	1	1	.	.	+	+	a	.	a	1	1	+	+	+	.	+	+	.	+	.	1	1	.	.	.	a	+	a	.	1	+	1	1	1	r	.	+	1	.	a	1	+	b	b	+	.	+	1	+	+
Rumex acetosa	.	1	+	+	+	.	r	.	+	r	.	+	.	.	+	+	+	+	+	1	+	a	+	+	+	.	+	+	1	+	+	.	+	1	+	+	1	r	+	.	1	.	+	+	1	+	+	+	+	+	.	+	+	+
Lathyrus pratensis	+	+	.	1	+	.	+	.	1	+	+	+	a	.	+	+	+	+	+	+	+	.	+	+	.	b	1	.	1	.	+	1	1	.	1	.	1	+	+	.	.	.	1	+	r	+	+	+	1	+	.	+	1	+
Ranunculus acris	+	+	.	.	+	+	.	.	.	.	+	.	.	.	.	+	+	+	+	+	+	1	1	+	+	+	.	+	a	1	+	1	1	1	+	.	1	.	1	.	a	1	1	a	.	+	+	+	a	r	.	a	1	+
Tragopogon orientalis	+	+	+	.	.	+	.	.	+	+	+	.	1	1	+	r	+	+	+	+	.	.	.	.	+	+	+	+	+	+	r	.	.	+	1	+	+	.	r	.	+	.	+	+	.	+	+	+	1	+	.	r	+	1
Leontodon hispidus	.	.	.	.	a	+	.	.	+	1	1	.	+	.	r	a	+	+	+	+	+	1	+	1	a	a	.	a	.	1	a	+	1	+	.	r	a	a	+	.	1	.	+	+	.	1	1	1	.	.	.	.	1	.
Colchicum autumnale	+	a	1	.	.	+	.	.	.	1	+	.	.	.	.	.	+	a	.	a	.	.	r	.	+	+	.	.	1	1	r	1	1	a	1	r	1	.	1	.	a	.	1	1	.	+	1	1	r	+	.	1	a	+
Leucanthemum vulgare agg.	+	+	.	.	1	+	.	.	1	r	+	1	.	.	+	+	+	+	.	1	.	.	.	.	+	+	+	1	.	.	+	r	+	.	1	r	.	1	.	.	.	.	r	+	+	+	+	1	.	.	.	1	r	.
Trifolium repens	+	.	.	r	b	.	+	1	1	.	.	a	+	.	.	1	.	a	.	a	a	1	1	a	.	.	.	.	.	.	1	+	.	.	1	a	+	1	+	.	.	.	+	+	a	1	.	.	+	.	+	+	.	+
Rhinanthus minor	1	+	.	.	3	+	.	.	.	a	1	.	.	.	.	1	1	+	1	+	.	.	.	+	1	.	.	.	+	1	.	+	.	.	.	.	r	1	+	.	1	+	+	r	+	.	.	.	+	.	.	1	.	+
Cerastium holosteoides	+	.	.	.	+	.	.	.	+	.	r	.	.	.	+	r	+	.	+	+	+	+	r	.	r	+	.	.	.	+	+	.	+	.	.	+	r	+	r	.	r	r	.	.	+	.	.	.	.	.	r	.	.	r
Stellaria graminea	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	1	+	.	+	+	1	.	.	.	.	.	.	.	.	.	.	.	+	+	+	.	+	r	1	.	+	.	.	r	1	+	+	.	+	r	.	+	+	+
Pimpinella major	r	+	.	.	r	.	.	.	+	.	.	+	.	.	.	r	.	+	.	.	.	.	1	+	.	+	.	.	.	+	+	.	+	.	.	.	.	.	.	.	.	r	r	r	.	1	.	1	.	.	.	.	.	.
Taraxacum officinale agg.	.	.	.	.	.	+	.	.	.	.	.	+	1	a	+	.	.	.	.	.	.	+	1	.	.	r	.	.	.	.	r	.	.	1	.	1	.	1	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.
Vicia cracca agg.	.	.	.	+	.	1	b	.	.	.	.	1	a	.	.	.	.	.	.	.	.	.	1	.	.	.	1	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	+	.	.	.	.	.	.
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Veronica serpyllifolia	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Festuco-Brometea (other)																																																						
Sanguisorba minor	.	.	.	.	.	+	.	.	.	.	.	.	.	1	.	+	.	.	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Arabis hirsuta agg.	.	r	.	.	.	r	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
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Scabiosa ochroleuca	.	.	.	.	.	.	r	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Inula hirta	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
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Teucrium chamaedrys	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Thymus odoratissimus	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
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Salvia nemorosa	.	.	.	.	.	.	.	.	.	.	.	.	a	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
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Scabiosa canescens	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Adonis vernalis	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
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Centaurea stoebe	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Odontites luteus	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Chamaecytisus ratisbonensis	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Senecio jacobaea	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Anthyllis vulneraria	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
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Anthericum ramosum	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cuscuta epithymum	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
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Orobanche gracilis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Avenula pratensis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Arenaria serpyllifolia agg.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Sedum sexangulare	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Asperula cynanchica	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calluno-Ulicetea																																																						
Anthoxanthum odoratum	.	.	.	.	.	.	.	.	.	1	+	.	.	.	+	1	1	1	.	1	a	a	.	1	.	.	1	+	a	a	1	.	1	1	+	+	a	+	1	.	1	.	.	1	+	+	1	1	+	+	.	+	1	+
Festuca rubra agg.	.	+	.	a	1	.	.	.	.	.	+	.	.	.	a	1	a	a	a	b	a	.	.	1	1	1	.	.	.	3	+	a	.	.	.	.	.	1	.	.	1	.	.	a	.	1	1	.	.	.	+	.	.	+
Luzula campestris agg.	.	+	.	.	.	+	.	.	.	.	+	.	.	.	r	.	+	r	+	+	+	.	.	1	1	+	.	.	+	1	+	.	+	.	.	r	1	.	+	.	.	.	.	.	.	.	+	.	.	.	r	r	.	r
Carex pallescens	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	+	.	.	.	.	.	.	.	.	.	.	a	.	.	.	1	.	.	.	.	1	.	+	.	.	.	.	1	+	+	.	.	.	.	r	+
Galium pumilum	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	+	+	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	+	.	.	.	.	.	.	.
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Agrostis capillaris	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	+	+	.	.	.	.	.	.	.
Hypochaeris radicata	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Polygala vulgaris	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Danthonia decumbens	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Thymus pulegioides	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Other species																																																						
Lotus corniculatus	+	+	.	+	+	+	.	1	1	+	+	+	+	+	1	a	+	+	+	+	+	+	.	+	1	+	+	1	.	+	+	1	+	+	.	a	1	+	+	.	+	.	+	+	.	+	+	+	+	+	+	+	+	+
Poa pratensis agg.	a	+	a	1	+	a	1	a	1	1	+	1	1	b	1	.	+	.	.	.	+	a	1	+	1	.	.	.	1	1	1	.	.	1	1	+	.	1	1	1	.	.	.	.	.	1	+	+	+	+	+	1	+	.
Achillea millefolium agg.	+	+	+	+	1	+	+	1	1	+	+	.	+	+	+	.	.	1	.	1	+	.	+	.	+	1	+	+	.	+	1	a	.	1	+	1	.	.	.	.	.	r	r	.	.	.	+	+	+	+	+	r	+	.
Briza media	.	.	.	.	.	1	.	.	.	+	.	.	.	+	.	1	1	+	+	1	+	.	.	.	.	.	1	.	.	1	.	.	+	.	.	.	1	1	+	.	+	.	1	.	.	1	.	.	.	.	.	+	r	+
Cruciata laevipes	.	.	a	1	.	.	.	.	.	.	1	+	.	.	.	r	+	.	.	+	+	.	.	+	.	.	.	.	.	.	.	.	.	1	.	.	r	.	r	.	.	+	.	+	.	+	.	+	.	.	1	+	+	+
Medicago lupulina	+	.	.	.	1	+	+	+	+	.	.	a	.	.	+	+	.	.	.	+	.	.	.	1	.	1	.	1	.	.	.	1	.	.	+	r	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	r	.
Daucus carota	r	r	.	r	.	.	.	1	.	.	.	.	+	.	.	+	.	+	.	+	+	.	.	.	.	r	.	.	.	1	r	+	.	.	.	r	+	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Clinopodium vulgare	.	.	.	+	.	.	.	.	.	.	.	.	.	.	r	+	+	.	.	+	.	.	.	+	.	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	+	r	r	+	.	.	+
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Hypericum maculatum	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	1	.	.	.	.	.	.	.
Ranunculus nemorosus	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.

Other species occurring in one relevé: Acer campestre: 50: +; Allium carinatum: 41: +; Anemone sylvestris: 33: 1; Artemisia vulgaris: 13: r; Bupleurum falcatum: 14: +; Campanula rapunculoides: 3: 1; Carduus nutans: 10: r; Carex muricata: 12: +; Cerastium arvense: 50: +; Chaerophyllum aromaticum: 23: a; Chamaecytisus hirsutus: 37: +; Cirsium canum: 43: a; Cirsium oleraceum: 46: +; Clematis vitalba: 50: +; Crataegus monogyna: 6: r; Crepis capillaries: 35: 1; Cruciata glabra: 37: +; Cytisus nigricans: 14: 1; Dactylorhiza maculata et majalis: 33: +; Erigeron annuus: 6: r; Falcaria vulgaris: 4: r; Geum urbanum: 40: r; Hieracium pilosella: 7: +; Inula conyza: 33: +; Lathyrus pannonicus: 27: +; Lotus pedunculatus: 38: r; Malva moschata: 48: 1; Myosotis ramosissima: 3: r; Orchis tridentata: 6: +; Orchis ustulata: 18: r; Poa annua: 23: 1; Populus tremula: 6: +; Primula vulgaris: 54: r; Prunus spinosa: 50: +; Quercus cerris: 39: r; Quercus petraea: 36: r; Ranunculus auricomus agg.: 47: +; Rosa canina agg.: 13:+; Rumex crispus: 22: r.; Saxifraga bulbifera: 37: +; Scorzonera humilis: 15: r; Silene latifolia subsp. alba: 10: +; Silene vulgaris: 13: +; Stachys sylvatica: 47: +; Stellaria media: 44: +; Tanacetum corymbosum: 46: r; Valeriana officinalis agg.: 46: +; Veratrum album: 47: r; Vicia tetrasperma: 23: +; Viola suavis: 16: r

Table 7. New relevés of the *Pastinaco-Arrhenatheretum* and *Ranunculo repentis-Alopecuretum* from the Vienna Woods. Cover a = 2a, b = 2b. Code "n" in header data: no data available. Land use codes: G: grazed, M: mown, I: intensively mown and/or fertilized, O: occasionally mown, A: abandoned.

Tabelle 7. Neue Vegetationsaufnahmen des *Pastinaco-Arrhenatheretum* und *Ranunculo repentis-Alopecuretum* aus dem Wienerwald. Ein "n" in den Standortsdaten bedeutet, dass der betreffende Parameter nicht erhoben wurde. Bewirtschaftung: G: beweidet, M: gemäht, I: intensiv gemäht und/oder gedüngt, O: unregelmäßig gemäht, A: verbracht.

Association	5.3 Pastinaco-Arrhenatheretum																																					
Running number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
Altitude (m)	482	560	428	552	492	495	456	649	244	271	354	365	303	317	441	423	297	396	227	549	412	381	546	314	299	303	538	315	310	364	418	460	510	485	390	275	280	305	370
Aspect (degrees)	180	270	-	135	0	180	180	180	180	360	-	270	-	315	180	90	180	45	315	180	113	180	180	180	90	90	90	180	180	90	90	90	-	-	203	-	-	-	45
Slope (degrees)	5	1	0	1	0	1	2	10	3	10	0	3	0	2	2	2	2	5	7	1	2	35	5	1	7	7	1	5	5	1	2	1	0	0	5	0	0	0	15
Cover herb layer (%)	100	95	95	95	90	100	95	95	100	99	96	98	100	100	98	95	100	97	95	95	99	100	95	90	100	100	95	99	98	100	98	100	98	98	100	95	95	95	97
Cover moss layer (%)	0	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	0	0	0	0	0	0	0	2	0	0
Plot size (m²)	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
TWINSPAN Cluster	34	34	34	34	34	34	34	34	34	34	38	34	34	34	34	34	38	34	33	34	34	33	34	34	34	34	34	34	34	33	34	33	33	33	34	33	33	33	34
Number of vascular plants	33	24	24	34	35	21	23	28	23	18	16	33	23	30	25	22	18	26	26	34	18	17	27	20	27	24	36	30	26	16	26	30	29	30	34	26	26	30	29
Land use	M	I	I	I	M	I	I	I	M	M	M	M	M	I	I	I	I	M	M	I	M	A	I	I	O	M	M	M	M	I	I	I	M	I	I	M	M	M	M
5.3 Pastinaco-Arrhenatheretum																																							
Arrhenatherum elatius	3	b	a	b	b	+	.	1	3	b	3	1	a	3	3	1	b	a	3	a	1	3	1	.	3	b	+	3	3	3	a	1	a	a	3	1	b	a	b
Avenula pubescens	1	a	1	a	1	a	.	1	.	.	.	.	.	1	.	.	.	.	+	+	.	.	.	.	.	.	1	a	+	.	.	.	.	.	+	.	+	.	1
Knautia arvensis	.	.	r	+	r	+	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	1	+	1	.	.	.	+	.	r	.	1	.	r	+	.
Campanula patula	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	r	.	.	.	.	.	.	+	.	.	.	+	.	.	.	.	.	r	+	r
5.4 Ranunculo repentis-Alopecuretum																																							
Alopecurus pratensis	1	.	.	a	+	.	.	.	.	1	.	.	.	.	+	1	a	1	.	.	1	.	.	.	a	1	+	1	a	.	.	.	.	a	.	.	.	1	b
Ranunculus repens	.	.	.	.	.	.	.	.	.	.	+	+	r	+	.	1	a	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.
Carex hirta	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.
Lychnis flos-cuculi	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.
Lysimachia nummularia	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	+	.	.	.
Cirsium canum	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Carex panicea	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Sanguisorba officinalis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cardamine pratensis agg.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Trifolium dubium	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Silaum silaus	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.
5.3 and 5.4																																							
Poa trivialis	b	3	3	.	1	b	1	.	a	a	b	a	a	a	1	b	a	1	.	.	.	.	a	4	1	1	a	.	.	b	3	b	.	1	.	3	b	b	+
Bromus hordeaceus	1	.	.	1	.	.	+	.	+	.	.	1	.	.	a	a	+	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	1	.	+	.	.	r
Rumex obtusifolius	.	.	+	.	.	.	.	.	.	a	+	.	1	.	1	a	+	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
5 Arrhenatherion																																							
Trisetum flavescens	+	a	a	.	.	4	.	4	1	a	.	.	a	a	a	3	.	1	a	4	a	.	3	.	1	1	1	a	a	b	1	a	a	b	3	.	b	.	a
Veronica chamaedrys agg.	+	.	+	+	+	.	+	.	.	+	.	+	+	+	.	+	.	+	+	+	1	+	.	.	.	r	+	+	r	.	+	.	+	+	+	1	.	.	+
Vicia sepium	.	1	+	+	+	.	.	.	+	a	.	1	+	r	a	.	.	.	1	+	+	.	.	+	1	a	.	.	.	.	a	.	1	+	+	+	.	.	+
Crepis biennis	.	+	1	1	1	+	.	+	.	1	.	.	a	+	+	.	.	.	.	1	.	.	r	.	.	.	a	.	.	.	.	a	a	b	1	.	.	+	.
Heracleum sphondylium	.	1	1	+	+	+	.	.	+	1	.	.	.	+	1	.	.	.	1	+	.	.	+	+	+	+	+	.	.	.	.	1	.	a	.	1	.	.	.
Veronica arvensis	r	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	+	1	1	r	.
Pastinaca sativa	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	1	.	1	.	.	.	.	.	.	r	1	.	.	.	1	.	.	.	.	.	.
Vicia angustifolia	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	+	.	.	1	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	1	.
Trifolium campestre	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	1	.
6 Cynosurion																																							
Trifolium repens	1	a	a	1	1	1	1	1	.	.	.	1	.	+	.	b	.	.	.	1	.	.	1	.	.	.	+	+	+	3	b	.	.	.	.	.	b	b	.
Bellis perennis	.	.	.	+	.	1	.	.	.	.	.	.	.	.	.	+	.	+	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	+	1	.	.
Veronica serpyllifolia	.	.	.	.	.	.	.	.	.	.	.	+	.	+	r	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lolium perenne	.	.	.	.	.	.	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	1	.	.	.	.	1	.	.
Plantago major	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	+	+	.
Prunella vulgaris	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	1	.	.	.	.	.	.	.	.	.	.
Phleum pratense	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	a	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.
Poa annua	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Leontodon autumnalis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
7 Molinion																																							
Carex tomentosa	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
8 Calthion																																							
Cirsium oleraceum	.	.	.	1	+	.	.	.	.	.	.	1	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	+	.	.	.	.	.
Cirsium rivulare	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Carex nigra	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Trollius europaeus	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
9 Potentillion anserinae																																							
Potentilla reptans	.	.	+	+	.	.	.	.	.	.	a	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	b	.	.	1	.
Festuca arundinacea	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Molinio-Arrhenatheretea																																							
Dactylis glomerata	+	1	b	+	+	+	1	a	a	a	b	1	3	b	3	1	3	a	1	a	a	1	a	1	a	1	1	1	+	b	b	b	3	a	b	b	a	a	b
Trifolium pratense	a	b	a	a	a	a	a	b	a	.	+	+	1	a	1	a	r	a	.	a	1	+	b	1	1	a	a	a	1	+	+	+	1	1	a	a	1	b	1
Plantago lanceolata	+	1	1	1	1	1	+	1	1	1	+	1	1	a	+	1	b	1	.	a	+	+	1	1	.	r	a	1	+	.	+	1	a	1	1	+	+	+	1
Ranunculus acris	1	.	1	1	1	1	1	+	b	a	+	b	1	1	+	1	.	a	1	1	a	.	+	3	+	+	1	+	a	.	a	1	+	.	+	1	.	.	1
Galium album	.	+	1	1	+	+	+	+	1	1	.	+	a	a	1	1	+	.	+	+	a	b	+	+	a	1	+	1	1	.	1	1	.	1	a	.	r	+	a
Festuca pratensis	a	.	a	.	.	.	+	a	a	.	.	b	1	1	.	1	.	a	a	1	b	.	1	1	1	1	+	1	1	a	1	.	b	a	a	.	1	.	+
Taraxacum officinale agg.	.	1	1	+	+	+	+	+	1	1	+	+	+	r	+	+	+	+	.	+	+	.	+	.	.	.	.	+	.	b	b	b	a	1	+	1	1	+	.
Rumex acetosa	+	+	.	+	1	+	1	.	1	a	.	a	1	.	+	+	.	1	.	+	.	.	+	+	+	+	+	+	.	.	.	.	.	.	+	+	.	.	1
Holcus lanatus	a	.	.	.	.	.	b	.	.	a	.	a	.	a	b	.	3	1	.	.	.	.	b	.	.	.	1	a	a	.	.	.	.	.	.	.	.	1	+
Lathyrus pratensis	+	+	.	+	.	.	.	+	1	.	.	+	.	+	.	.	.	.	a	.	.	.	.	+	1	.	.	+	+	.	.	.	.	+	a	.	.	1	+
Cerastium holosteoides	.	.	.	.	+	.	+	.	.	.	.	+	+	+	.	+	+	r	.	.	.	.	.	.	.	.	.	.	+	+	+	+	.	+	+	.	1	+	r
Colchicum autumnale	1	.	.	r	1	.	.	+	.	.	.	.	.	+	.	.	.	.	.	+	.	.	.	r	.	.	1	.	.	.	.	.	.	.	1	.	.	.	+
Tragopogon orientalis	.	r	r	r	+	.	.	+	+	.	.	.	.	r	+	.	.	.	+	+	.	.	+	.	+	a	.	r	.	.	.	a	.	.	1	.	.	.	+
Ajuga reptans	+	.	.	.	+	.	.	.	.	1	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	1	.	.	.	.	.	.	.	+
Cynosurus cristatus	+	.	.	.	.	+	.	+	.	.	.	.	.	.	.	.	.	1	.	+	.	.	1	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	1
Centaurea jacea	+	.	.	.	.	.	.	.	.	.	.	1	.	+	+	.	.	a	+	+	.	.	+	.	.	.	.	.	.	.	.	.	1	.	1	.	.	.	.
Pimpinella major	.	+	+	+	+	.	.	.	.	.	.	+	.	+	.	.	.	1	.	r	.	.	+	.	.	.	+	.	.	.	a	r	.	.	.	+	.	.	.
Leucanthemum vulgare agg.	.	r	.	.	+	+	.	.	.	.	.	.	.	.	.	.	.	.	r	+	.	.	1	.	.	.	+	+	.	.	+	.	.	.	.	.	.	+	.
Rhinanthus minor	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+
Alchemilla sp.	.	.	.	.	+	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.
Leontodon hispidus	.	.	.	.	+	.	+	.	.	.	+	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
Vicia cracca agg.	.	.	.	+	+	.	.	+	.	.	.	+	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Stellaria graminea	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	1	.	.	.	.	.	.	.	.	.	.	1
Festuco-Brometea																																							
Filipendula vulgaris	+	.	.	.	+	.	.	+	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	r
Bromus erectus	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	+	.	.	.	.	.	.	.	.	.	.
Ranunculus bulbosus	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	r	.	.	.	+	.	.
Galium boreale	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Salvia nemorosa	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	b	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Betonica officinalis	+	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Sanguisorba minor	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.
Plantago media	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.
Salvia pratensis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.
Cirsium pannonicum	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Orobanche gracilis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calluno-Ulicetea																																							
Anthoxanthum odoratum	.	.	.	1	b	1	1	.	.	.	.	1	+	.	.	.	.	a	.	.	.	.	1	.	.	.	a	1	1	.	.	.	.	.	.	.	.	.	a
Festuca rubra agg.	a	.	.	a	1	.	+	.	.	.	.	.	.	.	.	.	.	a	.	.	.	.	.	.	.	.	3	.	.	.	.	.	.	.	.	.	.	.	a
Carex pallescens	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Luzula campestris agg.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r
Veronica officinalis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Agrostis capillaris	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Other species																																							
Poa pratensis agg.	1	1	1	a	a	.	3	a	1	.	a	a	1	1	1	.	.	a	1	b	.	1	.	.	.	+	.	1	1	+	.	a	1	a	1	.	a	b	.
Achillea millefolium agg.	.	+	+	+	+	a	1	1	1	.	.	1	1	a	+	+	.	.	1	+	.	.	+	.	.	.	+	+	+	+	.	+	+	.	+	.	+	.	.
Lotus corniculatus	.	+	.	+	+	.	+	+	1	.	.	.	.	.	.	.	.	.	.	+	.	.	1	+	.	.	.	+	+	.	+	.	+	.	1	.	a	+	.
Anthriscus sylvestris	.	+	a	1	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	a	.	.	.	.	.	.	.	.	+	1	b	.	b	a	+	.	.	.
Carum carvi	.	.	.	1	.	.	+	+	.	.	.	.	.	.	.	.	.	a	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.
Medicago lupulina	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	r	.	.	.	.	.	.	.	.	.	+	+	+	+	.	.	r	r	.
Cruciata laevipes	.	+	.	.	+	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	1	.	.	.	.	.	+	.	.	.	.	.	.	.	1	.	.	.	.
Glechoma hederacea	.	.	.	.	.	.	.	+	.	.	.	r	.	+	.	r	.	.	.	.	.	.	.	.	+	.	.	.	.	+	.	+	.	.	.	.	.	.	.
Rhinanthus alectorolophus	.	1	.	a	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	b	.	.	+	.	.	1	1	b	.	.	.	.
Convolvulus arvensis	.	.	.	.	.	.	.	.	1	.	.	.	.	.	+	.	.	.	+	.	.	.	.	r	1	1	.	.	.	+	.	1	.	.	1	.	.	.	.
Medicago sativa agg.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	1	.	.	.	.	r	.	.	.	.	+	b	.	.	.	1	.	.	+	.	.	+	.	.	.
Aegopodium podagraria	.	.	.	+	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	a	b	.	.	.	+	.	.	.
Carex acuta	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Geranium pyrenaicum	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	r	.	+	.	.	.	r	.
Cirsium arvense	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	r	.	r	.	.	.	.	.	.	.	.	.	.	+	.	.
Equisetum arvense	+	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	+	.	.
Geum urbanum	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	+	.	.	+	.	.	.	r	.	.	.	.	.	.	.	.	.	.
Symphytum officinale	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	1	.	r	.	.	.
Elymus repens	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	r	.	.	.	.	.	1	.	.	.	.	.	.	.
Geranium pratense	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	b	b	.	.	.	.	.	.	.	.	.	.	.	.	.
Daucus carota	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	r	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.	.	.	.	.
Galium verum agg.	a	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	r	.	.	.	.
Myosotis arvensis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	1	.	1	.	.	+	.
Rumex crispus	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	+	.	.	+	.
Arenaria serpyllifolia agg.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	+	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calamagrostis epigejos	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.
Crepis capillaris	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	+	1	.	.	.	.	.	.	.	.	.	.	.	.	.
Urtica dioica	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.
Vicia hirsuta	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Briza media	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Knautia drymeia	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Erigeron annuus	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	1	.
Allium scorodoprasum	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.
Anemone nemorosa	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Carex brizoides	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Carex flacca	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Carex leporina	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Chaerophyllum bulbosum	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	b	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Dactylorhiza incarnata	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Fraxinus excelsior	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Rhinanthus serotinus	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.
Stellaria media	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	1	.	.	.	.	.	.	.
Veronica persica	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	+	.	.	.	.	.

Association	5.4 Ranunculo repentis-Alopecuretum																										
Running number	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66
Altitude (m)	449	432	446	557	495	479	456	457	375	426	367	300	295	371	396	380	354	313	321	364	373	345	344	305	325	320	410
Aspect (degrees)	135	90	-	135	-	180	-	180	-	45	180	315	315	135	225	45	135	360	135	180	135	180	360	135	180	90	248
Slope (degrees)	1	2	0	1	0	1	0	5	0	3	2	7	2	2	5	2	5	2	2	2	5	10	2	2	5	2	10
Cover herb layer (%)	95	95	90	95	90	95	98	100	95	98	100	95	98	100	98	95	99	90	95	95	95	97	70	98	99	99	97
Cover moss layer (%)	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	1
Plot size (m²)	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
TWINSPAN Cluster	34	34	34	34	34	34	34	34	34	34	39	34	41	33	34	34	34	34	35	34	34	34	34	34	34	34	34
Number of vascular plants	24	25	29	26	30	19	21	23	24	25	20	19	21	23	37	18	35	37	23	28	26	36	19	17	40	19	35
Land use	I	I	I	I	I	I	I	I	I	M	I	I	I	I	M	G	M	M	M	M	M	M	I	M	M	M	M
5.3 Pastinaco-Arrhenatheretum																											
Arrhenatherum elatius	.	.	.	.	.	.	.	+	.	.	1	.	.	a	.	+	r	+	.	.	.	.	.	.	.	.	+
Avenula pubescens	.	.	+	.	.	.	.	.	.	.	.	.	.	.	a	.	+	1	.	.	.	1	+	.	.	.	+
Knautia arvensis	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Campanula patula	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.
5.4 Ranunculo repentis-Alopecuretum																											
Alopecurus pratensis	a	b	3	4	1	a	.	a	3	a	3	4	1	3	b	3	.	a	.	a	1	1	1	4	a	4	3
Ranunculus repens	+	a	.	1	a	1	a	1	a	.	1	.	a	1	.	1	1	1	a	.	.	.	.	.	.	1	.
Carex hirta	.	.	.	.	.	.	.	.	.	.	a	.	4	.	+	+	.	a	a	.	a	1	r	.	.	.	.
Lychnis flos-cuculi	.	.	.	.	.	.	.	.	.	+	.	.	r	.	.	.	+	+	+	1	.	.	.	.	.	+	.
Lysimachia nummularia	.	.	.	.	.	.	.	.	.	.	.	+	b	.	.	.	1	a	1	.	.	+	.	.	.	r	.
Cirsium canum	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	a	1	.	.	.	r	.
Carex panicea	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	+	1	.	a	1	.	.	.	.	.
Sanguisorba officinalis	.	.	.	.	.	.	.	.	+	.	.	r	.	.	.	.	.	.	.	1	.	.	+	.	.	.	.
Cardamine pratensis agg.	.	.	+	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.
Trifolium dubium	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	r	.	.	.	.	.
Silaum silaus	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
5.3 and 5.4																											
Poa trivialis	b	.	a	1	a	.	a	b	1	1	1	a	3	1	.	b	a	b	1	.	1	3	3	a	1	1	.
Bromus hordeaceus	.	.	.	.	a	.	3	3	+	+	a	.	1	1	+	+	.	+	.	+	.	1	.	.	.	.	.
Rumex obtusifolius	.	+	+	.	1	.	+	.	+	.	a	1	+	+	.	+	.	.	.	.	.	.	1	.	.	.	.
5 Arrhenatherion																											
Trisetum flavescens	1	.	1	b	.	.	a	1	.	1	.	.	.	b	a	.	b	+	.	+	.	1	.	1	.	+	a
Veronica chamaedrys agg.	+	+	+	.	+	.	.	+	.	+	r	r	.	.	+	.	+	+	.	r	.	.	.	.	r	.	r
Vicia sepium	.	+	1	+	.	.	+	1	+	+	.	.	.	+	.	+	.	.	.	+	.	.	.	.	.	.	.
Crepis biennis	.	.	.	.	.	.	+	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	1	.	+
Heracleum sphondylium	.	.	1	.	+	.	+	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.
Veronica arvensis	.	.	.	.	.	+	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Pastinaca sativa	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Vicia angustifolia	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+
Trifolium campestre	.	.	.	.	.	.	.	.	.	.	.	.	a	.	.	.	.	.	+	+	.	.	.	.	.	.	.
6 Cynosurion																											
Trifolium repens	b	1	.	1	a	1	1	1	1	1	a	.	.	.	.	.	1	.	.	a	.	+	.	+	.	1	1
Bellis perennis	+	+	.	+	1	+	.	.	.	r	.	.	.	.	.	.	r	.	+	.	.	+	.	.	.	.	.
Veronica serpyllifolia	.	.	.	.	.	.	.	.	.	.	+	+	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.
Lolium perenne	.	.	.	.	.	.	.	.	a	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Plantago major	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Prunella vulgaris	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	+
Phleum pratense	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	a	.	.	.	.	.	.	.	.	.	.
Poa annua	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Leontodon autumnalis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.
7 Molinion																											
Carex tomentosa	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.
8 Calthion																											
Cirsium oleraceum	.	.	a	1	+	.	1	.	1	.	.	.	.	.	.	.	.	3	.	.	.	.	.	.	.	.	.
Cirsium rivulare	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Carex nigra	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	a	.	.	.	.	.	.
Trollius europaeus	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
9 Potentillion anserinae																											
Potentilla reptans	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	+	.	1
Festuca arundinacea	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.
Molinio-Arrhenatheretea																											
Dactylis glomerata	a	b	1	+	.	.	1	+	.	1	1	a	.	a	1	1	1	+	.	1	1	1	a	+	+	.	+
Trifolium pratense	a	a	+	a	b	b	b	a	a	1	+	+	1	a	1	a	1	1	+	a	+	1	+	1	+	a	a
Plantago lanceolata	1	a	+	b	1	1	+	1	1	1	.	1	r	1	a	a	a	1	+	1	1	+	+	+	1	+	1
Ranunculus acris	a	a	1	a	1	a	1	a	1	b	+	1	1	1	1	a	a	1	a	a	1	1	.	a	a	.	a
Galium album	+	1	+	.	+	.	+	+	1	1	1	a	.	1	1	.	a	a	.	r	1	+	.	1	1	+	1
Festuca pratensis	1	1	+	.	.	+	.	.	.	1	.	b	+	a	1	b	a	3	.	.	1	1	a	a	1	a	b
Taraxacum officinale agg.	+	1	+	+	1	+	+	+	+	.	+	.	+	+	+	1	a	.	+	.	.	.	.	+	1	r	+
Rumex acetosa	+	.	+	+	+	+	1	1	1	a	.	1	+	.	+	+	1	1	.	1	+	1	.	.	r	r	.
Holcus lanatus	.	1	.	.	+	.	.	+	1	a	1	1	1	+	1	.	.	1	1	b	1	1	1	1	a	.	a
Lathyrus pratensis	.	1	+	.	+	.	.	.	.	+	.	1	+	+	+	.	+	1	+	+	+	+	1	1	1	.	1
Cerastium holosteoides	+	.	.	.	.	+	.	+	.	.	+	+	+	+	.	+	.	+	.	+	+	+	.	.	r	.	+
Colchicum autumnale	r	+	r	r	+	.	.	.	.	.	.	.	r	.	+	.	.	+	.	.	1	1	a	.	+	.	1
Tragopogon orientalis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	+	.	.	.	.	.	.	.	.	.	+
Ajuga reptans	.	.	.	+	1	.	.	.	+	+	.	+	+	.	+	.	1	.	.	+	.	+	.	.	r	.	.
Cynosurus cristatus	.	.	.	.	.	.	a	.	.	.	.	.	.	.	.	1	1	.	.	1	.	1	1	1	1	1	a
Centaurea jacea	.	.	.	.	.	.	.	.	.	1	.	.	.	.	1	.	+	.	+	a	.	.	.	.	.	.	r
Pimpinella major	.	.	+	.	.	.	+	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.
Leucanthemum vulgare agg.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.
Rhinanthus minor	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	r	b	1	+	.	.	r	.	.
Alchemilla sp.	.	.	+	+	+	+	.	.	+	+	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.
Leontodon hispidus	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	1	.	.	.	.	.	.	.	1	.	.
Vicia cracca agg.	.	.	.	.	+	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Stellaria graminea	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	+	.	.	.	.	.	r	.	.	r
Festuco-Brometea																											
Filipendula vulgaris	.	+	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	a	+	.	1	.	+
Bromus erectus	1	.	.	.	.	.	.	.	.	.	.	.	.	.	b	.	.	.	.	.	.	.	.	.	1	.	+
Ranunculus bulbosus	1	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	+	.	.	.	.	.
Galium boreale	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	+	.	.	.	.	.	.	.	.	.
Salvia nemorosa	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Betonica officinalis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Sanguisorba minor	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Plantago media	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Salvia pratensis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cirsium pannonicum	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r
Orobanche gracilis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r
Calluno-Ulicetea																											
Anthoxanthum odoratum	.	1	a	1	1	b	.	.	.	a	.	.	.	.	1	.	+	b	.	a	1	a	1	.	+	+	1
Festuca rubra agg.	.	a	.	a	a	.	.	.	1	1	.	.	.	.	.	.	1	.	.	.	.	.	.	.	a	.	.
Carex pallescens	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	1	1	.	+	1	1	a	.	1	+	.
Luzula campestris agg.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	+	.	.	+	.	.	.	+	.	.	r	.	.
Veronica officinalis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.
Agrostis capillaris	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
Other species																											
Poa pratensis agg.	+	b	.	+	b	3	.	a	b	.	a	.	.	a	1	1	.	.	.	b	1	.	.	+	1	+	.
Achillea millefolium agg.	1	+	.	.	+	+	1	.	+	.	.	.	.	.	+	.	+	.	.	r	.	.	.	.	.	.	+
Lotus corniculatus	.	+	.	+	.	+	.	.	+	.	.	.	.	r	1	.	a	+	.	.	.	+	r	+	+	.	1
Anthriscus sylvestris	.	.	b	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Carum carvi	+	+	.	+	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	+
Medicago lupulina	+	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r
Cruciata laevipes	.	+	1	.	.	.	.	+	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.
Glechoma hederacea	.	.	.	.	.	.	.	+	+	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.
Rhinanthus alectorolophus	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Convolvulus arvensis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Medicago sativa agg.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Aegopodium podagraria	.	.	a	.	1	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Carex acuta	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	.	3	.	.	.	.	.	.
Geranium pyrenaicum	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cirsium arvense	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.
Equisetum arvense	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.
Geum urbanum	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.
Symphytum officinale	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	a
Elymus repens	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.
Geranium pratense	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Daucus carota	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Galium verum agg.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.
Myosotis arvensis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Rumex crispus	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Arenaria serpyllifolia agg.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calamagrostis epigejos	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	+	.
Crepis capillaris	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Urtica dioica	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Vicia hirsuta	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	.	+	.	.	.	.	.	.	.	.	.	.
Briza media	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	r	.	.	.	.	.	.	1	.	.
Knautia drymeia	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.
Erigeron annuus	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Allium scorodoprasum	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Anemone nemorosa	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	r	.	.	.	.	.
Carex brizoides	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	1	.	.	.	.	.
Carex flacca	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	+	.	.
Carex leporina	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	1	.	.	.	.	.	.	.	.
Chaerophyllum bulbosum	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Dactylorhiza incarnata	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	+	.	.	.	.	.
Fraxinus excelsior	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.
Rhinanthus serotinus	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Stellaria media	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Veronica persica	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Other species occurring in one relevé: Acer campestre: 22: 1; Arabis hirsuta agg.: 33: r; Artemisia vulgaris: 22: +; Bunias orientalis: 36: r; Capsella bursa-pastoris: 34: +; Carex curvata: 58: +; Carex muricata: 32:+; Carex sylvatica: 12: 1; Cerastium tenoreanum: 33: +; Chaerophyllum aromaticum: 36: +; Clematis vitalba: 22:a; Erigeron acris: 22: 1; Euonymus europaeus: 64: r; Ficaria verna: 36: +; Filipendula ulmaria: 34: 1; Fragaria viridis: 64: +; Galium aparine: 11: a; Juncus articulatus: 58: 1; Juncus effusus: 64: +; Juncus tenuis: 58: 1; Lolium multiflorum: 17: 1; Lysimachia nemorum: 12: 1; Myosotis palustris agg.:17: +; Peucedanum alsaticum: 22: a; Phyteuma orbiculare: 43: r; Ranunculus auricomus agg.: 56: +; Rubus caesius: 38: 1; Rubus idaeus: 22: 1; Salvia verticillata: 19: +; Silene vulgaris: 19: r; Veronica hederifolia: 36: +; Vicia tetrasperma: 27: +; Viola hirta: 19: r

Table 8. New relevés of the alliances *Molinion*, *Calthion* and *Potentillion anserinae* from the Vienna Woods. Cover a = 2a, b = 2b. Code "n" in header data: no data available. Land use codes: M: mown, O: occasionally mown, A: abandoned.

Tabelle 8. Neue Vegetationsaufnahmen der Verbände *Molinion*, *Calthion* und *Potentillion anserinae* aus dem Wienerwald. Ein "n" in den Standortsdaten bedeutet, dass der betreffende Parameter nicht erhoben wurde. Bewirtschaftung: M: gemäht, O: unregelmäßig gemäht, A: verbracht.

Association	7.1 Succiso-Molinietum													8.1 Cirsietum rivularis																9.1		
Running number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
Altitude (m)	557	357	311	312	322	323	379	319	321	365	320	320	320	405	428	414	515	397	539	514	353	508	360	380	350	375	495	490	340	380	379	244	393
Aspect (degrees)	360	-	135	158	180	225	315	360	360	180	135	135	180	360	180	40	180	45	180	-	-	225	-	315	45	225	-	45	-	360	270	-	225
Slope (degrees)	3	0	5	3	3	4	3	3	3	1	5	1	2	2	0	2	4	1	2	0	0	2	0	1	5	5	0	3	0	10	3	0	3
Cover herb layer (%)	100	90	99	90	96	90	96	85	90	95	98	97	97	100	100	100	100	90	95	95	80	90	98	98	90	95	95	100	97	95	90	98	90
Cover moss layer (%)	5	n	n	n	n	n	n	n	n	n	n	n	n	2	2	2	2	n	n	n	n	n	35	10	10	1	1	0	1	0	n	n	n
Plot size (m²)	25	25	25	25	25	25	28	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
TWINSPAN Cluster	45	45	45	48	45	45	35	45	47	45	35	35	35	35	35	35	35	35	35	35	54	55	41	41	35	57	35	34	35	35	59	41	59
Number of vascular plants	38	25	29	15	44	37	43	17	23	25	35	30	27	41	39	33	42	24	28	26	15	22	44	37	33	31	41	27	33	38	36	21	21
Land use	M	M	M	A	M	M	M	O	O	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
7 Molinion																																	
Molinia caerulea agg.	a	b	b	4	3	3	a	3	3	a	b	1	1	.	.	.	.	.	.	b	.	.	.	.	.	.	.	.	.	.	+	.	a
Carex tomentosa	.	.	a	b	+	.	.	1	a	.	1	1	a	.	1	.	.	.	.	.	.	.	.	.	.	b	1	.	+	.	a	.	+
Inula salicina	.	.	b	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	+	.	.	.	.	.	.	.	.	.	.	.	.
Serratula tinctoria	.	1	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Selinum carvifolia	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ophioglossum vulgatum	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Festuco-Brometea (D All. 7)																																	
Filipendula vulgaris	.	+	a	.	a	+	+	.	r	+	b	r	.	+	a	.	.	.	1	.	.	.	.	.	.	1	+	.	.	+	r	.	.
Bromus erectus	+	a	.	.	1	.	.	.	.	a	a	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Asperula cynanchica	.	.	+	.	1	.	.	r	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ononis spinosa	.	.	.	+	r	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Trifolium montanum	.	.	r	.	r	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Brachypodium pinnatum	.	.	.	.	1	r	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Carex montana	.	.	+	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Pimpinella saxifraga	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.
Plantago media	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ranunculus bulbosus	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
8 Calthion, 8.1 Cirsietum rivularis																																	
Cirsium rivulare	r	.	.	.	.	.	.	.	.	+	.	.	.	a	b	b	a	a	b	a	1	1	b	b	a	a	1	a	a	1	.	.	.
Lychnis flos-cuculi	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	1	1	+	+	+	.	+	+	1	+	+	1	.	1	+	.	.	.
Trollius europaeus	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	b	1	.	.	+	a	.	.	.	.	r	1	.	.	.	.	.	.
Carex nigra	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	1	4	.	.	.	.	.	.	.	.	.	.	.
Trifolium dubium	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.	r	.	.	.	.	.	.	.	.	.	.	r	.	1	+	r	.	.
Scirpus sylvaticus	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	1	b	1	.	.	.	.	a	.	.	.	.
Cirsium oleraceum	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	+	.	.	1	.	.	.	.	.	.	.	+	.	.	.
Bromus racemosus	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	+	+	.	.
Caltha palustris	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	a	.	.	.	.	.	.	.	.	.	.
Poa palustris	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	a	1	.	.	.	.	.	.	.	.	.
Filipendula ulmaria	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.
Myosotis palustris agg.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.
Crepis paludosa	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
Cardamine pratensis agg.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.
All. 7 and 8																																	
Dactylorhiza majalis	1	+	.	.	.	.	.	.	.	+	.	.	.	.	+	1	r	.	.	.	.	+	+	1	+	+	.	.	.	.	.	.	.
Scorzonera humilis	+	+	+	.	.	.	.	+	.	.	.	.	.	.	.	+	r	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.
Equisetum palustre	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	+	.	.	.	.	.	1	1	.	1	.	.	.	.	.	.	.	.
Succisa pratensis	.	.	+	.	.	.	.	r	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	1
Juncus conglomeratus	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	1	+	.	.	.
Veratrum album	a	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	a	.	.	.	.	.	.	.	+	.	.	.	.	.
Galium uliginosum	+	.	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.
9 Potentillion anserinae, 9.1 Mentho-Juncetum inflexi																																	
Juncus inflexus	.	.	.	.	.	r	.	1	1	.	.	.	a	.	+	.	.	.	.	.	.	.	.	.	3	+	.	.	.	.	3	.	a
Carex distans	.	.	1	.	.	r	.	1	a	1	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	r	.	.	.	.	.	.	3
Potentilla reptans	.	.	.	.	.	.	1	.	.	.	r	1	1	.	+	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	+	1	.
Pulicaria dysenterica	.	.	.	r	a	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	+
Potentilla anserina	.	.	.	.	.	+	.	.	.	.	.	.	.	.	+	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	a	.
Festuca arundinacea	.	.	.	.	.	.	.	.	+	.	.	+	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Mentha aquatica	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	1
Eleocharis uniglumis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	b
Agrostis stolonifera	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.
All. 8 and 9																																	
Ranunculus repens	.	.	.	.	.	1	.	.	.	.	.	+	.	1	1	.	.	a	.	1	.	1	1	b	1	+	a	+	.	.	.	b	.
Alopecurus pratensis	.	.	.	.	.	.	.	.	.	.	.	.	.	a	+	.	.	a	.	.	.	.	.	.	.	.	3	3	3	.	.	1	.
All. 7 - 10																																	
Carex panicea	a	.	a	.	1	a	1	b	a	.	a	b	3	+	.	3	a	.	.	.	.	a	1	b	1	1	1	.	+	+	a	.	3
Juncus effusus	+	.	.	r	+	.	.	.	.	.	.	+	1	+	.	+	a	+	+	.	.	a	a	.	1	.	.	.	.	+	+	a	.
Galium boreale	+	+	1	r	+	+	+	.	.	.	+	.	.	1	1	1	+	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Carex hirta	.	.	.	.	.	.	.	.	.	+	+	+	1	+	1	.	1	a	.	.	.	1	1	1	a	.	.	.	+	a	.	a	.
Silaum silaus	1	+	r	.	+	+	.	r	.	+	.	.	.	.	r	.	.	r	.	.	+	.	+	.	.	r	+	.	.	.	+	.	.
Lysimachia nummularia	.	.	.	.	.	1	+	.	.	.	r	.	.	.	.	.	+	.	.	.	+	.	+	1	+	r	.	+	+	1	.	.	.
Sesleria uliginosa	.	b	a	.	1	b	.	1	a	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	b	1	.	.	.	.	.	+
Betonica officinalis	a	.	.	.	+	.	.	.	.	.	+	.	.	.	+	.	1	.	1	.	.	.	.	.	.	+	.	+	r	.	.	.	.
Deschampsia cespitosa	.	.	r	.	1	.	b	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	3	.
Juncus articulatus	.	.	.	.	+	.	.	+	+	.	.	.	+	.	.	.	.	.	.	.	.	.	1	1	.	.	.	.	.	.	+	.	1
Cirsium canum	.	+	.	.	.	.	.	.	.	.	.	1	1	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.
Sanguisorba officinalis	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.
5 Arrhenatherion																																	
Avenula pubescens	.	+	.	.	r	.	.	.	.	.	.	.	.	.	.	.	+	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.
Crepis biennis	.	.	.	.	.	.	.	.	.	.	.	.	.	+	r	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Trisetum flavescens	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	r	.	.	.
Veronica chamaedrys agg.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	+	.	.	.	.
Arrhenatherum elatius	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.
Vicia sepium	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.
Rumex obtusifolius	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.
Knautia arvensis	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
6 Cynosurion																																	
Trifolium repens	.	.	.	+	.	a	.	.	.	r	+	+	a	+	1	.	.	+	.	.	r	.	.	a	.	+	.	+	1	.		
Prunella vulgaris	+	.	.	+	r	1	.	.	.	.	.	.	+	+	+	+	.	.	.	a	.	1	a	.	.	.	.	.	+	.	.	+	
Bellis perennis	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	+	1	+	.	.	.	.	.	.	.	.	.	.	.	
Plantago major	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	r
Phleum pratense	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	1	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.
Molinio-Arrhenatheretea																																	
Holcus lanatus	+	.	.	.	1	+	1	.	+	.	1	1	1	1	a	+	1	1	3	1	.	1	1	a	+	r	1	+	a	a	1	a	.
Ranunculus acris	+	1	.	.	1	+	+	.	.	+	1	a	1	a	a	1	+	.	1	a	1	1	1	a	1	a	a	1	1	1	1	1	+
Trifolium pratense	.	+	.	.	.	r	1	.	r	+	1	1	1	a	a	1	1	a	a	a	.	1	1	+	+	+	a	.	.	1	+	.	.
Cynosurus cristatus	1	.	.	.	r	r	1	.	.	.	+	+	1	1	1	1	+	a	1	+	.	.	1	1	1	.	b	+	b	+	1	.	.
Festuca pratensis	.	.	.	.	r	.	1	.	.	.	1	1	.	a	b	1	1	3	a	.	.	.	1	1	1	.	a	+	1	1	+	1	.	.
Colchicum autumnale	.	+	+	.	r	r	a	.	+	r	1	.	.	+	a	a	+	+	+	.	.	1	1	a	.	+	+	+	1	.	.	.	.	.
Lathyrus pratensis	.	.	.	.	+	r	.	.	.	.	+	r	+	.	+	.	+	1	+	.	.	+	+	+	r	+	+	+	+	.	.	.	.	.
Plantago lanceolata	a	.	.	.	+	r	.	.	.	.	+	.	.	a	+	.	r	+	1	+	.	+	+	+	.	+	.	+	1	r	.	.	.
Poa trivialis	.	.	.	.	.	.	.	.	.	.	.	.	a	+	a	+	+	.	.	.	.	+	+	+	3	.	1	a	a	1	+	1	.
Centaurea jacea	.	+	r	.	r	r	.	.	.	.	.	.	.	1	+	+	+	+	+	1	.	.	+	.	.	+	+	.	+	+	.	.	.
Dactylis glomerata	.	.	.	.	+	r	1	.	.	.	+	+	.	r	1	+	+	.	+	+	.	.	.	.	.	.	+	a	.	+	.	.	.
Rhinanthus minor	+	+	.	.	r	.	r	.	.	+	.	.	.	1	+	1	+	.	.	.	.	.	1	+	1	.	+	.	+	+	.	.	.
Cerastium holosteoides	.	.	.	.	.	r	.	.	.	.	.	r	r	+	.	+	+	.	.	.	.	.	+	+	+	.	.	+	r	.	.	.	.
Rumex acetosa	.	.	.	.	r	.	.	.	.	.	.	.	.	+	.	.	+	+	.	.	.	.	+	+	+	.	+	+	+	1	.	.	.
Leontodon hispidus	+	1	+	.	r	r	.	.	1	r	.	.	.	.	.	1	.	+	.	.	.	+	+	.	+	.	.	+	1	.	.	.	.
Galium mollugo agg.	.	.	.	.	.	.	.	.	.	.	.	r	.	1	+	.	+	.	.	.	.	.	.	+	.	.	+	1	+	.	.	.	.
Leucanthemum vulgare agg.	+	.	.	.	+	.	+	.	.	.	.	.	.	+	.	+	.	.	.	+	.	.	.	.	.	r	.	.	.	.	+	.	.
Ajuga reptans	.	.	.	.	+	.	1	.	.	.	.	.	.	.	.	.	1	.	r	+	.	1	.	.	.	.	+	.	.	.	.	.	.
Stellaria graminea	.	.	.	.	.	.	.	.	.	.	.	+	.	+	.	.	.	.	.	.	.	.	.	.	.	+	1	+	+	.	+	.	.
Alchemilla sp.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	+	+	+	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.
Vicia cracca agg.	.	.	.	.	.	.	.	.	.	.	.	r	.	+	.	.	r	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.
Tragopogon orientalis	.	.	.	.	.	.	.	.	.	r	+	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Pimpinella major	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.	.
Taraxacum officinale agg.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.
Calluno-Ulicetea																																	
Carex pallescens	b	.	.	.	1	.	1	.	.	.	1	b	.	.	.	a	a	.	.	b	.	.	.	.	.	+	a	+	1	3	r	.	.
Anthoxanthum odoratum	.	.	.	.	+	.	.	.	.	.	+	+	1	+	.	1	+	a	1	b	.	.	+	a	+	.	1	.	a	1	.	.	.
Potentilla erecta	.	.	1	r	+	1	r	+	r	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+
Luzula campestris agg.	1	.	.	.	.	.	.	.	.	.	r	.	.	.	.	r	.	.	+	.	.	.	.	.	.	.	.	.	r	.	.	.	.
Festuca rubra agg.	b	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.
Galium pumilum	+	.	.	.	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Danthonia decumbens	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Polygala vulgaris	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Viola canina	.	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Agrostis capillaris	.	.	.	.	.	a	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
10 Caricion davallianae																																	
Carex flava agg.	a	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	+	.	.	.	.	r	.	.	r	.	.	.	.
Carex davalliana	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	a
Valeriana dioica	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Carex pulicaris	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Epipactis palustris	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Other species																																	
Carex flacca	.	b	a	r	+	a	a	a	.	3	1	a	1	.	1	1	+	.	.	.	.	.	+	.	.	b	.	.	b	+	.	a	
Lotus corniculatus	+	.	+	.	+	+	+	.	.	1	+	1	+	1	+	+	+	.	+	+	.	.	+	+	.	+	+	.	.	+	.	.	
Briza media	+	.	+	.	+	b	1	.	.	.	+	+	.	.	1	1	1	.	.	.	.	.	.	.	r	r	+	.	.	+	.	.	
Galium verum agg.	.	+	+	r	1	+	1	r	r	r	.	.	.	.	+	.	.	.	.	.	.	.	.	r	.	+	.	.	.	.	+	.	
Carex acuta	.	.	.	.	.	.	.	.	.	.	.	.	.	b	.	.	.	.	.	.	4	.	b	.	.	.	.	.	.	.	.	.	
Medicago lupulina	.	+	.	.	.	.	.	.	.	1	.	.	.	r	r	.	.	.	+	.	.	.	+	.	.	.	.	.	.	.	.	.	
Carex leporina	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	+	.	.	.	b	b	.	1	
Lysimachia vulgaris	.	.	.	+	.	1	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	.	.	1	.	
Poa pratensis agg.	.	.	.	.	.	r	r	.	.	.	.	+	.	.	.	+	.	1	.	.	.	.	.	.	.	.	1	.	.	.	.	.	
Equisetum arvense	.	.	.	.	.	.	+	.	.	.	.	r	.	.	.	.	.	.	.	.	+	.	+	+	.	.	.	.	.	.	.	.	
Lathyrus pannonicus	.	1	+	.	.	.	.	.	.	+	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	1	.	.	.	.	.	
Juncus compressus	.	.	.	.	.	.	.	.	.	.	.	.	+	r	.	.	.	.	.	.	.	.	.	+	1	.	.	.	.	+	.	.	
Lotus maritimus	.	.	.	a	1	.	+	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
Phragmites australis	.	.	+	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	r
Carum carvi	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	+	.	.	+	+	.	.	.	.	.	.	.	.	.
Glechoma hederacea	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	+	.	.
Mentha arvensis	.	.	.	.	+	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	a	.
Fraxinus excelsior	.	.	r	.	.	r	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Rhinanthus serotinus	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	+	.	.	.	.	.	.	.	.	.	.	.
Arenaria serpyllifolia agg.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	+	.	.	.	.	.	.	.	.	.	.	.
Trifolium ochroleucon	.	.	.	r	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lythrum salicaria	.	.	+	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.
Verbena officinalis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	.
Carex acutiformis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	1	.	.	.	.	.	.	.	.
Elymus repens	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.
Calamagrostis epigejos	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.
Potentilla alba	.	.	+	.	.	.	.	.	.	.	a	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Achillea millefolium agg.	.	.	.	.	.	r	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alnus glutinosa	.	.	.	.	r	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.
Carex sylvatica	.	.	.	.	.	r	.	.	.	.	.	a	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Carex vulpina agg.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	+	.	.	.	.	.
Dactylorhiza incarnata	.	.	r	.	.	.	r	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Galium palustre	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	+	.	.	.	.	.	.
Lycopus europaeus	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	.	r
Lysimachia nemorum	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+
Rhinanthus alectorolophus	.	.	.	.	.	.	.	.	.	.	.	.	.	a	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.
Rumex crispus	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	+	.	.	.	.	.	.
Symphytum officinale	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	r	+	.	.	.	.	.	.	.	.	.
Trifolium hybridum	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.

Other species occurring in one relevé: Agrimonia eupatoria: 7: +; Allium vineale: 3: r; Anemone nemorosa: 1: +; Anthyllis vulneraria: 2: +; Betula pendula: 9: r; Blysmus compressus: 23: +; Bromus ramosus: 32: +; Carex brizoides: 29: +; Carex pilulifera: 1: 1; Cirsium palustre: 1: 1; Convallaria majalis: 1: a; Crataegus monogyna: 7: r; Cruciata laevipes: 17: +; Dianthus superbus: 1: +; Eleocharis palustris: 25: +; Equisetum sylvaticum: 1: +; Eupatorium cannabinum: 4: +; Filago vulgaris: 17: +; Fragaria viridis: 7:+; Glyceria notata: 23: r; Gymnadenia conopsea: 1: r; Humulus lupulus: 4: +; Hypericum tetrapterum: 25: +; Inula hirta: 3: r; Iris sibirica: 4: +; Knautia drymeia: 15: +; Linum catharticum: 15: r; Orchis militaris: 2: +; Persicaria hydropiper; 32: 1; Platanthera bifolia: 1: r; Ranunculus auricomus agg.: 17:+; Ranunculus nemorosus: 1: +; Rumex sanguineus: 31: +; Scutellaria hastifolia: 32: +; Teucrium scordium: 33: 1; Urtica dioica: 28: +; Viola hirta: 5: +

Table 9. New relevés of the *Caricion davallianae* from the Vienna Woods. Code "n" in header data: no data available. Land use codes: M: mown, O: occasionally mown.

Tabelle 9. Neue Vegetationsaufnahmen des *Caricion davallianae* aus dem Wienerwald. Ein "n" in den Standortsdaten bedeutet, dass der betreffende Parameter nicht erhoben wurde. Bewirtschaftung: M: gemäht, O: unregelmäßig gemäht.

Association	10.1 Caricetum davallianae				10.2
Running number	1	2	3	4	5
Altitude (m)	555	383	318	375	301
Aspect (degrees)	360	45	360	225	158
Slope (degrees)	3	10	3	5	3
Cover herb layer (%)	90	95	60	90	95
Cover moss layer (%)	15	n	n	1	n
Plot size (m²)	25	25	8	25	25
TWINSPAN Cluster	57	57	47	57	47
Number of vascular plants	28	28	14	21	15
Land use	M	M	O	O	M
10.1 Caricetum davallianae					
Carex davalliana	2a	1	3	4	.
10.2. Junco-Schoenetum nigricantis					
Juncus subnodulosus	.	.	.	.	3
10 Caricion davallianae					
Valeriana dioica	2a	2a	+	+	.
Eriophorum angustifolium	.	1	.	1	.
Epipactis palustris	.	.	+	+	.
Carex pulicaris	1	.	.	.	.
Carex flava agg.	.	1	.	.	.
Dactylorhiza incarnata	.	1	.	.	.
Eriophorum latifolium	.	.	1	.	.
Carex hostiana	.	.	+	.	.
Parnassia palustris	.	.	.	r	.
7 Molinion					
Molinia caerulea agg.	.	.	2a	.	2a
Carex tomentosa	.	1	.	.	.
Serratula tinctoria	.	.	.	.	r
8 Calthion					
Cirsium rivulare	2a	.	.	1	r
Scirpus sylvaticus	2a	1	.	.	.
Trollius europaeus	r	.	.	.	.
9 Potentillion anserinae					
Carex distans	2b	.	.	1	2a
Juncus inflexus	.	.	.	2a	.
Pulicaria dysenterica	.	.	+	1	.
Mentha aquatica	.	.	.	+	.
All. 7 - 10					
Carex panicea	2a	3	2a	1	1
Sesleria uliginosa	2a	.	1	.	r
Veratrum album	2a	.	.	.	.
Equisetum palustre	+	.	.	2a	.
Dactylorhiza majalis	1	.	.	+	.
Scorzonera humilis	1	.	.	.	+
Juncus effusus	1	.	.	.	.
Cirsium canum	.	1	.	.	.
Colchicum autumnale	.	+	.	.	.
Juncus filiformis	.	+	.	.	.
Succisa pratensis	.	.	+	.	+
Molinio-Arrhenatheretea					
Ranunculus acris	.	1	.	1	r
Plantago lanceolata	1	+	.	.	.
Ajuga reptans	r	+	.	.	.
Dactylis glomerata	+	.	.	.	.
Cynosurus cristatus	+	.	.	.	.
Prunella vulgaris	.	+	.	.	r
Rumex acetosa	.	+	.	.	.
Trifolium pratense	.	+	.	.	.
Veronica serpyllifolia	.	r	.	.	.
Centaurea jacea	.	.	.	r	.
Pimpinella major	.	.	.	r	.
Calluno-Ulicetea					
Carex pallescens	.	2a	.	.	.
Anthoxanthum odoratum	.	2a	.	.	.
Luzula campestris agg.	+	+	.	.	.
Nardus stricta	.	+	.	.	.
Other species					
Carex flacca	+	2a	1	1	2a
Potentilla erecta	+	1	+	+	+
Betonica officinalis	2a	.	.	.	.
Festuca rupicola	+	.	.	.	.
Anemone nemorosa	+	.	.	.	.
Ranunculus nemorosus	+	.	.	.	.
Lathyrus pannonicus	r	.	.	.	.
Linum catharticum	r	.	.	.	.
Lotus corniculatus	.	1	+	r	.
Briza media	.	1	.	r	+
Filipendula vulgaris	.	+	.	.	.
Equisetum arvense	.	+	.	.	.
Fraxinus excelsior	r	.	r	.	.
Juncus compressus	.	.	.	1	.
Lotus maritimus	.	.	.	.	+

Table 10. Correspondence between TWINSPAN clusters and the final classification. Values are absolute numbers of plots. The main correspondences, which are also mentioned in the text, are highlighted in grey. In the second column, the percentage of plots originating from the Vienna Woods within each TPA cluster is given.

Tabelle 10. Vergleich zwischen TWINSPAN- und finaler Klassifikation der Aufnahmen. Die Werte geben die absolute Anzahl der Aufnahmen wieder. Die hauptsächlichen Entsprechungen, die auch im Text erwähnt werden, sind grau hervorgehoben. In der zweiten Spalte ist der prozentuelle Anteil der Wienerwald-Aufnahmen am jeweiligen Cluster des Gesamtdatensatzes angegeben.

Column number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Alliance		1				2			3			4		5				6	7	8	9	10	
Association number		1.1	1.2	1.2	1.3	2.1	2.2	2.3	3.1	3.2	3.3	4.1	4.1	5.1	5.2	5.3	5.4	6.1	7.1	8.1	9.1	10.1	10.2
Subassociation			a	b								a	b										
TPA clusters	%																						
1	100	2																					
6	16	1		4																			
7	85	6	10	1																			
8	36		1	34				3															
9	91			25	6				1														
10	91			1	50																		
11	74			3	18			3	4														
12	100	4																					
19	3					2																	
21	3								5														
22	1									1													
23	5			1		1	8	6	1														
25	11			1					10					4									
26	22								37		1			1				1					
27	26				2				43														
28	3									2													
29	100										6	18											
30	88								9	96	42			12	28								
31	4								1	4				1									
32	74								1	25				39	7								
33	17									2						15	1	4					
34	81									12				2	84	95	36	2	2	1	2		
35	56									3	4		42		1		4		12	18	2		
36	5												2										
38	17															2							
39	5																2						
41	14																2			2	1		
42	4																1						
45	44												3						18		1	1	
46	3																						1
47	28																		6			4	1
48	14																		1				
54	53																			10			
55	9																			2			
57	100																			2		13	1
58	29																					2	
59	100																				8		
60	100																					2	
mesic grasslands																							
B																		1					
C														1		3	1	3					
D														4	14	86	9						
E													6			4	25	2			1		
F													7		1	1							
G										2	3		24		37	4	5				1		
H										2	1		1	5	51	12							
I										4					9								
J										7				44	5	2							
K										4				1	3								
L														2									
M														2				1					

Appendix S1. Nomenclatural remarks.

Anhang S1. Nomenklatorische Anmerkungen.

A1.1. Class and order names published by Br.-Bl. & Tx. 1943

Deviating from most surveys of the last two decades (e.g., MUCINA et al. 1993, CHYTRÝ 2007, DENGLER et al. 2012), we consider the names *Festuco-Brometea* Br.-Bl. & Tx. 1943, *Festucetalia valesiacae* Br.-Bl. & Tx. 1943 and *Calluno-Ulicetea* Br.-Bl. & Tx. 1943 as validly published.

According to Art. 8 ICPN (WEBER et al. 2000), the original diagnosis of a syntaxon above the rank of association is sufficient only if it contains the valid publication of the name of at least one syntaxon of the next subordinate main rank assigned to it or an unambiguous (direct or indirect) reference to at least one such validly published name. In Example 1 of Art. 8, the name *Brometalia erecti* Koch 1926 is given as an example for a sufficient original diagnosis. The protologue of the *Brometalia erecti* consists solely of the names *Bromion erecti* and *Mesobromion erecti*, without indication of an author name or a reference to the place of publication of the subordinate syntaxa (KOCH 1926: 20). It has, therefore, exactly the same form as the protologues of the names published by BRAUN-BLANQUET & TÜXEN (1943). The order name is not mentioned elsewhere in KOCH's paper. Nevertheless, it is validly published because on p. 121 of the same publication, KOCH validly describes the association *Mesobrometum erecti*. The unambiguous reference required in Art. 8 is the fact that the original diagnoses of the alliance and association assigned to the order appear in the same work, though more than 100 pages separated from the protologue of the order name.

Accordingly, DENGLER et al. (2012: 349) argue that the name *Cirsio-Brachypodion pinnati* Hadač & Klika 1944 (in KLIKA & HADAČ 1944) is validly published although the reference to the original diagnoses of the association names listed in the protologue is only provided in a textbook mentioned on the first page of the first part of the paper.

The protologue of the name *Festuco-Brometea* Br.-Bl. & Tx. 1943 includes the names of three orders and six alliances: *Violetalia calaminariae* (with *Violion calaminariae*), *Brometalia* (with *Bromion*) and *Festucetalia vallesiacae* (with *Eu-Festucion vallesiacae*, *Seslerio-Festucion*, *Astragalo-Poion concinnae* and *Stipeto-Poion xerophilae*) (BLANQUET & TÜXEN 1943: 8). In the references, TÜXEN (1937) is cited where the *Violion calaminariae* and the *Bromion erecti* are described with constancy tables, and a direct reference to KOCH (1926) is provided.

The case of the name *Festucetalia valesiacae* Br.-Bl. & Tx. 1943 is a bit trickier because the alliance name "*Eu-Festucion vallesiacae*" is invalid according to Art. 12 ICPN. However, in a footnote, the valid name *Festucion vallesiacae* (recte: *Festucion valesiacae*) is given, which should have been adopted instead of the compound name with *Eu-*. In the references, the "Communications de la S.I.G.M.A., 1–84, 1929–43" are listed, and the full titles and authors of all 84 volumes of this series are given on the cover pages of the publication. Communication No. 49 is the work of BRAUN-BLANQUET (1936), which includes a direct reference to the original diagnosis of the *Festucion valesiacae* Klika 1931.

The protologue of the name *Calluno-Ulicetea* Br.-Bl. & Tx. 1943 includes the names of the order *Calluno-Ulicetalia* and of the alliance *Ulicion*. In the work of TÜXEN (1937), which is cited in the references, the name *Calluno-Ulicetalia* is validly described as a *nomen novum* for the name *Ulicetalia minoris* Quantin 1935.

A1.2. Remarks on some association names

(2.1) *Stipo capillatae-Festucetum valesiacae* Sillinger 1930 nom. invers. prop.

In the type relevé of this association (SILLINGER 1930, Table p. 36–38, rel. 3), *Festuca valesiaca* has a higher cover value than *Stipa capillata*. As *Festuca valesiaca* is usually the dominant species in this community and has also a higher constancy (DÚBRAVKOVÁ et al. 2010, CHYTRÝ 2007), we propose to invert the name.

(6.1) *Plantagini-Lolietum* Beger 1932 nom. invers. propos.

The inversion of the name *Lolio-Plantaginetum* Beger 1932 was also proposed by DENGLER et al. (2003: 611).

(6.2) *Cynosuro-Lolietum* Br.-Bl. & De Leeuw 1936

Contrary to the assessment given in DENGLER et al. (2003: 611), CHYTRÝ (2007: 197) and JANIŠOVÁ (2007: 114), this name is validly published. BRAUN-BLANQUET & DE LEEUW (1936) used indeed the informal name "*Lolium-Cynosurus*-Weide" on p. 378, but on p. 386 they provided a relevé under the valid name "*Cynosureto-Lolietum*". One year later, TÜXEN (1937: 101) introduced the inverted name "*Lolieto-Cynosuretum*", which has been used by most authors since then. Here, we follow DIERSCHKE (1997) who preferred the original sequence of the species names.

(9.1) *Mentho-Juncetum inflexi* Lohmeyer ex Oberdorfer 1957 nom. invers. propos.

DIERSCHKE (2012: 55) proposed the inversion of the name *Junco inflexi-Menthetum longifoliae* Lohmeyer ex Oberdorfer 1957 because *Juncus inflexus* is a character species of this association. As *Juncus* has also a higher constancy in the table of DIERSCHKE (l.c.), and *Mentha longifolia* is only a minor component of this association in the study area (constancy 7%), we follow this proposal.

(10.2) *Junco subnodulosi-Schoenetum nigricantis* Allorge 1921 nom. mut. et invers. propos.

Most recent surveys use this name in an inverted form (e.g., STEINER 1993, CHYTRÝ 2011, but see BERG et al. 2004). The name is also a *nomen mutatum propositum* as the original form of the name is "association à *Schoenus nigricans* et *Juncus obtusiflorus*" (CHYTRÝ 2011: 636).

References

BERG, C., DENGLER, J., ABDANK, A. & ISERMANN, M. (Eds.) (2004): Die Pflanzengesellschaften Mecklenburg-Vorpommerns und ihre Gefährdung. Textband. – Weissdorn-Verlag, Jena: 606 pp.

BRAUN-BLANQUET, J. & DE LEEUW, W.C. (1936): Vegetationsskizze von Ameland. – Ned. Kruidk. Arch. 46: 359–393.

BRAUN-BLANQUET, J. & TÜXEN, R. (1943): Übersicht der höheren Vegetationseinheiten Mitteleuropas (unter Ausschluss der Hochgebirge). – Commun. Stn. Intern. Géobot. Méditerr. Alpine 84: 1–11.

BRAUN-BLANQUET, J. (1936): Über die Trockenrasengesellschaften des Festucion vallesiacae in den Ostalpen. – Ber. Schweiz. Bot. Ges. 46: 169–189.

CHYTRÝ, M. (Ed.) (2007): Vegetace České republiky 1. Travinná a keříčková vegetace (Vegetation of the Czech Republic 1. Grassland and heathland vegetation) [in Czech, with English summaries]. – Academia, Praha: 526 pp.

CHYTRÝ, M. (Ed.) (2011): Vegetace České republiky 3. Vodní a mokřadní vegetace (Vegetation of the Czech Republic 3. Aquatic and Wetland vegetation) [in Czech, with English summaries]. – Academia, Praha: 827 pp.

DENGLER, J., BECKER, T., RUPRECHT, E., SZABÓ, A., BECKER, U., BELDEAN, M., BITA-NICOLAE, C., DOLNIK, C., GOIA, I., PEYRAT, J., SUTCLIFFE, L.M.E., TURTUREANU, P.D., UĞURLU, E. (2012): *Festuco-Brometea* communities of the Transylvanian Plateau (Romania) – a preliminary overview on syntaxonomy, ecology, and biodiversity. – Tuexenia 32: 319–359.

DENGLER, J., BERG, C., EISENBERG, M., ISERMANN, M., JANSEN, F., KOSKA, I., LÖBEL, S., MANTHEY, M., PÄZOLT, J., SPANGENBERG, A., TIMMERMANN, T. & WOLLERT, H. (2003): New descriptions and typifications of syntaxa within the project 'Plant communities of Mecklenburg-Vorpommern and their vulnerability' – Part I. – Feddes Repert. 114: 587–631.

DIERSCHKE, H. (1997): *Molinio-Arrhenatheretea* (E1) – Kulturgrasland und verwandte Vegetationstypen. Teil 1: *Arrhenatheretalia*. Wiesen und Weiden frischer Standorte. – Synopsis Pflanzenges. Dtschl. 3: 1–74.

DIERSCHKE, H. (2012): *Molinio-Arrhenatheretea* (E1) – Kulturgrasland und verwandte Vegetationstypen. Teil 3: *Polygono-Potentilletalia anserinae*. Kriech- und Flutrasen. – Synopsis Pflanzenges. Dtschl. 11: 1–104.

DÚBRAVKOVÁ, D., CHYTRÝ, M., WILLNER, W., ILLYÉS, E., JANIŠOVÁ, M. & KÁLLAYNÉ SZERÉNYI, J. (2010): Dry grasslands in the Western Carpathians and the northern Pannonian Basin: a numerical classification. – Preslia 82: 165–221.

JANIŠOVÁ, M. (Ed.) (2007): Travinnobylinná vegetácia Slovenska (elektronický expertný systém na identifikáciu syntaxónov) (Grassland vegetation of Slovakia – electronic expert system for identification of syntaxa) [in Slovak]. – Botanický ústav SAV, Bratislava: 263 pp.

KLIKA, J. & HADAČ, E. (1944): Rostlinná společenstva Střední Evropy (Plant communities of Central Europe) [in Czech]. – Příroda 36: 1–26.

KOCH, W. (1926): Die Vegetationseinheiten der Linthebene. – Jahrb. St. Gallisch. Naturwiss. Ges. 61: 1–146.

MUCINA, L., GRABHERR, G. & ELLMAUER, T. (Eds.) (1993): Die Pflanzengesellschaften Österreichs. Teil I: Anthropogene Vegetation. – Gustav Fischer, Jena: 578 pp.

SILLINGER, P. (1930): Vegetace Tematínských kopců na západním Slovensku (Vegetation of the Tematínske kopce Hills in western Slovakia) [in Czech]. – Rozpr. České Akad. Věd, Tř. 2, Vědy Mat.-Přír. 40: 1–46.

STEINER, G.M. (1993): *Scheuchzerio-Caricetea fuscae*. – In: GRABHERR, G. & MUCINA, L. (Eds.) (1993): Die Pflanzengesellschaften Österreichs, Teil II: 131–165. Gustav Fischer, Jena.

TÜXEN, R. (1937): Die Pflanzengesellschaften Nordwestdeutschlands. – Mitt. Florist.-Soz. Arbeitsgem. Niedersachsen 3: 1–170.

WEBER, H.E., MORAVEC, J. & THEURILLAT, J.-P. (2000): International Code of Phytosociological Nomenclature. 3rd edition. – J. Veg. Sci. 11: 739–768.

Appendix S2. Data sources for Table 2.

Anhang S2. Herkunft der Aufnahmen in Tabelle 2.

Column 1 (*Drabo aizoidis-Seslerietum*):
KARRER (1985a): Table 1, rel. 1–6; KARRER (1985b): Table 2, rel. 8–13.

Column 2 (*Fumano-Stipetum eriocaulis minuartietosum setaceae*):
KARRER (1985a): Table 1, rel. 10, Table 2, rel. 21–28, 30; WAGNER (1941): Table 1, rel. 4.

Column 3 (*Fumano-Stipetum eriocaulis typicum*):
MANN (1997): Table 13, rel. 17, 22; REICHENBERGER (1990): Table 1, rel. 1–7; SIX (1986): Table 1, rel. 4, 11, 35, 37, 38, 40, 42, 43, 45, 47, 48, 50, 62, 63, 65, 97, 98; WAGNER (1941): Table 1, rel. 1–3, 6–8, 10–12, 14–27, 32–33; WILLNER et al. (2004): rel. 10, 14, 17. – Table 4 in this paper: 15 rel.

Column 4 (*Scorzonero austriacae-Caricetum humilis*):
PFUSTERSCHMID (1998): Table 1, rel. 13, 16, 26–28, 30, 33; RATHMAYER (1985): Table 2, rel. 20, 72; SEGER (1976): rel. 2, 5, 6; SIX (1986): Table 1, rel. 2, 12, 20–23, 27, 39, 72, 73, 76, Table 2, rel. 7–9, 13, 15–19, 24–26, 28, 32–34, 36, 49, 51–54, 57–58, 64, 69, 81, 83–85, 89, 94–96, Table 3, rel. 78–79, Table 4, rel. 59; WAGNER (1941): Table 3, rel. 1, rel. 4; WENDELBERGER (1953): rel. 14; ZUKRIGL (2005): Table 6, rel. 10, 19, 21. – Table 4 in this paper: 10 rel.

Column 5 (*Stipo capillatae-Festucetum valesiacae*):
WAGNER (1941): Table 2, rel. 11–12. – Table 4 in this paper: 1 rel.

Column 6 (*Salvio nemorosae-Festucetum rupicolae*):
RATHMAYER (1985): Table 2, rel. 13, 29, 39, 40, 53, 61, 74; WILLNER et al. (2004): rel. 34.

Column 7 (*Medicagini-Festucetum valesiacae*):
REICHENBERGER (1990): Table 1, rel. 8–11; WAGNER (1941): Table 2, rel. 2, 4–7, 10, 18, 20.

Column 8 (*Polygalo-Brachypodietum*):
AUER (1982): rel. 49; HUSPEKA (1993): Table 1, rel. 69, 71, 76, 95, 96, 109, 138, 139, 161, Table 2, rel. 113; KARRER (1985b): Table 9, rel. 5–10; MANN (1997): Table 13, rel. 12, 26–28, 30; NOWAK (2003): rel. 13, 23, 25, 26, 27; RATHMAYER (1985): Table 2, rel. 8, 9, 14, 16, 18, 28, 34, 35, 37, 41, 54, 56, 60, 62, 66, 69, 73; REICHENBERGER (1990): Table 1, rel. 13–17, 19–23, 25–26, 29–35; SEGER (1976): rel. 7, 12–14; SIX (1986): Table 2, rel. 10, 101, Table 3, rel. 80, Table 4, rel. 3, 41, 68, 70, 71, 77, 88, 90, 92, 93, 100, 102, 103, 105, 106; WAGNER (1941): Table 3, rel. 2, 3, 5, 6; WILLNER et al. (2004): rel. 45; Zeugswetter M. (ined.): 6 rel. – Table 5 in this paper: 15 rel.

Column 9 (*Filipendulo vulgaris-Brometum*):
AUER (1982): rel. 33, 39–43, 45–48; EBENBERGER (1993): rel. 32, 33; FLORIAN (1992): Table 4, rel. 0300, 0900; HUNDT & HÜBL (1983): Table 4; HUSPEKA (1993): Table 1, rel. 8, 11, 13, 14, 18, 19, 21, 45, 48, 61, 64, 67, 70, 73, 75, 77, 150, 151, Table 2, rel. 5, 10, 17, 23, 33, 35, 38, 40, 50, 52, 56, 59, 62, 84, 86, 102, 112, 125, 146, 169; LEPUTSCH (1997): rel. 42, 92; MANN (1997): Table 13, rel. 3, 4; NOWAK (2003): rel. 1–5, 8–9, 15–19, 24, 30, 32, 45–50, 52, 61, 71; SCHARDINGER (2005): rel. 19; WAGNER (1941): Table p.58 ; Zeugswetter M. (ined.): 29 rel. – Table 5 in this paper: 27 rel.

Column 10 (*Euphorbio verrucosae-Caricetum montanae*):
AUER (1982): rel. 37, 44; EBENBERGER (1993): rel. 24–26, 28–31; FLORIAN (1992): Table 4, rel. 0100, 060A, 060B, 0800; HUSPEKA (1993): Table 1, rel. 6, 26, 27, 30, 47, 60, 65, 145, 159, Table 2, rel. 3, 37; KARRER (1985b): Table 9, rel. 1–4; LEPUTSCH (1997): rel. 22, 56; NOWAK (2003): rel. 35, 37, 43, 72, 77, 78, 81, 82, 84, 88; SCHARDINGER (2005): rel. 14; Zeugswetter M. (ined.): 2 rel. – Table 5 in this paper: 9 rel.

Column 11 (*Anthoxantho-Agrostietum tenuis,* dry subass.):
EBENBERGER (1993): rel. 27, 34–36; LEPUTSCH (1997): rel. 8, 12, 30, 67, 108, 114, 127; TRACEY (1980): Table p.137, rel. 2, 3; Zeugswetter M. (ined.): 1 rel. – Table 6 in this paper: 4 rel.

Column 12 (*Anthoxantho-Agrostietum tenuis,* typical subass.):
LEPUTSCH (1997): rel. 3, 9, 10, 14, 15, 31, 45, 47, 52, 53, 60, 68, 79, 85, 143; SCHARDINGER (2005): rel. 9, 10, 16, 17, 20, 26, 28, 29, 30, 36; Zeugswetter M. (ined.): 6 rel. – Table 6 in this paper: 15 rel.

Column 13 (*Ranunculo bulbosi-Arrhenatheretum*):
AUER (1982): rel. 19, 32, 36, 51; FLORIAN (1992): Table 4, rel. 0500, 070C; HUNDT & HÜBL (1983): Table 1, rel. 1; HUSPEKA (1993): Table 1, rel. 78, Table 2, rel. 1, 7, 9, 15, 22, 24, 25, 28, 29, 41, 42, 46, 54, 55, 57, 58, 66, 68, 72, 74, 81, 92, 93, 94, 98, 118, 140, 164; NOWAK (2003): rel. 14, 20, 22, 28; RATHMAYER (1985): Table 2, rel. 10, 12; SIX (1986): Table 4, rel. 30; Zeugswetter M. (ined.): 1 rel. – Table 7 in this paper: 15 rel.

Column 14 (*Filipendulo vulgaris-Arrhenatheretum*):
AUER (1982): rel. 13, 21–24, 26–31, 34–35, 38; EBENBERGER (1993): rel. 18–23; FLORIAN (1992): Table 4, rel. 0200, 0400, 070B; HUNDT & HÜBL (1983): Table 1, rel. 2–7; HUSPEKA (1993): Table 2, rel. 4, 16, 31, 43, 49, 51, 63, 79, 82, 83, 85, 88, 117, 121, 132, 133; LEPUTSCH (1997): rel. 26, 33; NOWAK (2003): rel. 21, 76, 79; SCHARDINGER (2005): rel. 3, 5, 7, 8, 13, 15, 18, 22, 23, 24; Zeugswetter M. (ined.): 21 rel. – Table 7 in this paper: 39 rel.

Column 15 (*Pastinaco-Arrhenatheretum*):
AUER (1982): rel. 7, 9, 12, 14–18, 20, 50; EBENBERGER (1993): rel. 3, 5, 6, 9, 10–15; HUNDT & HÜBL (1983): Table 1, rel. 9; HUSPEKA (1993): Table 2, rel. 20, 32, 44, 53, 87, 165; LEPUTSCH (1997): rel. 2, 5, 49, 76, 135, 142; MANN (1997): Table 13, rel. 2, 6; NOWAK (2003): rel. 29; SCHARDINGER (2005): rel. 11, 12, 21; Zeugswetter M. (ined.): 2 rel.; unpubl. rel. of the authors: 22. – Table 8 in this paper: 39 rel.

Column 16 (*Ranunculo repentis-Alopecuretum*):
AUER (1982): rel. 8; EBENBERGER (1993): rel. 1, 2, 4; HUNDT & HÜBL (1983): Table 1, rel. 8; HUSPEKA (1993): Table 2, rel. 39; KUYPER et al. (1978): Table 2, rel. 162; NOWAK (2003): rel. 41, 73–75, 80, 83; SCHARDINGER (2005): rel. 1, 2, 4, 6; Zeugswetter M. (ined.): 1 rel. – Table 8 in this paper: 27 rel.

Column 17 (*Plantagini-Lolietum*):
HUSPEKA (1993): Table 2, rel. 130, 131; NOWAK (2003): rel. 54, 62; SIX (1986): Table 3, rel. 75; Grass V. (ined.): 1 rel.; Zeugswetter M. (ined.): 1 rel.

Column 18 (*Succiso-Molinietum*):
KUYPER et al. (1978): Table 10-11, rel. 154; LEPUTSCH (1997): rel. 17, 36, 37, 69, 81, 83, 94, 95, 98, 109; NOWAK (2003): rel. 6, 7, 38, 40, 44, 89; SCHARDINGER (2005): rel. 31–34; Zeugswetter M. (ined.): 5 rel. – Table 9 in this paper: 13 rel.

Column 19 (*Cirsietum rivularis*):
AUER (1982): rel. 1, 3; HUNDT & HÜBL (1983): Table 5; KUYPER et al. (1978): Table 7, rel. 151, 152, 155, 156, 158, 160, 161, 166, Table 10-11, rel. 165; MANN (1997): Table 13, rel. 7, 65; Zeugswetter M. (ined.): 4 rel. – Table 9 in this paper: 17 rel.

Column 20 (*Mentho-Juncetum inflexi*):
AUER (1982): rel. 2, 4; LEPUTSCH (1997): rel. 43; NOWAK (2003): rel. 51, 53, 55, 69, 70, 85; Zeugswetter M. (ined.): 1 rel. – Table 9 in this paper: 3 rel.

Column 21 (*Caricetum davallianae*):
KUYPER et al. (1978): Table 12, rel. 66, 153, 159, 164, 167–169; MANN (1997): Table 13, rel. 13, 14, 16, 18; NOWAK (2003): rel. 86, 87; SCHARDINGER (2005): rel. 25, 27, 35; Sauberer N. (ined.): 1 rel.; Zeugswetter M. (ined.): 1 rel. – Table 10 in this paper: 4 rel.

Column 22 (*Junco subnodulosi-Schoenetum nigricantis*):
KUYPER et al. (1978): Table 12, rel. 157; LEPUTSCH (1997): rel. 23. – Table 10 in this paper: 1 rel.

References

AUER, M. (1982): Wiesengesellschaften im Wienerwald. – Diplomarbeit, Univ. f. Bodenkultur, Wien.

EBENBERGER, H. (1993): Die Vegetation von Sophienalpe und Mostalm im Wienerwald. – Diplomarbeit, Univ. f. Bodenkultur, Wien.

FLORIAN, B. (1992): Phänologische und ökologische Untersuchungen in Wienerwaldwiesen. – Diplomarbeit, Univ. Wien.

HUNDT, R. & HÜBL, E. (1983): Pflanzensoziologische, pflanzengeographische und landeskulturelle Aspekte des *Filipendulo-Arrhenatheretum* im Wiener Wald. – Tuexenia 3: 331–342.

HUSPEKA, J. (1993): Wiesen und Wiesenbrachen an der Norabdachung des Wienerwaldes. – Diplomarbeit, Univ. Wien.

KARRER, G. (1985a): Waldgrenzstandorte an der Thermenlinie (Niederösterreich). – Stapfia 14: 85–103.

KARRER, G. (1985b): Die Vegetation des Peilsteins, eines Kalkberges im Wienerwald, in räumlich-standörtlicher, soziologischer, morphologischer und chorologischer Sicht. – Verh. Zool.-Bot. Ges. Österreich 123: 331–414.

KUYPER, T.W., LEEWENBERG, H.F.M. & HÜBL, E. (1978): Vegetationskundliche Studie an Feucht-, Moor- und Streuwiesen im Burgenland und östlichen Niederösterreich. – Linz. Biol. Beitr. 10: 231–321.

LEPUTSCH, S. (1997): Die Wiesen des Lainzer Tiergartens unter besonderer Berücksichtigung der Jagd-Tradition und der Erholungsnutzung. – Diplomarbeit, Univ. f. Bodenkultur, Wien.

MANN, M. (1997): Die Verbreitungsmuster der Gefäßpflanzen des Gemeindegebietes von Gaaden in Niederösterreich und ihre standörtlich-vegetationskundlichen Grundlagen. – Dissertation, Univ. Wien.

NOWAK, E. (2003): Ausgesuchte Wiesen im Gütenbachtal. Vegetationsanalyse und Pflegekonzept. – Diplomarbeit, Univ. f. Bodenkultur, Wien.

PFUSTERSCHMID, S. (1998): Die Trockenrasengesellschaften der westlichen Steilhänge des Bisamberges bei Wien. – Diplomarbeit, Univ. f. Bodenkultur, Wien.

RATHMAYER, E. (1985): Die Vegetation des Naturschutzgebietes Eichkogel bei Mödling und die Problematik der Erhaltung menschlich bedingter, seltener Vegetationstypen. – Diplomarbeit, Univ. f. Bodenkultur, Wien.

REICHENBERGER, G. (1990): Das Naturschutzgebiet Glaslauterriegel-Heferlberg. Vegetation und Struktur. – Diplomarbeit, Univ. f. Bodenkultur, Wien.

SCHARDINGER, M. (2005): Wiesen im Wienerwald, ihr naturschutzfachlicher Wert und ihre Schutzmöglichkeiten am Beispiel ausgewählter Waldwiesen in Klausen-Leopoldsdorf. – Diplomarbeit, Univ. f. Bodenkultur, Wien.

SEGER, M. (1976): Vegetationskundliche Studie Eichkogel. Beschreibung und Abgrenzung eines Schutzgebietes bei Mödling/NÖ als Grundlage für die überörtliche Raumordnung. – Geogr. Jahresber. Österreich 34: 47–64.

SIX, U. (1986): Die Vegetation der Perchtoldsdorfer Heide. – Diplomarbeit, Univ. f. Bodenkultur, Wien.

TRACEY, R.H. (1980): Beiträge zur Karyologie, Verbreitung und Systematik des *Festuca ovina*-Formenkreises im Osten Österreichs. – Dissertation, Univ. Wien: 197 pp.

WAGNER, H. (1941): Die Trockenrasengesellschaften am Alpenostrand. Eine Pflanzensoziologische Studie. – Denkschr. Akad. Wiss. Wien, Math.-Nat. Kl., 104: 1–81.

WENDELBERGER, G. (1953): Die Trockenrasen im Naturschutzgebiet auf der Perchtoldsdorfer Heide bei Wien. – Angew. Pflanzensoziol. (Vienna) 9: 1–51.

WILLNER, W., JAKOMINI, C., SAUBERER, N. & ZECHMEISTER, H.G. (2004): Zur Kenntnis kleiner Trockenraseninseln im Osten Österreichs. – Tuexenia 24: 215–226.

ZUKRIGL, K. (2005): Die Vegetation des Wiener Leopoldsberges. – Abh. Zool.-Bot. Ges. Österreich 35: 1–76. Wien.

Appendix S3. Additional header data for Tables 3–9

Anhang S3. Weitere Kopfdaten zu den Tabellen 3–9

The entries are organised as follows:
Consecutive number of the relevé: TURBOVEG number, Date (yyyymmdd), Latitude (°N), Longitude (°E) (both in WGS-84), Bundesland (N: Niederösterreich, W: Wien), Locality, Author (DM: Dietmar Moser, HR: Harald Rötzer, KH: Karl Hülber, MS: Markus Staudinger, NS: Norbert Sauberer, RK: Reinhard Kraus, VG: Viktoria Grass, WW: Wolfgang Willner)

Table 3:
1: 307543, 20050527, 48.03005, 16.25123, N, Pfaffstätten, NS
2: 307544, 20050527, 48.03005, 16.25123, N, Pfaffstätten, NS
3: 307548, 20050522, 48.03047, 16.25326, N, Pfaffstätten, NS
4: 307549, 20050522, 48.03047, 16.25326, N, Pfaffstätten, NS
5: 307554, 20060605, 48.02345, 16.23961, N, Pfaffstätten, NS
6: 307555, 20060605, 48.02345, 16.23961, N, Pfaffstätten, NS
7: 307557, 20060611, 48.02419, 16.24061, N, Pfaffstätten, NS
8: 307558, 20060611, 48.02419, 16.24061, N, Pfaffstätten, NS
9: 307559, 20060611, 48.02419, 16.24061, N, Pfaffstätten, NS
10: 307561, 20060612, 48.02419, 16.24061, N, Pfaffstätten, NS
11: 335240, 20100615, 48.03690, 16.26121, N, Gumpoldskirchen, NS
12: 335246, 20100801, 47.96337, 16.19241, N, Gainfarn, NS
13: 335248, 20100623, 48.12503, 16.25176, N, Perchtoldsdorfer Heide, NS
14: 335252, 20100623, 48.12761, 16.24957, N, Perchtoldsdorfer Heide, NS
15: 335255, 20100623, 48.12478, 16.25051, N, Perchtoldsdorfer Heide, NS
16: 307546, 20050527, 48.03005, 16.25123, N, Pfaffstätten, NS
17: 307547, 20050527, 48.03005, 16.25123, N, Pfaffstätten, NS
18: 307550, 20050522, 48.03047, 16.25326, N, Pfaffstätten, NS
19: 307551, 20050522, 48.03047, 16.25326, N, Pfaffstätten, NS
20: 335247, 20100623, 48.12488, 16.25252, N, Perchtoldsdorfer Heide, NS
21: 335250, 20100623, 48.12572, 16.25110, N, Perchtoldsdorfer Heide, NS
22: 335256, 20100624, 48.12403, 16.25067, N, Perchtoldsdorfer Heide, NS
23: 335260, 20100624, 48.12224, 16.25141, N, Perchtoldsdorfer Heide, NS
24: 335262, 20100624, 48.12302, 16.25347, N, Perchtoldsdorfer Heide, NS
25: 335263, 20100624, 48.12295, 16.25255, N, Perchtoldsdorfer Heide, NS
26: 335291, 20100614, 48.10330, 16.22569, N, Gießhübl: Nackter Sattel, WW

Table 4:
1: 307563, 20090614, 48.12793, 16.24545, N, Perchtoldsdorf: Saugraben, WW
2: 335156, 20100608, 48.24593, 15.94402, N, Siegersdorf, RK
3: 335174, 20100524, 48.33877, 16.27889, N, Kritzendorf, MS
4: 335178, 20100524, 48.29302, 16.28777, N, Weidling, MS
5: 335182, 20100611, 48.02077, 16.01586, N, Hafnerberg, HR
6: 335233, 20100611, 48.04122, 16.06350, N, Groisbach, NS
7: 335238, 20100615, 48.03644, 16.25515, N, NSG Glaslauterriegel-Heferlberg, NS
8: 335239, 20100615, 48.03785, 16.25188, N, oberhalb Glaslauterriegel, NS
9: 335245, 20100801, 47.96134, 16.18015, N, Gainfarn: Leopoldshöhe, NS
10: 335249, 20100623, 48.12530, 16.25255, N, Perchtoldsdorfer Heide, NS
11: 335251, 20100623, 48.12623, 16.25105, N, Perchtoldsdorfer Heide, NS
12: 335254, 20100623, 48.12843, 16.24791, N, Perchtoldsdorf: Saugraben, NS
13: 335257, 20100624, 48.12368, 16.24982, N, Perchtoldsdorfer Heide, NS
14: 335258, 20100624, 48.12324, 16.24868, N, Perchtoldsdorfer Heide, NS
15: 335259, 20100624, 48.12215, 16.24678, N, Perchtoldsdorf: Severawiese, NS
16: 307562, 20090606, 48.01960, 16.23800, N, Pfaffstätten, WW
17: 335001, 20100611, 48.10775, 16.07433, N, Gföhler, DM
18: 335002, 20100610, 48.10278, 16.04553, N, Weidenbach, DM
19: 335016, 20100531, 48.26550, 16.09289, N, Ollern, DM
20: 335026, 20100607, 48.27322, 16.02481, N, Baumgarten, DM
21: 335029, 20100607, 48.28922, 16.13406, N, Tulbinger Kogel, DM
22: 335043, 20100517, 48.05504, 15.87028, N, Obertriesting, HR
23: 335050, 20100519, 48.06090, 16.17872, N, Gaaden, HR
24: 335051, 20100519, 48.07578, 16.17382, N, Sittendorf, HR
25: 335099, 20100523, 48.20869, 16.10377, N, Irenental, MS
26: 335117, 20100604, 48.02332, 15.96227, N, Thenneberg, HR
27: 335167, 20100604, 48.14807, 16.22865, W, Gütenbachtal, VG
28: 335169, 20100519, 48.05663, 16.21783, N, Gaaden, HR

29: 335170, 20100604, 48.02510, 16.00044, N, Hafnerberg, HR
30: 335177, 20100604, 48.00796, 16.02067, N, Hafnerberg, HR
31: 335185, 20100525, 48.15888, 15.92898, N, Großenberg, RK
32: 335199, 20100601, 48.24517, 16.26322, W, Exelbergsiedlung, MS
33: 335201, 20100601, 48.24623, 16.26450, W, Exelbergsiedlung, MS
34: 335218, 20100525, 47.97635, 16.13781, N, Merkenstein, NS
35: 335222, 20100525, 48.01641, 16.10671, N, Zobelhof, NS
36: 335229, 20100611, 48.04291, 16.06988, N, Groisbach, NS
37: 335265, 20100524, 48.02428, 16.16221, N, Helenental: Augustinerhütte, WW
38: 335272, 20100605, 48.13570, 16.17488, N, Breitenfurt, WW
39: 335274, 20100605, 48.14747, 16.14831, N, Breitenfurt, WW
40: 335279, 20100606, 48.15828, 16.13455, N, Wolfsgraben, WW
41: 335290, 20100614, 48.10007, 16.22395, N, Gießhübl, WW
42: 335293, 20100613, 48.23434, 16.14505, N, Gablitz, KH
43: 335014, 20100606, 48.28892, 16.14356, N, Tulbinger Kogel, DM
44: 335055, 20100610, 48.05064, 15.88681, N, Obertriesting, HR
45: 335124, 20100607, 48.18711, 15.99994, N, Kaiserspitz, RK
46: 335142, 20100614, 48.17860, 16.21035, W, Lainzer Tiergarten, VG
47: 335179, 20100520, 48.29712, 16.18044, N, Bannholz, MS
48: 335180, 20100524, 48.29173, 16.29060, N, Weidling, MS
49: 335186, 20100531, 48.24343, 16.25978, W, Exelbergsiedlung, MS
50: 335187, 20100531, 48.24331, 16.26020, W, Exelbergsiedlung, MS
51: 335230, 20100611, 48.04237, 16.06844, N, Groisbach, NS

Table 5:
1: 335019, 20100611, 48.13253, 16.10011, N, Grabenberg, DM
2: 335089, 20100623, 48.19249, 16.23201, W, Lainzer Tiergarten, VG
3: 335161, 20100614, 48.16182, 16.19933, W, Lainzer Tiergarten, VG
4: 335235, 20100611, 48.04349, 16.06171, N, Groisbach, NS
5: 335013, 20100606, 48.28239, 16.12811, N, Tulbinger Kogel, DM
6: 335084, 20100628, 48.17746, 15.93149, N, Kohlreithberg, RK
7: 335091, 20100614, 48.17860, 16.21142, W, Lainzer Tiergarten, VG
8: 335092, 20100614, 48.17851, 16.21130, W, Lainzer Tiergarten, VG
9: 335095, 20100523, 48.19980, 16.06957, N, Weidlingbachtal, MS
10: 335115, 20100525, 48.21855, 16.23045, W, Hadersdorf, MS
11: 335120, 20100607, 48.18750, 15.99799, N, Kaiserspitz, RK
12: 335123, 20100607, 48.18622, 16.00060, N, Kaiserspitz, RK
13: 335132, 20100525, 48.16429, 15.95759, N, Hinterleiten, RK
14: 335188, 20100531, 48.24271, 16.26126, W, Exelbergsiedlung, MS
15: 335190, 20100601, 48.24244, 16.26752, W, Exelbergsiedlung, MS
16: 335191, 20100601, 48.24220, 16.27013, W, Exelbergsiedlung, MS
17: 335237, 20100611, 48.04580, 16.06305, N, Groisbach, NS
18: 335283, 20100606, 48.11513, 16.11428, N, Wöglerin, WW
19: 335284, 20100609, 48.20143, 16.11059, N, Irenental, WW

Table 6:
1: 335017, 20100606, 48.28486, 16.12931, N, Tulbinger Kogel, DM
2: 335018, 20100606, 48.28958, 16.14158, N, Tulbinger Kogel, DM
3: 335064, 20100520, 48.30644, 16.17445, N, Hollergraben, MS
4: 335155, 20100608, 48.25579, 15.95275, N, Siegersdorf, RK
5: 335157, 20100607, 48.22072, 15.95414, N, Dörfl, RK
6: 335172, 20100524, 48.32447, 16.29506, N, Kritzendorf, MS
7: 335173, 20100607, 48.21699, 15.94701, N, Buchberg, RK
8: 335183, 20100527, 48.26989, 16.32311, W, Krapfenwaldl, MS
9: 335184, 20100520, 48.31523, 16.24590, N, Maria Gugging, MS
10: 335203, 20100528, 48.24734, 16.26608, W, Schwarzenbergpark, MS
11: 335212, 20100528, 48.24623, 16.27991, W, Schwarzenbergpark, MS
12: 335225, 20100525, 47.99671, 16.09882, N, Hofstätten, NS
13: 335253, 20100623, 48.12784, 16.24668, N, Perchtoldsdorf: Saugraben, NS
14: 335261, 20100624, 48.12283, 16.25177, N, Perchtoldsdorfer Heide, NS
15: 335268, 20100524, 48.01535, 16.17271, N, Helenental: Cholerakapelle, WW
16: 335006, 20100611, 48.12961, 16.09303, N, Großhoniggraben, DM
17: 335007, 20100610, 48.09756, 16.01611, N, Klausen Leopoldsdorf, DM
18: 335015, 20100608, 48.11858, 15.98769, N, Hochstraß, DM
19: 335020, 20100608, 48.10714, 15.88278, N, Laaben, DM
20: 335022, 20100608, 48.12200, 15.99717, N, Hochstraß, DM
21: 335023, 20100607, 48.26139, 16.08767, N, Ollern, DM

22: 335036, 20100514, 48.02561, 16.00191, N, Hafnerberg, HR
23: 335065, 20100522, 48.26710, 16.26837, N, Weidlingbach, MS
24: 335082, 20100607, 48.21622, 15.94658, N, Buchberg, RK
25: 335093, 20100525, 48.23516, 16.14587, N, Gablitz, MS
26: 335103, 20100607, 48.22112, 15.95697, N, Dörfl, RK
27: 335116, 20100605, 48.15387, 16.20527, N, Gütenbachtal, VG
28: 335119, 20100604, 48.02627, 15.92361, N, Kaumberg, HR
29: 335130, 20100522, 48.26900, 16.17082, N, Tulbingerkogel, MS
30: 335136, 20100523, 48.21440, 16.10315, N, Irenental-Ameisberg, MS
31: 335158, 20100525, 48.15912, 15.92696, N, Großenberg, RK
32: 335159, 20100607, 48.20533, 15.94960, N, Hofstetten, RK
33: 335162, 20100608, 48.25377, 15.97523, N, Dietersdorf, RK
34: 335163, 20100522, 48.23109, 16.21774, W, Kasgraben, MS
35: 335168, 20100604, 48.14779, 16.22773, W, Gütenbachtal, VG
36: 335176, 20100602, 48.14284, 16.20397, N, Breitenfurt, VG
37: 335181, 20100520, 48.30578, 16.17543, N, Hollergraben, MS
38: 335189, 20100531, 48.24133, 16.26033, W, Exelbergsiedlung, MS
39: 335197, 20100531, 48.24448, 16.26177, W, Exelbergsiedlung, MS
40: 335202, 20100528, 48.24638, 16.26763, W, Schwarzenbergpark, MS
41: 335204, 20100528, 48.24718, 16.26572, W, Schwarzenbergpark, MS
42: 335207, 20100528, 48.24467, 16.27083, W, Schwarzenbergpark, MS
43: 335208, 20100528, 48.24508, 16.27106, W, Schwarzenbergpark, MS
44: 335211, 20100528, 48.24562, 16.27811, W, Schwarzenbergpark, MS
45: 335236, 20100611, 48.04486, 16.06248, N, Groisbach, NS
46: 335241, 20100630, 48.05112, 16.02532, N, Alland, NS
47: 335242, 20100630, 48.05340, 16.02322, N, Alland, NS
48: 335243, 20100630, 48.05409, 16.01963, N, Alland, NS
49: 335269, 20100605, 48.13405, 16.19627, N, Breitenfurt-Ost, WW
50: 335270, 20100605, 48.13451, 16.20469, N, Breitenfurt-Ost, WW
51: 335271, 20100605, 48.13750, 16.16319, N, Breitenfurt-West, WW
52: 335280, 20100606, 48.12603, 16.11855, N, Wöglerin, WW
53: 335288, 20100609, 48.20042, 16.06950, N, Wilhelmshöhe, WW
54: 335292, 20100614, 48.09049, 16.20990, N, Wassergspreng, WW

Table 7:
1: 335011, 20100608, 48.11275, 15.96014, N, Hollerriegel, DM
2: 335034, 20100514, 48.02963, 16.01185, N, Nöstach, HR
3: 335035, 20100514, 48.02282, 16.02575, N, Nöstach, HR
4: 335040, 20100517, 48.06266, 15.90676, N, St. Corona am Schöpfl, HR
5: 335042, 20100517, 48.04619, 15.89537, N, Obertriesting, HR
6: 335044, 20100517, 48.05598, 15.81496, N, W Klammhöhe, HR
7: 335045, 20100517, 48.03579, 15.80235, N, W Gerichtsberg, HR
8: 335057, 20100611, 48.03393, 15.85708, N, Gerichtsberg, HR
9: 335058, 20100520, 48.31419, 16.24263, N, Maria Gugging, MS
10: 335059, 20100520, 48.31174, 16.24448, N, Maria Gugging, MS
11: 335060, 20100520, 48.30827, 16.23627, N, Maria Gugging, MS
12: 335063, 20100520, 48.29835, 16.20499, N, Arzgrub, MS
13: 335070, 20100523, 48.20046, 16.11052, N, Irenental, MS
14: 335074, 20100525, 48.19452, 15.94385, N, Großraßberg, RK
15: 335079, 20100525, 48.17090, 15.92582, N, Hart, RK
16: 335080, 20100525, 48.16876, 15.91906, N, Hart, RK
17: 335083, 20100607, 48.20274, 15.94260, N, Gschwendt, RK
18: 335087, 20100522, 48.27736, 16.15968, N, Tulbingerkogel, MS
19: 335097, 20100608, 48.25812, 15.97432, N, Dietersdorf, RK
20: 335102, 20100604, 48.04423, 16.02065, N, Nöstach, HR
21: 335112, 20100525, 48.26532, 16.31705, W, Cobenzl, MS
22: 335114, 20100525, 48.25696, 16.29769, W, Salmannsdorf, MS
23: 335125, 20100611, 48.02823, 15.87281, N, Gerichtsberg, HR
24: 335135, 20100519, 48.05805, 16.20763, N, Gaaden, HR
25: 335165, 20100604, 48.18437, 16.25627, W, Ober St. Veit, VG
26: 335166, 20100604, 48.18393, 16.25610, W, Ober St. Veit, VG
27: 335171, 20100610, 48.06045, 15.89986, N, St. Corona am Schöpfl, HR
28: 335193, 20100528, 48.25012, 16.28091, W, S Siedlung Waldandacht, MS
29: 335196, 20100528, 48.25017, 16.28342, W, S Siedlung Waldandacht, MS
30: 335217, 20100525, 47.97734, 16.13915, N, Merkenstein, NS
31: 335219, 20100525, 47.99253, 16.10570, N, Spießwiese, NS
32: 335220, 20100525, 48.00203, 16.09755, N, Spießwiese, NS

33: 335223, 20100525, 48.00914, 16.10101, N, Rohrbach, NS
34: 335224, 20100525, 48.00612, 16.09723, N, Rohrbach, NS
35: 335227, 20100611, 48.04357, 16.07886, N, Untermeierhof, NS
36: 335264, 20100524, 48.02404, 16.15908, N, Helenental: Augustinerhütte, WW
37: 335266, 20100524, 48.02608, 16.14873, N, Helenental: Augustinerhütte, WW
38: 335273, 20100605, 48.13546, 16.17445, N, Breitenfurt, WW
39: 335287, 20100609, 48.20061, 16.07056, N, Wilhelmshöhe, WW
40: 335033, 20100514, 48.02753, 16.02209, N, Nöstach, HR
41: 335037, 20100514, 48.03528, 15.97395, N, Kleinmariazell, HR
42: 335038, 20100517, 48.08776, 15.96797, N, Klausen-Leopoldsdorf, HR
43: 335039, 20100517, 48.06316, 15.90658, N, St. Corona am Schöpfl, HR
44: 335041, 20100517, 48.04739, 15.90140, N, Obertriesting, HR
45: 335046, 20100517, 48.03914, 15.80582, N, W Gerichtsberg, HR
46: 335047, 20100517, 48.04695, 15.79405, N, NW Gerichtsberg, HR
47: 335048, 20100517, 48.10553, 15.89137, N, Laaben, HR
48: 335049, 20100517, 48.09900, 15.87919, N, zw. Laaben u. Wöllersdorf, HR
49: 335066, 20100522, 48.27244, 16.20385, N, Steinriegl, MS
50: 335071, 20100519, 48.20021, 15.96514, N, Eichberg, RK
51: 335075, 20100525, 48.19545, 15.94369, N, Großraßberg, RK
52: 335076, 20100525, 48.19711, 15.94613, N, Großraßberg, RK
53: 335081, 20100525, 48.16097, 15.94774, N, Windbichl, RK
54: 335098, 20100523, 48.20862, 16.10159, N, Irenental, MS
55: 335104, 20100525, 48.16190, 15.94688, N, Windbichl, RK
56: 335108, 20100602, 48.16255, 16.18679, N, Lainzer Tiergarten, VG
57: 335122, 20100607, 48.18802, 16.00007, N, Kaiserspitz, RK
58: 335131, 20100522, 48.26977, 16.16961, N, Tulbingerkogel, MS
59: 335133, 20100525, 48.16457, 15.95591, N, Hinterleiten, RK
60: 335137, 20100523, 48.21530, 16.10291, N, Irenental-Ameisberg, MS
61: 335138, 20100523, 48.21208, 16.10162, N, Irenental-Ameisberg, MS
62: 335146, 20100608, 48.17900, 15.97253, N, Ottenheim, RK
63: 335192, 20100528, 48.24923, 16.27828, W, Siedlung Waldandacht, MS
64: 335209, 20100528, 48.24735, 16.27282, W, Schwarzenbergpark, MS
65: 335210, 20100528, 48.24781, 16.27452, W, Schwarzenbergpark, MS
66: 335275, 20100605, 48.14533, 16.14955, N, Breitenfurt-West, WW

Table 8:
1: 335003, 20100610, 48.10881, 15.93678, N, Hamberg, DM
2: 335052, 20100519, 48.07436, 16.17431, N, Sittendorf, HR
3: 335127, 20100611, 48.19207, 16.19614, N, Glasgrabenwies, VG
4: 335129, 20100611, 48.19234, 16.19645, N, Glasgrabenwies, VG
5: 335139, 20100614, 48.15947, 16.21643, W, Untere Wildpretwiese, VG
6: 335141, 20100623, 48.17863, 16.21604, W, Lainzer Tiergarten, VG
7: 335143, 20100614, 48.17953, 16.22771, W, Lainzer Tiergarten, VG
8: 335148, 20100623, 48.17962, 16.21892, W, Lainzer Tiergarten, VG
9: 335150, 20100623, 48.17937, 16.21909, W, Lainzer Tiergarten, VG
10: 335153, 20100519, 48.07551, 16.17321, N, Sittendorf, HR
11: 335198, 20100531, 48.24374, 16.26302, W, Exelbergsiedlung, MS
12: 335200, 20100601, 48.24501, 16.26434, W, Exelbergsiedlung, MS
13: 335206, 20100528, 48.24698, 16.26926, W, Schwarzenbergpark, MS
14: 335005, 20100611, 48.10389, 16.08639, N, vorderes Brünrech, DM
15: 335009, 20100608, 48.12136, 15.99822, N, Hochstrass, DM
16: 335010, 20100608, 48.09183, 15.99067, N, Klausen Leopoldsdorf, DM
17: 335021, 20100608, 48.13619, 15.99700, N, Hochstrass, DM
18: 335054, 20100610, 48.08869, 15.99756, N, Klausen-Leopoldsdorf, HR
19: 335056, 20100611, 48.02816, 15.87047, N, Gerichtsberg, HR
20: 335126, 20100610, 48.05210, 15.88428, N, Obertriesting, HR
21: 335134, 20100519, 48.03883, 16.16690, N, Siegenfeld, HR
22: 335147, 20100610, 48.04922, 15.88770, N, Obertriesting, HR
23: 335232, 20100611, 48.04098, 16.06485, N, Groisbach, NS
24: 335234, 20100611, 48.03757, 16.05987, N, Groisbach, NS
25: 335276, 20100605, 48.15559, 16.16106, N, Laab im Walde, WW
26: 335278, 20100606, 48.15868, 16.13427, N, Wolfsgraben, WW
27: 335281, 20100606, 48.12500, 16.11741, N, Wöglerin, WW
28: 335282, 20100606, 48.11993, 16.11524, N, Wöglerin, WW
29: 335285, 20100609, 48.21213, 16.10286, N, Irenental, WW
30: 335289, 20100609, 48.20046, 16.06928, N, Wilhelmshöhe, WW
31: 335140, 20100614, 48.17346, 16.20643, W, Lainzer Tiergarten, VG

32: 335145, 20100623, 48.19813, 16.21496, W, Lainzer Tiergarten, VG
33: 335151, 20100614, 48.16910, 16.20366, W, Lainzer Tiergarten, VG

Table 9:
1: 335004, 20100610, 48.10894, 15.93494, N, Hamberg, DM
2: 335096, 20100523, 48.19999, 16.06931, N, Weidlingbachtal, MS
3: 335149, 20100623, 48.17966, 16.21891, W, Lainzer Tiergarten, VG
4: 335277, 20100606, 48.15880, 16.13418, N, Wolfsgraben, WW
5: 335128, 20100611, 48.19225, 16.19889, N, Glasgrabenwies, VG

Appendix S4. Synoptic table of the *Anthoxantho-Agrostietum* s. lat. in the study area and neighbouring countries. 1: dry variant (Vienna Woods, Table 2, col. 11 in this paper); 2: moist variant (Vienna Woods, Table 2, col. 12 in this paper); 3: *Campanulo rotundifoliae-Dianthetum deltoidis* (Czech National Phytosociological Database); 4: *Campanulo rotundifoliae-Dianthetum deltoidis* (White Carpathians, ŠKODOVÁ et al. 2011, Table 8); 5: *Campanulo rotundifoliae-Dianthetum deltoidis* (original diagnosis, BALÁTOVÁ-TULÁČKOVÁ 1980); 6: *Anthoxantho-Agrostietum* (Czech National Phytosociological Database); 7: *Anthoxantho-Agrostietum* (White Carpathians, ŠKODOVÁ et al. 2011, Table 7); 8: *Anthoxantho-Agrostietum* (original diagnosis, SILLINGER 1933). The relevés of the Czech National Phytosociological Database are those matching the formal definitions of CHYTRÝ (2007). Values in columns 1–4 and 6–8 are percentage constancies (bold if total cover is >12%). A "p" in column 8 refers to species not included in the table but listed as additional rare species. Abbreviations in header: AT: Austria, CZ: Czech Republic, SK: Slovakia, TC: Total cover. Abbreviations in the species column: C: character species (according to MUCINA et al. 1993); D: probable class differential species (compiled from BERG et al. 2004, CHYTRÝ 2007, ROZBROJOVÁ et al. 2010). C-D, A-A: probable differential species between *Campanulo rotundifoliae-Dianthetum deltoidis* (C-D) and *Anthoxantho-Agrostietum* s. str. (A-A) calculated using average values of columns 3–4 and 6–8, respectively. Only species reaching 20% (or constancy class II) in at least one column are shown. Within groups, the species are sorted by decreasing overall frequency.

Anhang S4. Synoptische Tabelle des *Anthoxantho-Agrostietum* s. lat. im Untersuchungsgebiet und Nachbarländern. Legende der Spaltennummern siehe oben. Die Werte in Spalten 1–4 und 6–8 geben die Stetigkeit in Prozent wieder (fett bei totaler Deckung >12%). Ein "p" in Spalte 8 bezeichnet Arten, die in der Originalbeschreibung der Gesellschaft als weitere seltene Arten angeführt sind. Abkürzungen im Tabellenkopf: AT: Österreich, CZ: Tschechien, SK: Slowakei, TC: Totale Deckung; in der Spalte mit den Arten: C: Charakterart nach MUCINA et al. (1993); D: vermutliche Klassen-Differentialarten (zusammengestellt nach BERG et al. 2004, CHYTRÝ 2007, ROZBROJOVÁ et al. 2010). C-D, A-A: vermutliche Differentialarten zwischen *Campanulo rotundifoliae-Dianthetum deltoidis* (C-D) und *Anthoxantho-Agrostietum* s. str. (A-A), berechnet auf Basis der arithmetischen Mittel über Spalten 3–4 bzw. 6–8. Arten, die in keiner Spalte 20% Stetigkeit (bzw. Stetigkeitsklasse II) erreichen, sind nicht dargestellt. Innerhalb der Gruppen sind die Arten nach abfallender Häufigkeit sortiert.

Column number	1	2	3	4	5	6	7	8
Country	AT	AT	CZ	SK	CZ	CZ	SK	SK
Number of relevés	18	46	101	32	5	47	22	8
Sum TC Calluno-Ulicetea	57	37	135	64		28	39	35
Sum TC Molinio-Arrhenatheretea	52	65	68	62		52	73	53
Sum TC Festuco-Brometea	54	12	15	26		33	37	5
C Calluno-Ulicetea								
Anthoxanthum odoratum	89	87	80	97	IV	91	86	**100**
Luzula campestris agg.	83	70	82	97	V	57	73	50
Potentilla erecta	72	67	68	75	V	34	77	63
Polygala vulgaris	94	39	61	97	III	49	68	75
Viola canina	72	37	83	41	V	15	55	38
Carex pallescens	61	80	23	59	II	26	68	50
Nardus stricta	44	26	59	63	V	15	14	63
Danthonia decumbens (C-D)	83	26	51	53	V	21	23	25
Hieracium pilosella (C-D)	56	9	47	50	III	36	23	.
Hypericum maculatum	.	2	49	63	IV	11	36	38
Galium pumilum (C-D)	72	39	35	.	V	13	9	.
Dianthus deltoides (C-D)	6	.	41	.	V	17	.	p
Carex pilulifera (C-D)	17	4	21	.	V	.	.	.
Genista tinctoria	28	7	3	9	.	9	18	.
Calluna vulgaris (C-D)	11	11	8	9	II	.	.	.
D Calluno-Ulicetea/Nardetea								
Festuca rubra agg.	78	65	**100**	**63**	IV	91	82	38
Agrostis capillaris	78	52	**90**	84	V	81	64	100
Thymus pulegioides	72	33	60	63	V	70	55	88
Carlina acaulis	44	7	43	59	IV	62	45	p
Veronica officinalis (C-D)	67	13	28	72	I	17	23	.
Euphrasia officinalis	17	11	29	31	.	47	18	25
Campanula rotundifolia agg. (C-D)	28	13	49	.	V	2	.	.
Hypochaeris radicata (C-D)	39	9	9	41	.	17	18	.
Avenella flexuosa (C-D)	11	2	10	.	IV	.	.	.
C Arrhenatherion								
Campanula patula	50	41	38	81	.	57	82	38
Arrhenatherum elatius	17	13	27	34	.	45	59	.

Column number	1	2	3	4	5	6	7	8
Galium mollugo agg.	11	28	33	13	.	32	14	p
Crepis biennis (A-A)	.	2	2	3	.	32	41	.
Pimpinella major	28	7	7	.	.	6	5	.
C Cynosurion								
Trifolium repens	33	63	50	72	II	87	50	88
Prunella vulgaris	61	61	38	75	II	70	55	88
Cynosurus cristatus	61	76	19	47	.	81	45	.
Leontodon autumnalis	.	2	20	.	.	43	.	.
Phleum pratense (A-A)	.	15	16	3	.	21	.	50
C Arrhenatheretalia								
Rumex acetosa	50	61	58	94	III	38	91	75
Knautia arvensis agg.	39	24	47	47	III	47	50	25
Stellaria graminea	56	52	37	63	III	11	45	50
Rhinanthus minor	67	46	18	47	I	32	27	100
Avenula pubescens (A-A)	56	59	19	.	.	11	9	63
Poa pratensis agg.	28	28	28	9	II	28	27	p
C Molinietalia								
Betonica officinalis	39	61	2	13	.	13	18	p
Galium boreale	33	70	3	.	.	.	5	.
Sanguisorba officinalis	.	15	22	3	V	17	.	p
Deschampsia cespitosa (A-A)	6	20	17	.	.	.	.	63
Lychnis flos-cuculi	.	33	15	.	.	.	.	p
Molinia caerulea	22	26	1	.	.	.	.	p
Cirsium palustre	.	4	7	.	I	2	5	25
Silaum silaus	.	22	.	.	.	.	.	.
Cirsium rivulare (A-A)	.	9	.	.	.	.	.	38
Trollius europaeus (A-A)	.	7	.	.	.	.	.	25
C Potentillo-Polygonetalia								
Carex hirta	.	33	6	9	.	9	14	.
Lysimachia nummularia	.	20	4	16	.	2	27	.
Potentilla reptans (A-A)	6	9	1	.	.	32	.	.
Agrostis stolonifera (A-A)	.	4	2	.	.	4	5	63
C Molinio-Arrhenatheretea								
Plantago lanceolata	94	98	85	97	V	94	95	75
Achillea millefolium agg.	94	57	88	100	V	96	82	63
Lotus corniculatus	89	91	65	94	IV	96	86	75
Leontodon hispidus	100	65	63	**88**	V	96	91	50
Leucanthemum vulgare agg.	78	57	60	84	IV	83	73	100
Trifolium pratense	50	76	49	59	III	94	86	75
Ranunculus acris	39	80	61	84	IV	30	59	100
Centaurea jacea	83	67	44	59	.	77	55	75
Alchemilla sp.	33	22	70	78	V	55	82	88
Dactylis glomerata	61	72	39	44	.	68	95	38
Holcus lanatus	78	96	35	63	III	26	45	.
Cerastium holosteoides	39	57	33	53	III	51	45	38
Trisetum flavescens	56	46	35	22	I	55	77	.
Festuca pratensis (A-A)	33	65	12	31	.	74	64	63
Taraxacum officinale agg.	6	4	19	16	III	49	50	p
Ajuga reptans	28	30	15	25	.	15	41	.
Lathyrus pratensis	11	57	16	.	.	15	23	p
Tragopogon pratensis agg. (A-A)	22	24	1	25	.	21	36	25
Carum carvi (A-A)	11	4	1	.	.	9	14	75
Poa trivialis (A-A)	.	20	2	.	.	2	5	.
C Festuco-Brometea								
Pimpinella saxifraga agg.	61	28	67	97	V	77	91	75
Linum catharticum (A-A)	67	11	23	25	I	72	45	50
Filipendula vulgaris	50	72	7	31	.	47	50	.
Galium verum (A-A)	72	52	10	13	.	55	32	25
Ranunculus polyanthemos agg.	6	30	10	59	.	49	68	38
Plantago media (A-A)	39	.	16	19	.	74	59	63
Euphorbia cyparissias	56	20	22	19	.	45	41	.

Column number	1	2	3	4	5	6	7	8
Bromus erectus (A-A)	**89**	52	1	25	.	40	41	.
Brachypodium pinnatum (A-A)	83	35	12	9	.	51	23	.
Trifolium montanum (A-A)	61	13	2	25	.	45	50	75
Carex caryophyllea	61	7	20	22	.	34	32	.
Hypericum perforatum	50	9	17	19	.	34	32	p
Helianthemum nummularium s.lat.	83	7	13	34	.	23	27	.
Ononis spinosa (A-A)	39	17	13	6	.	53	9	.
Carex montana	61	15	1	34	.	21	32	.
Ranunculus bulbosus	39	17	9	9	.	32	9	.
Festuca rupicola	33	7	3	41	.	28	23	.
Koeleria pyramidata	56	13	6	22	.	15	18	.
Campanula glomerata (A-A)	6	7	.	6	.	45	36	.
Salvia pratensis (A-A)	11	9	.	13	.	34	41	.
Carlina vulgaris	.	.	14	16	.	32	.	.
Fragaria viridis (A-A)	22	13	1	3	.	32	14	.
Securigera varia (A-A)	6	.	7	6	.	34	18	.
Asperula cynanchica (A-A)	.	.	.	13	.	32	14	p
Trifolium ochroleucon (A-A)	17	11	2	.	.	21	5	.
Prunella laciniata	44	4	4	.	.	15	.	.
Hieracium bauhinii	44	.	.	9	.	17	9	.
Senecio jacobaea (A-A)	.	.	1	.	.	38	5	.
Cirsium pannonicum	39	13	.	9	.	2	5	.
Dianthus carthusianorum agg. (A-A)	17	4	1	3	.	6	14	63
Dorycnium herbaceum	50	13	.	.	.	2	.	.
Thesium linophyllon	56	2	.	.	.	.	.	.
Orobanche gracilis	33	2	.	.	.	.	.	.
Other species								
Briza media	94	67	75	84	V	87	95	100
Veronica chamaedrys agg.	22	50	64	66	IV	45	91	.
Cruciata glabra	.	2	23	81	.	53	77	75
Vicia cracca agg.	6	7	32	25	III	28	59	38
Colchicum autumnale (A-A)	33	63	5	19	.	11	36	88
Primula veris (A-A)	50	26	7	22	.	36	64	.
Trifolium medium	33	4	13	59	.	32	50	p
Carex flacca	56	48	2	16	.	21	14	.
Carex panicea	11	50	11	13	II	6	23	.
Daucus carota	17	4	3	34	.	53	36	.
Rhytidiadelphus squarrosus (C-D)	.	7	22	47	II	6	14	.
Viola hirta (A-A)	44	17	3	13	.	36	23	.
Anthyllis vulneraria (A-A)	.	.	4	31	I	36	32	63
Heracleum sphondylium	11	2	19	25	.	4	36	.
Trifolium dubium	28	15	8	13	.	17	18	.
Sanguisorba minor	.	.	6	19	.	34	36	p
Fragaria vesca	11	.	16	6	I	26	14	.
Carpinus betulus	72	13	2	25	.	2	18	.
Agrimonia eupatoria (A-A)	6	11	4	6	.	38	9	.
Rosa canina agg.	22	4	7	9	.	23	23	.
Calamagrostis epigejos	22	35	4	6	.	4	5	.
Potentilla heptaphylla	6	.	1	28	.	19	36	.
Plagiomnium affine (C-D)	.	.	21	9	II	4	.	.
Medicago lupulina (A-A)	22	2	1	.	.	32	9	p
Trifolium alpestre	39	9	.	13	II	9	14	.
Chamaecytisus supinus	78	9	.	3	.	.	14	.
Betula pendula	22	7	3	34	.	.	.	.
Clinopodium vulgare	39	22	2	.	.	.	5	.
Crataegus monogyna	33	20	.	.	.	4	14	.
Pleurozium schreberi (C-D)	.	2	10	28	I	.	.	.
Listera ovata	11	4	5	9	.	.	36	.
Cruciata laevipes	28	28	.	.	.	2	.	.
Luzula luzuloides (C-D)	.	2	5	31	.	2	5	.
Quercus petraea	17	.	1	22	.	2	23	.
Ranunculus auricomus agg.	6	7	8	3	.	.	5	25
Potentilla alba	39	13	3	.	.	.	.	.

Column number	1	2	3	4	5	6	7	8
Scleropodium purum (C-D)	6	4	2	31	.	2	.	.
Prunus domestica	.	.	.	22	.	.	32	.
Quercus cerris	44	9	.	.	.	.	.	.
Viola riviniana (C-D)	.	2	.	28	.	.	9	.
Lychnis viscaria	6	.	9	.	II	.	.	.
Polygala comosa (A-A)	.	.	.	.	.	9	23	.
Salix cinerea	.	.	.	22	.	.	.	.
Asperula tinctoria	22	4	.	.	.	.	.	.
Viola reichenbachiana (A-A)	.	.	.	.	.	.	23	.
Cerastium arvense (C-D)	.	.	14	.	II	.	.	.
Cardamine pratensis agg.	.	.	8	.	III	.	.	.
Festuca filiformis (C-D)	11	.	4	.	II	.	.	.
Galium uliginosum	.	.	4	.	III	.	.	.
Crepis mollis (A-A)	.	.	5	.	.	.	.	38
Orchis morio (A-A)	.	.	2	.	.	.	.	38
Trifolium spadiceum (A-A)	.	.	.	.	.	.	.	38
Centaurea phrygia (A-A)	.	.	1	.	.	2	.	25
Gentianella sp. (A-A)	.	.	.	.	.	.	.	25
Geum rivale (A-A)	.	.	.	.	.	.	.	25

References

BALÁTOVÁ-TULAČKOVÁ, E. (1980): Übersicht der Vegetationseinheiten der Wiesen im Naturschutzgebiet Žďárské vrchy I. – Preslia 52: 311–332.

BERG, C., DENGLER, J., ABDANK, A. & ISERMANN, M. (Eds.) (2004): Die Pflanzengesellschaften Mecklenburg-Vorpommerns und ihre Gefährdung. Textband. – Weissdorn-Verlag, Jena: 606 pp.

CHYTRÝ, M. (Ed.) (2007): Vegetace České republiky 1. Travinná a keříčková vegetace (Vegetation of the Czech Republic 1. Grassland and heathland vegetation) [in Czech, with English summaries]. – Academia, Praha: 526 pp.

MUCINA, L., GRABHERR, G. & ELLMAUER, T. (Eds.) (1993): Die Pflanzengesellschaften Österreichs. Teil I: Anthropogene Vegetation. – Gustav Fischer, Jena: 578 pp.

ROZBROJOVÁ, Z., HÁJEK, M. & HÁJEK, O. (2010): Vegetation diversity of mesic meadows and pastures in the West Carpathians. – Preslia 82: 307–332.

SILLINGER, P. (1933): Monografická studie o vegetaci Nízkých Tater (Monographical study of the vegetation of the Nízké Tatry (Low-Tatra-Mountains) in Czechoslovakia) [in Czech]. – Orbis, Praha: 339 pp.

ŠKODOVÁ, I., DEVÁNOVÁ, K. & SENKO, D. (2011): Subxerophilous and mesophilous grasslands of the Biele Karpaty Mts. (White Carpathian Mts.) in Slovakia. – Tuexenia 31: 235–269.