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PLANT COMMUNITIES WITH YELLOW OAT GRASS (*TRISETUM FLAVESCENS* (L.) PB.) IN THE SUBMONTANE AND MONTANE REGIONS OF SLOVENIA

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Abstract

In the present study, we investigated plant communities with Yellow Oat Grass (*Trisetum flavescens* (L.) Pb.) in the submontane and montane regions of Slovenia. In 2005-2007 ninety-one relevés were collected by using the standard procedure of the Braun-Blanquet approach. Relevés were analysed with multivariate analysis and classified within two associations: *Astrantio-Trisetetum* (*Polygono-Trisetion*) and the *Pastinaco-Arrhenatheretum* (*Arrhenatherion*). Management practices, soil conditions and altitude were found to be significant factors for a further subdivision of both associations. Within the *Astrantio-Trisetetum* association three subassociations could be distinguished: *-typicum*, *-buphthalmetosum* and *-trollietosum*, and subassociations *-typicum*, *-medicagetosum lupulinae*, as well as *-lolietosum* subass. nova in the *Pastinaco-Arrhenatheretum*. The floristic composition and ecological characteristics of these plant communities are described and their implications for grassland conservation in Slovenia are discussed.

Key words: vegetation, anthropogenous grasslands, *Astrantio-Trisetetum*, *Pastinaco-Arrhenatheretum*.

Izvleček

V članku predstavljamo rezultate raziskave vegetacije travišč s prevladujočim rumenkastim ovsencem (*Trisetum flavescens*) v submontanskih in montanskih predelih Slovenije. V letih 2005–2007 smo popisali 91 vegetacijskih sestojev po standardni Braun-Blanquetovi metodi. Na osnovi multivariatnih analiz smo uvrstili travišča v dve asociaciji, in sicer v asociacijo *Astrantio-Trisetetum* (zveza *Polygono-Trisetion*) in asociacijo *Pastinaco-Arrhenatheretum* (zveza *Arrhenatherion*). Nadaljnja členitev na nižje sintaksonomske enote obeh asociacij je pogojena predvsem s stopnjo intenzivnosti upravljanja s travišči, z različnimi edafskimi razmerami in nadmorsko višino. Tako ločimo v asociaciji *Astrantio-Trisetetum* naslednje sintaksone: subasociacije *-typicum*, *-buphthalmetosum* in *-trollietosum*, v asociaciji *Pastinaco-Arrhenatheretum* pa: *-typicum, -medicagetosum lupulinae* in *-lolietosum* subass. nova. Predstavljene so floristična sestava asociacij, njune ekološke značilnosti in varstveni vidiki obravnavanih travišč.

Ključne besede: vegetacija, antropogena travišča, *Astrantio-Trisetetum*, *Pastinaco-Arrhenatheretum*.

1. INTRODUCTION

While almost half of Slovenia is covered by forests, grasslands constitute only 28.3% of the total area (Kladnik & Gabrovec 1998). Despite their smaller area with extensive management, natural and anthropogenic grasslands constitute one of the most important sources for landscape biodiversity (Gomez-Pompa & Kaus 1992, Swift et al. 1996). In addition, grasslands are invaluable sources of genetic diversity, provide habitats for numerous plant and animal species, and function as essential corridors between different habitat types. Anthropogenic grassland habitats, which have been known in Europe since the last millennium (Pärtel et al. 2006), further constitute an integral element in Slovenia's cultural heritage.

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During recent last decades, because of the increasing use of fertilizers and the greater frequency of annual cuttings, many formerly extensively managed meadows of high biodiversity have been transformed into largely uniform grassland areas, dominated by the few competitive species that cope better in intensively managed agricultural environments (McKinney & Lockwood 1999, Walker 2004). Particularly in the lowlands of Slovenia, habitat fragmentation constitutes an additional reason for the continuous degradation and disappearance of natural and semi-natural grassland ecosystems. Besides the erosion of plant species diversity, the decline of floristically rich meadows and pasturelands is the main reason for the decline of many farmland birds and other animals (Wilson et al. 2009). Consequently, the decrease in anthropogenic grassland habitats has recently stimulated a number of studies by phytoecologists (Swift et al. 1996, Walker et al. 2004, Pärtel et al. 2006) and animal ecologists (McCracken & Tallowin 2004, Atkinson et al. 2004, Wilson et al. 2009).

The larger portion of anthropogenic grassland in Slovenia belongs to the class *Molinio-Arrhenatheretea*, which according to altitude and management, is further subdivided into five orders (Ellmauer & Mucina 1993, Dierschke 2002). Some of the anthropogenic meadows and pasturelands of the upper montane belt of the Slovene Alps are classified within the *Polygono-Trisetion* alliance. These *Trisetum flavescens* dominated mesotrophic to eutrophic types of grassland are associated with humid, deeper soils, slightly acid to basic. They are widespread throughout the montane region of Central Europe (Ellmauer & Mucina 1993, Ellenberg 1996, Merz 2002). Extensively managed grasslands of the *Polygono-Trisetion* alliance are rich in plant species (Ellmauer & Mucina 1993). According to their floristical composition, meadows of the *Polygono-Trisetion* alliance represent the transition between the meadows that are characteristic of the lowland and the hay meadows of the montane region (Oberdorfer 1983). At lower altitudes *Polygono-Trisetion* meadows are replaced by *Arrhenatherion* grasslands of the order *Arrhenatheretalia* (Mucina 1993). The latter, more intensively managed grasslands, which tend to be associated with deeper, humid soils, are widely distributed in Central Europe (Oberdorfer 1983, Ellmauer & Mucina 1993). Particularly high species diversity occurs in *Arrhenatherion* grasslands with *Salvia pratensis*, which are at the same time one of the most endangered plant communities of this alliance (Pott 1995, Ellenberg 1996). According to syntaxonomic aspects, they show a continuous transition into *Bromion erecti*-, *Phyteumo-Trisetion*- and *Cynosurion*-meadows (Ellmauer & Mucina 1993).

The aim of the present study was to investigate the vegetation communities associated with Yellow Oat Grass (*Trisetum flavescens*) in the submontane and montane altitudinal belt of Slovenia. We hypothesized that (1) according to altitude, soil conditions and management, hay meadows with *Trisetum flavescens* may form different associations of the *Polygono-Trisetion* and *Arrhenatherion* alliances in which (2) due to lower nutrient input and the occurrence of plant species which are normally associated with natural subalpine meadows, species diversity was expected to increase with altitude.

To study the syntaxonomic characteristics and ecological conditions of yellow oat grass plant communities, vegetation samples were taken across the transition zone of the *Polygono-Trisetion* and *Arrhenatherion* alliance between 400 m and 1500 m a.s.l. Besides yielding of its geographical distribution, a better understanding of the environmental factors responsible for the formation of different associations will help in assessing the current conservation status of this vegetation type in Slovenia.

2. METHODS

Study area

Relevés of hay meadows rich with *Trisetum flavescens* were collected in the submontane and montane parts of Slovenia between 400 m and 1500 m a.s.l. Because of regionally prevailing patterns of land-use and the varying different altitudes, most samples were collected in the Alpine and pre-Alpine region, although grasslands with Yellow Oat Grass have also been found in the Dinaric region (Figure 1).

The Alpine region occupies most of the northern and central parts of Slovenia. To the south it borders the Dinaric region which represents the most northerly part of the Dinaric Mountains. The Dinaric region covers most of the southern part of Slovenia. Both regions are characterised by the prevalence of carbonate rocks, i.e. limestone and dolomite (Kladnik 1998, 1998a). Only

the Pohorje and Kozjak Mountains (Central Alps) are mainly composed of metamorphic, silicate rocks (Žiberna 1998). With a mean altitude and inclination of 732 m a.s.l. and 18°, respectively, the highest altitudes and largest inclinations in Slovenia are found in the Alpine region. The relief of the Alps is very diverse, and the high variation in altitude between valley bottoms and the higher peaks has a significant influence on local climates. In the Alps two types of climate prevail: a montane and a moderate continental climate. In the submontane and montane belt of the mountains, annual mean temperatures vary between 8° C and 10° C, while the annual mean air temperature exceeds 10° C only at the bottom of the Soča river valley between Kobarid and Tolmin. In the Alpine region the annual amount of precipitation increases with altitude and from east to west. The Julian Alps receive 3000 mm, higher altitudes in the Kamniško-Savinjske Alpe 2500 mm, and the western parts of the Karavanke Mountains < 2000 mm of annual precipitation, while at higher altitudes in the Pohorje Mountains, in the far east of the Alps, annual precipitations can be as high as 1500 mm. The Dinaric region is characterised by extensive high-altitude plateaus and lower land surrounded by higher mountains (podolja). On the high Dinaric plateaus, mean temperatures range between 6° C and 8° C. While overall annual precipitation amounts to approximately 1100 mm, the southern slopes of the Dinaric plateaus receive > 3000 mm of annual precipitation (Kladnik 1998, 1998a).

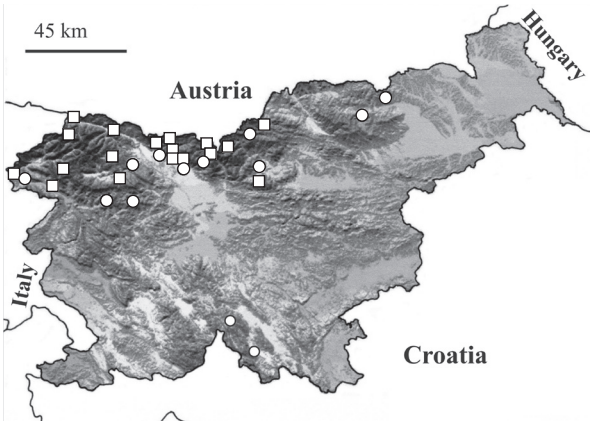

Figure 1: Map of occurence *Astrantio-Trisetetum* association (□) and *Pastinaco-Arrhenatheretum* associations (○) in investigated area.
Slika 1: Karta pojavljanja asociacij *Astrantio-Trisetetum* (□) in *Pastinaco-Arrhenatheretum* (○) na območju popisovanja.

Sampling methods and statistical analyses

In 2005, 2006 and 2007, 91 relevés of grasslands with *T. flavescens* were collected between June and early August. These were compiled by using the standard procedure of the Braun-Blanquet approach (Braun-Blanquet 1964, Westhoff & van der Maarel 1973, Dierschke 1994).

For all 91 study plots (relevés), the following abiotic parameters were sampled: (1) location, (2) altitude (m a.s.l.), (3) exposure, (4) inclination (°), (5) geographic coordinates (subsequently, based on locations noted in the field), (6) pedologic units, and (7) number of species. Additionally some abiotic variables were estimated by weighted (species frequencies are weights) averages of Ellenberg indicator values (Ellenberg et al. 1991): (1) temperature; (2) moisture; (3) soil reaction (pH) and (4) nutrient availability.

Additionally, 98 referential relevés of the studied grasslands from Slovenia (Čarni 2001: tab.1, relevés 8–18), Croatia (Horvatić & Tomažič 1941: relevés 1, and 3–6), Austria (Aichinger 1933: tab. 18, relevés 2–8, Steinbuch 1995, tab.13, relevés 14, 704, 584, 87, 191, 137, 212, 700, 9317, 69, 380, 9128, 16, 39, 40), Germany (Machold 1991: tab. III.1, relevés 1–10, Oberforster 1986: p. 102–104, relevés 26, 1, 20, 23, 24, 44, 57, 81, 173, 177, 101, 113, 132, 139, 184, 205, 69, 87, 95, 116, Dierschke 1994: p. 188–190) and Italy (Poldini & Oriolo 1994: tab. 7, relevés 1–14) were collected and included in the analysis.

To classify Yellow Oat Grass grasslands according to their species composition, the species data set was composed of the 189 relevés (91 of our own relevés and the 98 referencial relevés from the literature). Braun-Blanquet cover-abundance data for the species were converted into a 2 to 9 scale (van der Maarel 1979). To differentiate the main associations of grasslands in which *T. flavescens* grows, this matrix was subjected to divisive clustering – Two Way Indicator Species Analysis (TWINSPAN; Hill 1979) using WinTWINS version 2.3 (Hill & Šmilauer 2005). Additionally, we applied the ordination method – Principle Component Analysis (PCA) (Goodal 1954) to differentiate the subassociations within the recognized associations. Detrended Correspondence Analysis (DCA) (Hill & Gauch 1980) was used to estimate the heterogeneity in the species data of our 91 relevés. Gradient length for the first DCA axis was 2.126, indicating that the linear ordination methods were suitable for the

analysis. To relate the species composition of our 91 relevés to abiotic variables, Redundancy Discriminant Analysis (RDA) (van den Wollenberg 1977, ter Braak 2004) was used.

To test whether abiotic variables were significantly related to species composition, we used the Monte Carlo permutation test (499 permutations). The effect of rare species was reduced by downweighting. The ordination methods (PCA, DCA, RDA) and visualization of these results were carried out using the Canoco and Cano Draw programs (ter Braak & Šmilauer 2002).

Geo-elements were determined according to Poldini (1991), and Raunkiaer's life forms according to Ellenberg & Mueller-Dombois (1967) and Poldini (1989, 1991).

Nomenclature

Taxonomic nomenclature follows Martinčič et al. (2007) and syntaxonomic nomenclature follows Ellmauer & Mucina (1993), Knapp & Knapp (1952), and Steinbuch (1995).

3. RESULTS AND DISCUSSION

Vegetation classification

On the basis of the Twinspan classification, 189 relevés of grasslands with *T. flavescens* were defined as four main vegetation types – associations: *Astrantio-Trisetetum* Knapp et Knapp 1952, *Pastinaco-Arrhenatheretum* Passarge 1964, *Centaureo transalpinae-Trisetetum* Poldini et Oriolo 1994, and *Lolio perennis-Cynosuretum* Br-Bl. et De Leeuw 1936. While all our 95 relevés were classified within clusters representing the first two associations, the group (cluster) defined as the *Lolio-Cynosuretum* association included only referencial relevés and was not included in further analysis.

Syntaxonomical scheme:

Class ***Molinio-Arrhenatheretea*** R. Tx. 1937 em. R. Tx. 1970
- Order ***Poo alpinae-Trisetetalia*** Ellmauer et Mucina 1993
  - Alliance ***Polygono-Trisetion*** Br.-Bl. et R. Tx. ex Marchall 1947
    - **Association *Astrantio-Trisetetum*** Knapp et Knapp ex Oberd. 1957
      - *A.-T. typicum* Knapp et Knapp 1952
      - *A.-T. buphthalmetosum* Knapp et Knapp 1952
      - *A.-T. trollietosum* Knapp et Knapp 1952
- Order ***Arrhenatheretalia*** R. Tx. 1931
  - Alliance ***Arrhenatherion*** Koch 1926
    - **Association *Pastinaco-Arrhenatheretum* Passarge 1964**
      - *P.-A. typ*icum Passarge 1964
      - *P. A. medicagetosum lupulinae* Passarge 1964
      - *P.-A. lolietosum* subass. nova

Description of the associations

Astrantio-Trisetetum Knapp et Knapp ex Oberd. 1957 (Table 1, rel. 1–44)

With most samples collected between 600 m and 1200 m a.s.l., this vegetation type is distributed up to approximately 1500 m a.s.l. Following the occurrence of plant species with core distribution areas in adjoining montane perennial herbaceous vegetation zones (e.g. *Mulgedio-Aconitetea*), in comparison to the *Pastinaco-Arrhenatheretum* association (mean = 35 ± 6.2 species per relevé), *Astrantio-Trisetetum* grasslands harbour a higher plant species diversity (mean = 52 ± 7.5 species per relevé). Furthermore, with 238 recorded species they represent one of the most diverse plant communities in Slovenia. Diagnostic species (differentiating and constant species) of the association are as follows: *Astrantia major, Trisetum flavescens, Dactylis glomerata, Heracleum sphondylium, Festuca pratensis, Trollius europaeus, Tragopogon pratensis* subsp. *orientalis, Veronica chamaedrys, Crepis biennis, Hypericum maculatum, Veratrum album, Anthoxanthum odoratum, Briza media, Buphthalmum salicifolium, Carex montana, Carlina acaulis, Lotus corniculatus Pimpinella saxifrage, Plantago lanceolata, Polygala vulgaris, Potentilla erecta, Trifolium pratense, Anthyllis vulneraria, Bromopsis erecta, Centaurea jacea ssp. jacea, Festuca rubra, Leontodon hispidus, Leucanthemum ircutianum, Linum catharticum, Primula veris, Thymus pulegioides, Trifolium montanum, Cirsium oleraceum, Luzula campestris, Trifolium alpestre, Campanula scheuchzeri, Galium album, Stellaria graminea, Bellis perennis, Knautia drymeia, Vicia cracca, Rhinanthus freynii* and *Salvia pratensis* (Knapp & Knapp 1952; Machold 1991). The more extensive management of grasslands at

higher altitudes appears to be the main reason for the presence of rather large numbers of the *Festuco-Brometea* dry grassland species, which we have found in this vegetation type. The most abundant were *Anthyllis vulneraria, Briza media*, *Bromopsis erecta*, *Rhinanthus freynii*, *Pimpinella saxifraga* and *Salvia pratensis*. The intergradion of different grassland types, in particular the *Astrantio-Trisetetum* and *Pastinaco-Arrhenatheretum* association, causes an intermixing among species of both vegetation types, and problematizes of their syntaxonomy, i.e. in distinguishing the associations from each other. Within *Astrantio-Trisetetum,* three subassociations can be distinguished (Table 1): (1) *Astrantio-Trisetetum typicum* (relevés 1–16, Table 1) was found in the lower to upper montane belt (Lom pod Storžičem, Koprivnik, Topla, Selce near Vrsno), mainly on slopes exposed to the south and west. It is characterised by the permanent presence of *Astrantia major*. Other species that were present in higher frequencies in these samples are: *Potentilla erecta*, *Cruciata glabra*, *Trifolium alpestre*, *Rhinanthus freynii* and *Luzula campestris*. (2) *Astrantio-Trisetetum buphthalmetosum* (relevés 17–40, Table 1) harbours the most diverse vegetation samples. This subassociation was found at higher altitudes (on average 914 m) and on slopes of higher inclination with more permanent water-flow and less intensive management. Consequently, species characteristic of dry grasslands, like *Buphthalmum salicifolium, Gymnadenia conopsea, Galium verum* ssp. *verum, Briza media*, *Bromopsis erecta*, *Pimpinella saxifraga*, *Allium carinatum*, and *Dianthus hyssopifolius* were found in higher frequencies in these samples. Ecologically and floristically the subassociation represents the transition to the *Brometalia erecti* order. (3) *Astrantio-Trisetetum trollietosum* (relevés 41–44, Table 1) was found only on more humid soils. Therefore, the absence of *Brometalia*-species is characteristic of this subassociation. The regular presence of species from wet meadows, like *Veratrum album, Lychnis flos-cuculi* and *Trollius europaeus*, indicates the transition to the alliance *Molinion*.

Pastinaco-Arrhenatheretum Passarge 1964
(Table 2, rel. 1–47)

In comparison to *Astrantio-Trisetetum* grasslands, the current distribution of the *Pastinaco-Arrhenatheretum* association appears to depend more on land-use patterns and grassland management. The grasslands of this association are not restricted to a particular phytogeographical region. In Slovenia the association is widespread in the prealpine phytogeographical region. Along the edges of the alpine phytogeographical region it is often replaced by *Astrantio-Trisetetum*, while in the Dinaric region, where the management of grasslands is usually more extensive, transitions towards the dry grasslands of order *Brometalia erecti* could be followed (Škornik 2001). Characteristic species of the *Pastinaco-Arrhenatheretum* association are *Pastinaca sativa* and *Campanula patula* (Steinbuch 1995). In addition, other mesophilous species, like *Achillea millefolium, Bellis perennis, Centaurea jacea* subsp. *jacea, Dactylis glomerata, Festuca pratensis, Knautia drymeia, Lathyrus pratensis, Leontodon hispidus, Leucanthemum ircutianum, Lotus corniculatus, Plantago lanceolata, Prunella vulgaris, Tragopogon pratensis* subsp. *orientalis, Trifolium medium, Trifolium pratense, Trisetum flavescens* and *Vicia cracca* are well represented, with frequencies > 50%. In more eutrophic stands species of *Cynosurion* grasslands, like *Lolium perenne, Erigeron annuus, Trifolium repens* and *Veronica chamaedrys* are common.

Within *Pastinaco-Arrhenatheretum* we identified the following three subassociations: (1) *Pastinaco-Arrhenatheretum typicum* (relevés 1–25, Table 2) is mainly distributed across the submontane belt, mostly on flat terrain, where more moderate intensive management practises of grassland are common. Typical species are *Arrhenatherum elatius, Holcus lanatus, Ranunculus acris* subsp. *acris, Stellaria graminea* and *Heracleum sphondylium*. (2) *Pastinaco-Arrhenatheretum medicagetosum lupulinae* shows thermophilic characteristics, and with higher abundance of *Brometalia*-species, like *Briza media, Salvia pratensis, Anthoxanthum odoratum, Pimpinella saxifrage, Knautia arvensis, Medicago lupulina, Bromopsis erecta*, and *Galium verum* ssp. *verum*, it represents the transition to the *Brometalia erecti* order (relevés 26–37, Table 2); (3) *Pastinaco-Arrhenatheretum lolietosum* subass. nova (relevés 38–47, Table 2, holotypus hoc loco: Table 2/29), which represents floristically poorer stands (probably owing to a more intensive management regime) with a higher proportion of species characteristic of the *Lolio-Cynosuretum* association such as *Capsella bursa-pastoris, Lolium perenne* and *Phleum pratense*.

Chorological spectrum and life forms

Most vegetation samples were taken in the central and northern parts of Slovenia; the presence of European, Euroasiatic and Eurosiberian geoelements in high proportions was thus expected (Figure 2). Indeed, approximately half of all species found during vegetation sampling belongs to these groups. In the *Astrantio-Trisetetum* association Mediterranean-montane species were also regularly found, while species of Illyrian, South-Eastern European or Pontic origin were present only at low frequencies < 2% (Figure 2). Owing to more intensive management cosmopolitan and adventive plants were more abundant in the *Pastinaco-Arrhenatheretum* association.

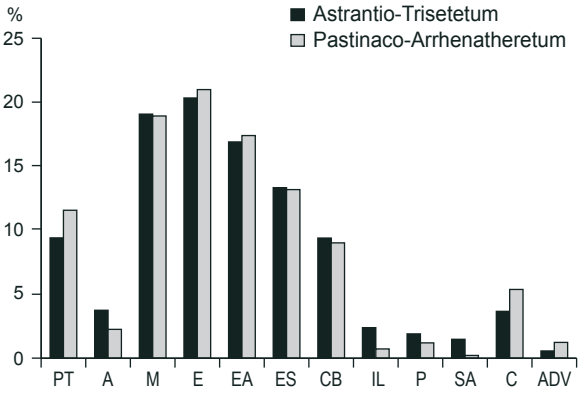

Figure 2: Chorological groups of the associations *Astrantio-Trisetetum* and *Pastinaco-Arrhenatheretum*.

(Abbrevations: P – Paleotemperate, A – Alpine, M – Mediterranean, E – European, EA – Eurasian, ES – Eurosiberian, CB – Circumboreal, IL – Illyrian, P – Pontic, SA – Subatlantic, C – Cosmopolitans, ADV – Adventive plants).

Slika 2: Geoelementna sestava asociacij *Astrantio-Trisetetum* in *Pastinaco-Arrhenatheretum*.

(Okrajšave: P – paleotemperatne, A – alpinske, M – mediteranske, E – evropske, EA – evrazijske, ES – evrosibirske, CB – cirkumborealne, IL – ilirske, P – pontske, SA – subatlantske, C – kozmopoliti, ADV – adventivke).

Both associations are dominated by hemicryptophytes and thus represent the characteristic type of central European anthropogenic grassland (Figure 3). While we found more geophytes in stands of *Astrantio-Trisetetum* grasslands (11%), therophytes are more abundant in *Pastinaco-Arrhenatheretum* association (ca. 10%).

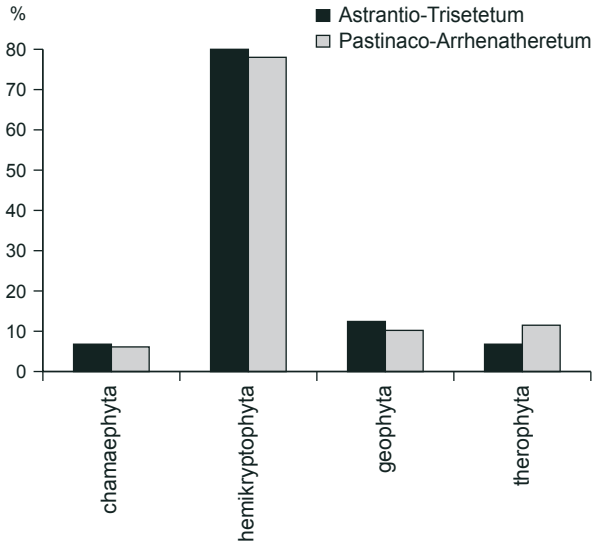

Figure 3: Specter of life forms of the associations *Astrantio-Trisetetum* and *Pastinaco-Arrhenatheretum*.
Slika 3: Spekter življenjskih oblik v asociacijah *Astrantio-Trisetetum* in *Pastinaco-Arrhenatheretum*.

Ecological conditions

Figure 4 shows the effects of the abiotic variables on the species composition of these grasslands. In the RDA of all 91 vegetation relevés of the associations *Astrantio-Trisetetum* and *Pastinaco-Arrhenatheretum*, relevé scores of axis 1 were positively correlated with altitude and pastures but negatively with meadows. The ordination biplot shows relevés of the *Astrantio-Trisetetum* association at the right side, which means that those stands are frequently associated with higher altitudes and are more often used as pasture than *Pastinaco-Arrhenatheretum* stands. On the other hand stands of the *Pastinaco-Arrhenatheretum* association are characteristically used as meadows and associated with higher air temperatures (lower altitudes) and humid, nutrient-rich soils. Therefore, many mesic species from lowland, intensive-use grasslands like *Arrhenatheretum elatius, Ranunculus acris, Dactylis glomerata, Tragopogon pratensis, Daucus carota, Plantago lanceolata, Erigeron annuus, Pastinaca sativa* and *Trifolium medium* were found with higher frequencies in *Pastinaco-Arrhenatheretum* meadows. The ordination biplot shows the species related to *Astrantio-Trisetetum* relevés on the right side. Species, such as *Nardus stricta, Potentilla erecta, Polygala vulgar-*

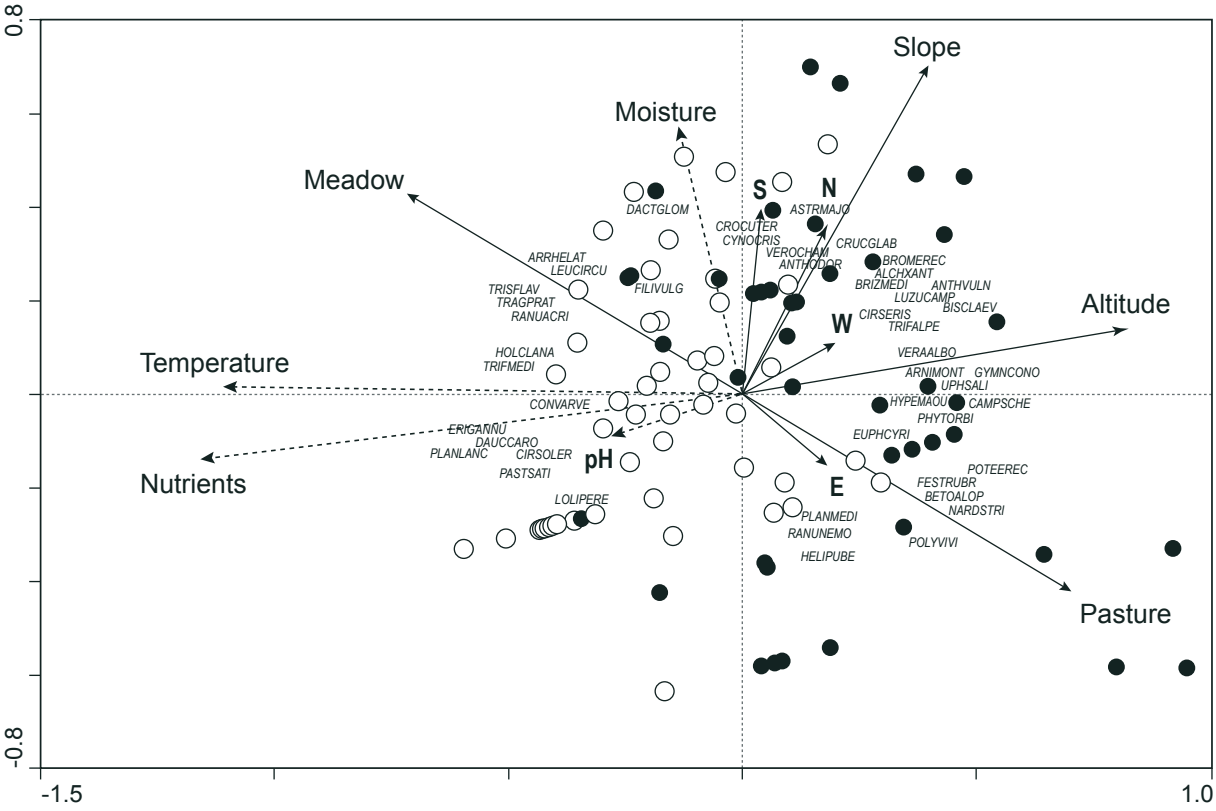

Figure 4: RDA ordination diagram of relevés (n = 91, 108 species) and environmental variables of studied *Trisetum flavescens* grasslands in Slovenia. Eigenvalues: RDA axis 1 = 0.125; RDA axis 2 = 0.056. Shown species have the highest weight. The mean Ellenberg indicator values for temperature, moisture, soil reaction (pH) and nutrients were added as supplementary variables (dashed lines) without any effect on the analysis. ○ – relevés of *Pastinaco-Arrhenatheretum*; ● – relevés of *Astrantio-Trisetetum*. Abbrevations: S – south; N – nord; E – east; W – west; pH – soil reaction. Abbrevations of species are explained in Tables 1 and 2.

Slika 4: Ordinacijski diagram RDA-analize popisov in okoljskih spremenljivk obravnavanih travišč. Lastne vrednosti: RDA os 1 = 0.125; RDA os 2 = 0.056. Prikazane so vrste z največjo težo. Vrednosti Ellenbergovih indeksov za temperaturo, vlažnost rastišča, kemijsko reakcijo tal (pH) in hranilnost tal so bile upoštevane kot pasivne spremenljivke in niso imele vpliva na rezultate analize. ○ – popisi asociacije *Pastinaco-Arrhenatheretum*; ● – popisi asociacije *Astrantio-Trisetetum*. Okrajšave: S – jug; N – sever; E – vzhod; W – zahod; pH – kemijska reakcija tal. Kratice vrst so obrazložene v tabelah 1 in 2.

is, Plantago media and *Euphorbia cyparissias*, which are common for less humid and nutrient-poor soils, are at the bottom right. At the top right side appear species frequent in extensively used pastures at higher altitudes, such as *Biscutella laevigata, Phyteuma orbiculare, Arnica montana* and *Veratrum album*.

Conservation implication

In contrast to other central European countries which have formerly been a focus for the occurrence of *Arrhenatherion* and *Trisetion* grasslands (Oberdorfer 1983), stands of both alliances are currently still widespread in Slovenia. However, the ploughing up of grassland into arable fields and the sowing of commercial grass mixtures currently constitute the major problems for the maintenance of *Arrhenatherion* and *Trisetion* grassland habitats in Slovenia.

According to Ellenberg (1996) the most appropriate management regime for typical *Arrhenatherum elatius* grassland involves cutting twice per year and fertilization with cattle manure. More intensive management impairs the vitality and abundance of plant species, while the application of liquid manure causes an increase in *Apiaceae* species, like *Anthriscus sylvestris* and *Heracleum sphondylium*, which decrease the nutri-

ent value of meadows (Ellmauer & Mucina 1993). More intensively managed *Arrhenatherion* meadows are replaced even over a short time period by uniform, species-poor stands of the *Cynosurion* alliance (Oberdorfer 1983). Similar management regimes, with the application of cattle manure (each second year) and low cutting frequencies (1–2 cuttings per year), are also suggested for the maintenance of the *Polygono-Trisetion* grasslands being studied.

Besides an appropriate, low to moderate intensity management, for maintaining a representative portion of Slovenia's *T. flavescens* grassland habitats, it will be necessary to establish a network of appropriately-sized, protected grassland areas that are span a range of altitudes in both the submontane and montane altitudinal belts.

4. CONCLUSIONS

In the present study secondary grasslands dominated by *Trisetum flavescens* have been investigated throughout the submontane and montane regions of Slovenia.

According to the plant species composition and abundance of the plants these grasslands were classified into two associations from two different alliances, i.e. (1) *Astrantio-Trisetetum* (*Polygono-Trisetion* alliance) and (2) *Pastinaco-Arrhenatheretum* (*Arrhenatherion* alliance). While stands of the *Astrantio-Trisetetum* association are found mainly at higher altitudes, stands of the *Pastinaco-Arrhenatheretum* association can be found at lower altitudes and on soils with higher nutrient content. Grasslands of the *Astrantio-Trisetetum* association are more species rich, with species characteristic of primary grasslands above the tree line. The high species richness of this vegetation type could also be explained as a consequence of low-intensity management. A topography that restricts the use of farm machinery, a shorter vegetation period and greater distances to farming estates are the main reasons for less frequent mowing at higher altitudes (Ellmauer & Mucina 1993). In contrast the dominant plant species of *Pastinaco-Arrhenatheretum* indicate more intensive management. Besides the more intensive management, the neighbourhood of eutrophic stands of the *Cynosurion* alliance is another factor that exerts an essential influence on the species composition and diversity of *Pastinaco-Arrrhenatheretum* grasslands.

5. POVZETEK

Travišča s prevladujočim rumenkastim ovsencem (*Trisetum flavescens*) v submontanskih in montanskih predelih Slovenije

V članku so predstavljene fitocenološke in ekološke značilnosti travišč s prevladujočim rumenkastim ovsencem (*Trisetum flavescens*) v montanskih in submontanskih predelih Slovenije. Vegetacijski popisi so bili vzorčeni na traviščih z zmerno intenzivnim gospodarjenjem, večinoma v letih 2005 in 2006, na nadmorski višini med 400 m in 1.500 m. Popisovanje vegetacijskih sestojev je potekalo po standardni srednjeevropski Braun-Blanquetovi metodi. Na terenu je bilo popisanih 91 sestojev obravnavanih travišč. Sintaksonomska pripadnost zbranih popisov je bila ugotovljena na osnovi primerjave lastnih popisov z 98 referenčnimi popisi iz literature s pomočjo multivariatnih statističnih metod (TWINSPAN, PCA, RDA analiz). Pri posameznih popisih so zabeleženi: (1) lokacija, (2) nadmorska višina (m), (3) nebesna lega, (4) naklon pobočja (°), (5) geografske koordinate, (6) pedološke enote in (7) število vrst. Za popise je podana ocena ekoloških razmer na rastiščih s pomočjo fitoindikatorskih metod (Ellenberg in sod. 1991), pri čemer so bili Ellenbergovi indeksi določeni za naslednje parametre: (1) temperaturo; (2) vlažnost rastišča; (3) kemijsko reakcijo tal (pH) in (4) hranilnost tal. Za določitev vpliva izbranih merjenih in ocenjenih okoljskih spremenljivk na floristično sestavo proučevanih travišč je bila uporabljena redundančna (RDA) analiza. Na osnovi statističnih analiz, floristične zgradbe in abundance vrst so bili obravnavni travniki in pašniki uvrščeni v dve asociaciji, in sicer v asociacijo *Astrantio-Trisetetum* (zveza *Polygono-Trisetion*) ter v asociacijo *Pastinaco-Arrhenatheretum* (zveza *Arrhenatherion*). Nadaljnja členitev na nižje sintaksonomske enote je pogojena predvsem z različno stopnjo intenzivnosti gospodarjenja s travišči, z edafskimi razmerami in nadmorsko višino. Tako so bile v asociaciji *Astrantio-Trisetetum* opisane naslednje nižje sintaksonomske skupine: (1) subasociacija *Astrantio-Triseteum typicum*, ki v sinekološkem smislu predstavlja prehode med redovoma *Brometalia erecti* in *Molinietalia*, (2) subasociacija *Astrantio-Triseteum buphthalmetosum*, ki je od vseh subasociacij vrstno najbogatejša in v ekološkem in floristčnem pogledu predstavlja prehod med redom *Brometalia erecti* in osrednjo obliko asociacije *Astrantio-Trisetetum*, in (3) subasociacija *Astrantio-Triseteum trollietosum*, v kateri se pojavljajo značilnice vlažnih travišč. Asociacijo *Pastinaco-*

Arrhenatheretum delimo na naslednje nižje sintaksonomske enote: (1) subasociacijo *Pastinaco-Arrhenatheretum typicum*, za katero je značilna zmerna gospodarska raba travišč, (2) termofilno subasociacijo *Pastinaco-Arrhenatheretum medicagetosum lupulinae* z večjo prisotnostjo vrst suhih travišč in (3) subasociacijo *Pastinaco-Arrhenatheretum lolietosum* subass. nova, kjer je vnos hranilnih snovi večji.

Rezultati redundančne analize, narejeni na osnovi floristične sestave ter merjenih in ocenjenih okoljskih dejavnikov, so pokazali, da je vrstna sestava obravnavanih travišč v najmočnejši povezavi z nadmorsko višino in načinom gospodarjenja (paša ali košnja). Travišča asociacije *Astrantio-Trisetetum* so tako predvsem pašniki, ki se pojavljajo na višjih nadmorskih višinah, sestoji asociacije *Pastinaco-Arrhenatheretum* pa košeni travniki na nižjih nadmorskih višinah, floristična sestava pa nakazuje s hranili bogata tla. V sestojih obeh asociacij prevladujejo evropske, evrazijske in evrosibirske vrste, v asociaciji *Astrantio-Trisetetum* pa se pogosteje pojavljajo tudi mediteransko-montanske vrste; kozmopolitov in adventivk pa je več v asociaciji *Pastinaco-Arrhenatheretum*. Od življenjskih oblik v obeh asociacijah prevladujejo hemikriptofiti. V asociaciji *Astrantio-Trisetetum* so razmeroma pogosti še geofiti, v asociaciji *Pastinaco-Arrhenatheretum* pa terofiti. Travišča zvez *Polygono-Trisetion* in *Arrhenatherion* so v Sloveniji še razmeroma pogosta, vendar se zaradi povečane intenzivne rabe, njihove površine na številnih območjih spreminjajo v vrstno revnejše sestoje ljulke ali travniškega lisičjega repa. Z vidika biotske raznovrstnosti je problematično tudi izginjanje travišč zaradi povečanega obsega obdelovalnih površin, zaradi sejanja travnih mešanic in fragmentacije teh travišč. Za ohranjanje diverzitete vrst ter strukture in funkcije obravnavanih travišč bi bilo potrebno primerno upravljanje – zmerno gnojenje in košnja enkrat ali dvakrat na leto oziroma kombiniranje košnje in paše. Določena travišča na večjih površinah, ki so dovolj reprezentativna s karakterističnimi vrstami, pa bi bilo potrebno zajeti v ustrezni varstveni režim in omogočiti disperzijo njihovih vrst (z migracijskimi koridorji oz. s transhumanco).

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6. REFERENECES

Aichinger, E. 1933: Vegetationskunde der Karavanken. Pflanzensociologie, 2, Jena, G. Fischer.

Atkinson, P.W., Buckingham, D. & Morris, A. J. 2004: What factors determine where invertebrate-feeding birds forage in dry agricultural grasslands? Ibis 146: 99–107.

Čarni, A. 2001: Vegetation of Cultivated grasslands in the Goričko region (NE Slovenia). Acta Biologica Slovenica 44 (4) 13–27.

Dierschke, H. 1994: Pflanzensociologie. Grundlagen und methoden. Ulmer, Sttutgart.

Dierschke, H. 2002: Kulturgrasland. Wiesen, Weiden und verwandte Staudenflora. Stuttgart, E. Ulmer.

Ellenberg, H. 1996: Vegetation Mitteleuropas mit den Alpen in ökologischer, dynamischer und historischer Sicht. 5. Aufl. Eugen Ulmer Verlag, Stuttgart.

Ellenberg, H., Weber, H.E., Düll, R., Wirth, V. & Werner, W. 2001: Zeigerwerte von Pflanzen in Mitteleuropa. Scripta Geobotanica 18, Göttingen.

Ellmauer, T. & Mucina, L. 1993: *Molinio-Arrhenatheretea*. In: Mucina, L., Grabherr G. & Ellmauer, T. (eds.): Die Pflanzengesellschaften Österreichs. Teil I. Anthropogene Vegetation. Gustav Fischer Verlag Jena, Stuttgart: 297–401.

Gomez-Pompa, A. & Kaus, A. 1992: Taming the wilderness myth. Bioscience 42: 271–279.

Hill, M.O. & Gauch, H.G. 1980: Detrended correspondence analysis: an improved technique. Vegetatio 42:47–58.

Hill, M.O. & Šmilauer, P. 2005: TWINSPAN for Windows version 2.3. Centre for Ecology and Hydrology & University of South Bohemia, Huntingdon & České Budějovice.

Horvatić, S., Tomažič, G. 1941: Travniška vegetacija reda *Arrhenatheretalia* v nižinskem pasu Slovenije. Zbornik prirodoslovnega društva, 2: 68–75.

Jongman, R.H.G., ter Braak C. J. F. & van Tongeren O.F.R. 1995: Data analysis in community and landscape ecology. Cambridge University Press, Cambridge.

Kladnik, D. & Gabrovec, M. 1998: Raba tal. In:

Fridl, J. et al. (eds.): Geografski atlas Slovenije. DZS, Ljubljana.
Kladnik, D. 1998: Alpski svet. In: Perko, D. & Orožen Adamič, M. (eds.): Slovenija, pokrajine in ljudje. Založba Mladinska knjiga, Ljubljana, pp. 34–53.
Kladnik, D. 1998a: Dinarski svet. In: Perko, D. & Orožen Adamič, M. (eds.): Slovenija, pokrajine in ljudje. Založba Mladinska knjiga, Ljubljana, pp. 296–311.
Knapp, G., Knapp, R. 1952: Über die Goldhafer-Wiesen (*Trisetetum flavescentis*) im nördlichen Vorarlberg und im Obrallgäu. Landwirt. Jahrb. Bayern, 29: 239–256.
Machold, C. 1991: Die Trespenwiesen des Walgaus. Diplomarbeit, Univ. Wien.
Marinček, L. 1987: Bukovi gozdovi na Slovenskem. Delavska enotnost, Ljubljana.
Martinčič, A., Wraber, T., Jogan, N., Ravnik, V., Podobnik, A., Turk, B. & Vreš, B. 2007: Mala flora Slovenije. Ključ za določanje praprotnic in semenk. Tehniška založba Slovenije, Ljubljana.
McCracken, D.I. & Tallowin, J.R. 2004: Swards and structure: the interection between farming practices and bird food resources in lowland grasslands. Ibis 146: 108–114.
McKinney, M.L. & Lockwood, J.L. 1999: Biotic homogenisation: a few winners replacing many losers in the next mass extinction. Trends in Ecology and Evolution 14: 450–453.
Oberforster, M. 1986: Beitrag zur Kenntnis der Böden und vegetation von Futterwisen, Weiden und Feuchtbeständen im Oberösterreichischen Voralpengebiet (Untersuchungen in den Gemeinden Grossraming und Maria Neustift). Diplomarbeit, Univ. f. Bodenkultur, Wien.
Oberdorfer, E. 1983: Klasse: *Molinio-Arrhenatheretea* Tx. 37 (em. Tx. et Prsg. 51). In: Oberdorfer, E. (ed.), Süddeutsche Pflanzengesellschaften. Teil III. 2. Aufl. pp. 346–436. Gustav Fischer Verlag, Jena.
Pärtel, M., Bruun, H.H. & Sammul, M. 2006: Biodiversity in temperate European grasslands: origin and conservation. Grassland Science in Europe 10:14.
Poldini, L & Oriolo, G. 1994: La vegetatione dei prati da sfalcio e dei pascoli intensive (*Arrhenatheretalia* e *Poo-Trisetetalia*) in Fruli (NE Italia). Studia Geobotanica 14(1): 3–48.
Poldini, L. 2001: Atlante corologico delle piante vascolari nel Friuli – Venezia Giulia. Inventario floristico regionale. Unversita degli studi di Trieste dipartemento di biologia, Udine.
Pott, R. 1995: Die Pflanzengesellschaften Deutschlands. Verlag Eugen Ulmer Stuttgart.
Seliškar, A. 1993: Übersicht der Wiesenvegetation der Kamniško-Savinjske Alpen. In: Zupančič, M. (ed.): Flora in vegetacija Kamniško-Savinjskih Alpe. Flora und Vegetation der Kamniško-Savinjske Alpen. Referati. Biološki inštitut ZRC SAZU, Ljubljana.
Steinbuch, E. 1995: Wiesen und Weiden der Ost-, Süd- und Weststeiermark. Dissertationes Botanica. Gebrüder Borntraeger Verlagsbuchhandlung, Berlin, Stuttgart.
Swift M.J., Vandermeer, P.S., Ramakrishnan, J.M., Anderson, C.K. Ong & Hawkins, B.A. 1996: Biodiversity and Agroecosystem Function. In: Mooney, H. A. (ed.): Functional roles of biodiversity: a global perspective. Chichester, J. Wiley & sons.
Škornik, S. 2000: Suha in polsuha travišča reda *Brometalia erecti* Koch 1926 v Sloveniji. Doktorska disertacija. Univerza v Ljubljani. Biotehniška fakulteta. Oddelek za biologijo.
Ter Braak, C.J.F. & Šmilauer, P. 2002: CANOCO reference manual and CnoDraw for Windows user's guide. Software for Cannonical Community Ordination (version 4.5). Microcomputer Power, Ithaca, New York, USA.
Walker, K.J., Stevens, P.A., Stevens, D.P., Mountford, J.O., Manchester, S.J. & Pywell, R.F. 2004: The restoration and re-creation of species-rich lowland grassland on land formerly managed for intensive agriculture in the UK. Biological Conservation 119: 1–18.
Westhoff, V. & van der Maarel, E. 1973: Ordination and classification of communities. Handbook of Vegetation Science 5: 617–737, Junk. The Hague.
Wilson, J.D., Evans, A.D. & Grice, P.V. 2009: Bird Conservation and Agriculture. Cambridge University Press, Cambridge UK, 394 pp.
Žiberna, I. 1998: Strojna, Kozjak in Pohorje. In: Perko, D., Orožen Adamič, M. (ed.): Slovenija, pokrajine in ljudje. Založba Mladinska knjiga, Ljubljana, pp. 142–155.

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7. APPENDIX

Appendix to the table 1: Localities, dates of the relevés and species, occurring in one relevé only.
Dodatek k tabeli 1: Lokalitete popisanih sestojev, datumi popisov ter vrste, ki se pojavljajo samo v enem popisu.

1: Koprivnik (Bohinj), 15.7.2005, *Phleum phleoides, Vaccaria pyramidat*a; **2:** Brčev rovt (Hrasti), 17.7.2005, *Peucedanum austriacum, P. cervaria*; **3:** Brčev rovt (Hrasti), 3.7.2006; **4:** Lom pod Storžičem, 4.7.2006; **5:** Jelendol, 6.8.2006; **6:** Završnik, 8.8.2006; **7:** pod Storžičem, 4.7.2006; **8:** pod Kofcami, 5.7.2006; **9:** Završnik, 8.8.2006; **10:** Grahovše, 10.7.2005, *Campanula rotundifolia*; **11:** Jezersko, 19.7.2006; **12:** Koprivnik (Bohinj), 26.7.2006; **13:** Cirkuše (Tuhinjska dolina), 7.7.2006; **14:** Topla, 24.6.2006, *Arabidopsis thaliana*; **15:** Selce pod Vrsnim, 22.7.2005; **16:** Lom pod Storžičem, 4.7.2006; **17:** Potarje, 10.7.2005, *Trifolium aureum*; **18:** Brčev rovt (Hrasti), 17.7.2005, *Lathyrus tuberosus, Polygonatum vericillatum, Vaccinium vitis-idaea*; **19:** Gozd, 18.7.2005, *Helleborus odorus*; **20:** Brčev rovt (Hrasti), 3.7.2006, *Polygala comosa*; **21:** pod Kriško goro, 24.7.2006, *Aconitum vulparia, Scabiosa lucida*; **22:** Robanova planina, 7.7.2005, *Salvia verticillata*; **23:** Bohinj (Kranjska dolina), 15.7.2005, *Brachypodium rupestre, Luzula sylvatica, Thesium linophyllon, T. pyrenaicum*; **24:** Pikovo, 22.6.2005; **25:** pod Kofcami, 5.7.2006; **26:** Podpeca, 22.6.2005, *Alchemilla glaucescens*; **27:** Zg. Jezersko, 18.7.2005; **28:** Zg. Jezersko, 18.7.2005; **29:** Korensko sedlo, 20.7.2005; **30:** pod Kofcami, 5.7.2006; **31:** Gozd, 24.7.2006; **32:** Prevala, 14.7.2005, *Carduus crispus, Carex nigra, Knautia longifolia, Orchis ustulata, Plantago major, Stachys alpina, Soldanella alpina, Verbascum nigrum*; **33:** Vršič-Trenta, 21.7.2005, *Aster amellus, Carduus crassifolius ssp. glaucus, C. nutans, Dianthus barbatus, Epipactis atrorubens, Erigeron acris, Scorzonera rosea*; **34:** Trenta, 21.7.2005; **35:** Trenta, 21.7.2005; **36:** Marija Snežna (Breginj), 22.7.2005, *Peucedanum schottii, Rumex alpestris, Sedum maximum*; **37:** Lepena, 22.7.2005; **38:** Radovna, 20.7.2005, *Ajuga genevensis, Cirsium arvense, Lythrum salicaria, Melittis melissophyllum*; **39:** Vrsno, 22.7.2005, *Convolvulus arvensis*; **40:** Pikovo, 22.6.2005, *Medicago falcata, Selinium carvifolia*; **41:** pod Storžičem, 4.7.2006, *Cirsium rivulare, Vicia sylvatica*; **42:** Zatrnik, 26.7.2006; **43:** Lom pod Storžičem, 4.7.2006; **44:** Robanov kot, 25.6.2006, *Veronica officinalis*.

Appendix to the table 2: Localities, dates of the relevés and species, occurring in one relevé only.
Dodatek k tabeli 2: Lokalitete popisanih sestojev, datumi popisov ter vrste, ki se pojavljajo samo v enem popisu.

1: Podvoljek, 25.6.2006; **2:** Šober (Kozjak), 1.7.2006; **3:** Sopotnica pri Škofji Loki, 6.7.2006; **4:** Modrič (Pohorje), 23.6.2006, *Centaurea cyanus*; **5:** Malo Tinje, 23.6.2006; **6:** Lenart pri Gornjem Gradu, 25.6.2006, *Campanula rapunculoides*; **7:** Podolševa, 24.6.2006, *Cardaminopsis halleri*; **8:** Podlom (pod Podvoljekom), 25.6.2006; **9:** Malo Tinje, 23.6.2006; **10:** Pesnik (Pohorje), 23.6.2006, *Carex montana, Viola tricolor*; **11:** Topla, 24.6.2006; **12:** Planina pod Šumikom, 23.6.2006; **13:** Bohinjska Bela, 26.7.2006, *Medicago falcata*; **14:** Obrne, 26.7.2006; **15:** Selo pri Bledu, 31.7.2006; **16:** Hlebce pri Lescah, 31.7.2006; **17:** Jelendol, 6.8.2006; **18:** Cimper (Tržič), 8.8.2006, *Astrantia major*; **19:** Vetrno, 18.7.2005, *Melittis mellisophyllum*; **20:** Veliko Tinje, 23.6.2006; **21:** Topla, 24.6.2006, *Melica nutans;* **22:** Podvoljek, 25.6.2006; **23:** Tirosek (pred Šmiklavžem), 25.6.2006, *Ononis arvensis*; **24:** Maček pod Šobrom, 16.6.2006, *Carex brizoides, Vicia dumetorum*; **25:** Kebelj, 23.6.2006; **26:** Četna ravan, 6.7.2006, *Carlina vulgaris*; **27:** Tuhinjska dolina, 9.6.2006, *Chamaecytisus hirsutus, Inula salicina*; **28:** Stara Fužina, 15.7.2006; **29:** Slatna (Begunje), 31.7.2006, *Thalictrum aquilegiifolium*; **30:** Grčarice, 29.7.2007, *Verbascum austriacum, Calamagrostis vilosa, Reseda lutea*; **31:** Retje, 30.7.2007, *Aquilegia atrata, Cirsium pannonicum, Inula hirta, Lilium bulbiferum, Rhinanthus minor, Scabiosa columbaria*; **32:** Breginj, 22.7.2005*, Carex divulsa, Erigeron acris, Fragaria vesca, Geranium phaeum, Teucrium chamaedrys*; **33:** Breznica pod Lubnikom, 6.7.2006; **34:** Šober (Kozjak), 1.7.2006, *Carex fritschii*; **35:** Kozjak (kmetija Sluga), 1.7.2006, *Dianthus armeria;* **36:** Rdeči breg (pod Kamenikom), 1.7.2006, *Reseda luteola*; **37:** Florjan pri Gornjem Gradu, 25.6.2006, *Lathyrus sylvestris*; **38:** Cerkno, 6.7.2006; **39:** Zvirče, 31.7.2006; **40:** Zg. Fužine, 18.7.2005, *Cichorium intybus, Lolium temulentum*; **41:** Čeplez (Cerkno), 6.7.2006, *Acinos alpinus*; **42:** proti Bašlju, 24.7.2006; **43:** Sr. vas v Bohinju, 15.7.2005; **44:** Jarčje brdo, 20.7.2005, *Fragaria viridis, Gentiana asclepiadea, Lathyrus hirsutus, Lysimachia vulgaris*; **45:** Dolenčice, 20.7.2005, *Dianthus barbatus*; **46:** Bašelj, 10.7.2005, *Agrimonia eupatoria, Plantago major, Polygonum aviculare, Ranunculus repens*; **47:** Povje, 10.7.2005, *Cerastium arvense, Pedicularis verticillata*.

Table 1: Analytical table of the association *Astrantio-Trisetetum* Knapp et Knapp ex Oberd. 1957.
Tabela 1: Analitična tabela asociacije *Astrantio-Trisetetum* Knapp et Knapp ex Oberd. 1957.

Number of relevé (Številka popisa)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Altitude (m) (Nadmorska višina)		950	620	615	680	860	900	860	975	880	860	900	1005	600	1180	420	625
Releve area (m) (Velikost popisne ploskve)		50	25	25	50	50	50	25	25	50	50	25	25	25	25	25	25
Exposition (Lega)		NE	S	S	N	NE	SW	NW	SW	W	SW	W	W	S	S	0	E
Inclination (°) (Naklon pobočja)		5	20	20	5	35	5	20	30	30	20	10	30	35	30	0	5
X-coordinate (X-koordinata)		396385	395375	421780	395803	448801	449709	447954	453054	448660	448632	448643	448947	474730	447001	484618	463428
Y-coordinate (Y-koordinata)		119947	120629	129873	132393	133398	133409	133964	135174	135602	135642	135773	135799	137133	137958	119372	140058
Pedologic cartographic unit (Pedološka kartografska enota – FAO)		CMe	CMd	FLc	LPm	CMe	LPk	LPk	LPd	CMe	CMe	CMe	LPm	LPm	CMe	LPm	CMe
Pedologic cartographic unit (Pedološka kartografska enota – PKE)		1151	1093	1527	1089	1504	1175	1175	1205	1430	1430	1430	1090	1138	1340	1138	1141
Cover (%) (Pokrovnost)		100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Number of species (Število vrst)		49	64	55	55	53	53	53	51	53	49	47	54	44	40	47	52
Characteristic and differentiating species of the association																	
Listera ovata	LISTOVAT	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Carex montana	CAREMONT	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Characteristic and differentiating species of the subassociation *typicum* Knapp et Knapp ex Oberd. 1957																	
Potentilla erecta	POTEEREC	2	+	+	1	+	2	.	+	+	1	+	+	+	.	+	1
Luzula campestris	LUZUCAMP	.	+	+	+	+	.	+	+	.	+	+	+	+	+	.	+
Trifolium alpestre	TRIFALPE	+	+	+	+	+	+	+	+	+	.	+	.	+	.	+	1
Astrantia major	ASTRMAJO	+	4	3	3	3	2	2	4	2	4	2	2	2	1	.	3
Characteristic and differentiating species of the subassociation *buphthalmetosum* Knapp et Knapp ex Oberd. 1957																	
Briza media	BRIZMEDI	.	3	+	1	2	2	+	+	2	3	2	2	2	3	+	.
Bromopsis erecta	BROMEREC	1	2	2	1	1	2	2	3	1	+	+	1	1	+	.	.
Buphthalmum salicifolium	BUPHSALI	.	.	+	+	.	.	+	.	.	.	.	.	.	.	+	.
Galium verum ssp. *verum*	GALIVERU	+	1	+	.	.	1	.	.	+	.	.	+	+	.	.	.
Pimpinella saxifraga	PIMPSAXI	+	.	.	.	+	.	.	.	.	.	+	.	+	+	.	.
Gymnadenia conopsea	GYMNCONO	.	.	.	.	.	.	.	.	.	+	.	.	+	.	.	.
Allium carinatum	ALLICARI	.	.	.	.	+	+	.	.	.	.	+	+	.	.	.	+
Dianthus hyssopifolius	DIANHYSS	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.
Characteristic and differentiating species of the subassociation *trollietosum* Knapp et Knapp ex Oberd. 1957																	
Cirsium oleraceum	CIRSOLER	+	+	+	+	+	+	1	+	+	+	+	.	.	.	.	.
Veratrum album	VERAALBU	.	.	.	+	+	.	+	.	.	.	+	+	.	.	.	+
Lychnis flos-cuculi	LYCHFLCU	.	.	.	.	.	.	+	.	.	.	.	.	.	.	+	+
Trollius europaeus	TROLEURO	.	+	+	.	+	.	.	.	.	.	.	.	.	+	.	.
Polygono-Trisetion Br.-Bl. et R. Tx. ex Marschall 1947 nom. inv.																	
Crocus vernus	CROCVERN	.	+	+	+	.	+	+	+	+	.	.	.	.	.	.	+
Geranium sylvaticum	GERASYLV	+	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.
Poo alpinae-Trisetetalia Ellmauer et Mucina 1993																	
Campanula scheuchzeri	CAMPSCHE	+	+	+	+	.	.	+	+	.	+	.	+	.	.	.	+
Ranunculus nemorosus	RANUNEMO	.	.	.	.	.	+	.	.	+	.	.	.	.	.	.	.
Poa alpina	POAALPI	.	+	.	.	.	.	.	.	.	.	.	+	.	.	.	.
Pastinacio-Arrhenatheretum Passarge 1964																	
Arrhenatherum elatius	ARRHELAT	3	.	4	4	4	4	3	4	4	.	3	4	4	2	.	4
Campanula patula	CAMPPATU	.	.	.	.	.	.	.	.	+	+	+	.	.	.	.	+

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	
875	620	910	615	1420	925	1000	950	850	780	930	940	1140	820	1000	1345	1385	900	910	750	700	710	540	930	850	900	620	760	
50	25	25	25	25	50	50	25	25	25	50	50	25	25	25	25	50	50	50	25	25	25	25	25	25	50	25	50	
SW	SW	S	S	S	W	S	SE	SW	SE	E	SE	E	W	S	S	E	0	S(E)	W	0	SW	SW	SW	NW	SW	0	0	
20	15	15	20	25	15	10	30	20	15	5	30	30	20	25	15	20	0	40	15	0	30	5	20	30	20	0	0	
484618	423755	378693	425513	452750	448955	448699	450142	449097	447272	401163	462669	401187	463112	442242	447287	446892	421818	403764	482555	487205	487846	487783	404587	449185	426046	450836	446044	
119372	122377	126081	131714	135594	135656	135725	136534	136809	137832	140455	140622	140645	140733	141021	141301	141353	142732	143198	149114	149603	149831	150006	152763	135739	136504	139730	140676	
CMe	LPm	LPm	LPm	LPm	LPm	CMe	CMd	CMd	CMe	LPm	CMe	LPm	CMe	LPm	CMd	LPm	LPm	LPk	CMd	LPk	LPk	LPk	CMd	LPk	LPm	LPk	LPm	
1266	1126	1091	1080	1137	1090	1430	1248	1248	1340	1080	1143	1080	1143	1090	1248	1137	1515	1079	1404	1190	1136	1136	1083	1175	1080	1175	1341	
100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
57	56	56	54	45	62	65	55	49	49	37	37	62	58	61	47	55	53	44	57	35	67	49	64	55	49	43	58	*Presence*
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+	+	+	+	.	+	+	+	.	+	.	.	2	+	.	+	+	.	.	.	.	.	+	+	.	+	+	+	IV
+	+	+	+	+	+	.	.	+	.	+	+	.	+	1	2	+	+	1	.	.	+	+	.	1	.	+	1	IV
3	3	2	3	2	+	+	1	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	3	3	.	III
3	3	3	2	.	2	3	2	2	1	3	3	3	1	2	1	.	2	3	3	+	3	3	1	1	2	+	+	V
4	3	2	2	1	+	2	1	3	+	2	2	1	+	3	.	3	2	2	3	.	3	2	2	2	.	1	.	V
+	.	.	+	+	+	+	+	+	+	.	.	.	+	+	+	+	+	+	+	.	+	.	+	+	+	.	+	III
1	1	1	+	+	.	+	.	+	+	+	+	+	+	+	.	+	.	1	2	.	1	1	.	.	.	.	.	III
+	+	+	.	+	.	.	.	.	.	+	+	.	+	1	+	+	+	+	+	+	2	+	+	.	+	.	+	III
+	+	+	.	.	+	+	+	+	+	.	.	+	.	.	.	+	+	+	.	+	.	.	+	+	.	.	.	II
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+	+	+	+	+	+	+	+	+	+	+	+	.	+	+	+	.	.	.	+	+	.	+	+	+	.	+	+	IV
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Number of relevé (Številka popisa)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ranunculus acris ssp. *acris*	RANUACRI	.	.	+	.	+	.	+	+	.	.	.	+	1	.	.	1
Pastinaca sativa	PASTSATI	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Arrhenatherion Koch 1926																	
Galium album	GALIALBU	+	.	.	+	.	+	.	+	+	.	+	+	+	+	+	+
Pimpinella major	PIMPMAJO	.	.	.	.	+	.	+	+	+	+	.	.	.	.	.	+
Equisetum arvense	EQUIARVE	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	+
Daucus carota	DAUCCARO	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.
Geranium pratense	GERAPRAT	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Arrhenatheretalia R. Tx. 1931																	
Stellaria graminea	STELGRAM	+	3	2	2	1	+	1	+	+	1	1	1	1	2	+	1
Helictotrichon pubescens	HELIPUBE	1	1	+	1	.	+	+	.	.	+	1	+	.	.	3	+
Colchicum autumnale	COLCAUTU	.	+	+	+	.	.	+	+	+	+	+	.	.	.	+	+
Holcus lanatus	HOLCLANA	.	.	+	.	+	1	1	+	.	+	.	2	1	.	2	.
Crepis biennis	CREPBIEN	.	.	.	+	+	.	.	.	.	+	.	.	+	.	.	+
Medicago lupulina	MEDILUPU	.	.	.	.	.	.	+	.	.	+	.	.	.	.	+	.
Heracleum sphondylium	HERASPON	.	.	.	.	.	.	+	+	.	.	+	.	+	.	.	+
Cynosurus cristatus	CYNOCRIS	.	+	.	.	.	.	+	1	.	.	.	.	.	+	.	.
Alopecurus pratensis	ALOPPRAT	+	+	.	.	.	.	.	.	.	+	.	.	.	.	+	.
Aquilegia vulgaris	AQUIVULG	.	.	+	.	.	.	+	.	.	.	.	.	.	.	.	.
Rumex obtusifolius	RUMEOBTU	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.
Bromus hordeaceus	BROMHORD	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.
Cynosurion R. Tx. 1947																	
Bellis perennis	BELLPERE	+	+	+	+	+	+	+	+	+	+	.	+	+	+	+	+
Prunella vulgaris	PRUNVULG	.	+	.	+	+	+	+	+	1	.	+	+	.	+	1	+
Veronica chamaedrys	VEROCHAM	+	+	+	+	+	.	+	+	+	.	.	+	+	+	.	+
Phleum pratense	PHLEPRAT	+	.	+	.	.	+	.	.	.	.	+	+	.	.	.	.
Trifolium repens	TRIFREPE	.	+	.	.	.	.	.	+	.	.	.	.	.	.	.	+
Capsella bursa-pastoris	CAPSBUPA	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Erigeron annuus	ERIGANNU	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.
Lolium perenne	LOLIPERE	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.
Molinion Koch 1926																	
Parnassia palustris	PARNPALU	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Senecio integrifolius	SENEINTE	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Gentiana asclepiadea	GENTASCL	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.
Primula veris	PRIMVERI	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.
Serratula tinctoria	SERRTINC	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.
Molinietalia Koch 1926																	
Betonica officinalis	BETOOFFI	.	.	+	.	+	.	.	.	.	1	.	+	.	.	.	.
Molinia caerulea	MOLICAER	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
Succisa pratensis	SUCCPRAT	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Molinio-Arrhenatheretea R. Tx. 1937 em. R. Tx. 1970																	
Trisetum flavescens	TRISFLAV	+	+	4	3	4	4	3	3	4	.	3	4	3	2	4	4
Dactylis glomerata	DACTGLOM	+	+	1	2	2	2	1	1	2	1	1	2	1	1	2	1
Leucanthemum ircutianum	LEUCIRCU	3	+	2	1	2	2	2	2	.	2	+	1	2	2	+	2
Achillea millefolium	ACHIMILL	1	+	+	1	+	1	1	1	+	.	+	+	.	1	1	+
Centaurea jacea ssp. *jacea*	CENTJACE	+	+	.	.	+	+	+	.	+	+	+	+	+	.	+	+
Lotus corniculatus	LOTUCORNI	.	+	+	+	+	+	+	.	+	1	.	+	+	+	+	+
Knautia drymeia	KNAUDRYM	+	.	+	+	+	+	+	+	+	.	+	+	+	.	+	+
Vicia cracca	VICICRAC	+	.	.	+	.	+	+	+	+	+	+	+	+	+	+	+
Tragopogon pratensis ssp. *orientalis*	TRAGPRAT	+	+	.	.	+	+	.	+	+	+	+	+	+	.	+	+
Lathyrus pratensis	LATHPRAT	+	.	+	.	+	.	.	+	.	+	.	+	+	+	+	+

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	*Pres.*
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+	.	+	.	.	.	+	+	.	+	+	+	.	+	.	.	.	.	.	.	.	.	+	.	+	.	.	.	II
.	.	+	.	.	.	.	.	+	.	.	.	.	+	.	.	.	.	.	+	.	+	.	.	+	.	.	.	II
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1	1	2	1	2	+	+	2	1	2	2	1	1	1	1	.	1	1	+	+	+	+	2	1	1	1	1	+	V
2	2	+	2	+	+	+	3	2	2	2	+	+	1	2	.	.	+	.	+	.	+	+	3	1	+	3	1	V
+	+	+	+	+	+	1	+	+	.	+	+	+	1	1	.	.	1	.	2	+	1	1	+	1	1	+	+	V
1	+	.	+	1	+	+	+	+	.	+	+	+	+	+	+	1	1	+	+	+	+	2	+	+	+	+	.	IV
1	+	1	+	.	+	+	1	+	+	+	+	+	.	1	+	+	+	+	1	.	+	1	1	+	+	.	.	IV
+	+	+	+	+	+	+	+	+	+	.	.	+	+	+	+	.	.	.	.	.	+	+	+	+	+	+	+	IV
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+	.	+	.	+	.	+	+	+	+	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	+	+	.	III
1	+	+	.	.	.	.	+	+	.	.	.	.	.	+	.	.	+	+	+	.	+	+	+	.	+	+	+	III

Number of relevé (Številka popisa)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Trifolium pratense	TRIFPRAT	.	2	2	.	+	+	1	.	1	2	+	.	.	1	1	+
Plantago lanceolata	PLANLANC	.	1	1	.	1	1	.	.	1	.	.	+	.	+	2	+
Leontodon hispidus	LEONHISP	+	+	+	1	1	1	1	1	1	.	+	1	.	1	.	+
Festuca rubra	FESTRUBR	1	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Euphrasia rostkoviana	EUPHROST	.	.	.	.	.	.	.	+	.	+	.	+	.	+	+	.
Taraxacum officinale	TARAOFFI	.	.	.	.	.	+	.	.	+	+	.	+	.	.	.	.
Festuca pratensis	FESTPRAT	2	.	.	.	1	1	.	.	1	2	.	1	.	.	1	+
Deschampsia cespitosa	DESCCESP	.	.	.	.	.	.	.	.	.	+	+	.	.	.	+	+
Rumex acetosa	RUMEACET	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Poa pratensis	POAPRAT	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	+
Poa trivialis	POATRIV	.	.	.	.	1	+	.	.	+	.	.	1	.	.	.	.
Holcus mollis	HOLCMOLL	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ajuga reptans	AJUGREPT	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Mesobromion Br.-Bl. et Moor 38 em. Oberd. 49																	
Anthyllis vulneraria	ANTHVULN	.	+	+	+	.	.	+	+	.	+	+	+	+	.	.	+
Prunella grandiflora	PRUNGRAN	+	+	+	.	+	+	.	.	+	.	.	.	.	.	+	.
Thymus pulegioides	THYMPULE	.	.	+	+	1	+	1	+	.	1	.	+	+	.	+	1
Plantago media	PLANMEDI	.	.	.	+	.	1	+	1	+	.	.	.	.	+	.	.
Polygala vulgaris	POLYVULG	.	+	.	+	.	+	+	+	.	+	.	.	.	.	+	+
Carex flacca	CAREFLAC	.	.	+	.	+	+	.	.	.	.	+	.	+	.	.	.
Knautia arvensis	KNAUARVE	.	+	+	+	.	+	.	.	+	+	.	.	.	.	+	+
Carlina acaulis	CARLACAU	.	+	.	.	+	+	.	.	.	.	.	.	+	.	.	.
Silene vulgaris	SILEVULG	.	.	.	+	+	.	.	.	.	.	+	+	.	.	.	.
Campanula glomerata	CAMPGLOM	.	.	.	.	.	.	.	+	.	+	.	.	.	.	.	+
Inula salicina	INULSALI	.	+	.	.	.	.	.	.	+	+	.	+	.	.	.	.
Acinos alpinus	ACINALPI	.	+	.	.	.	.	.	.	.	.	.	.	.	+	.	.
Valeriana officinalis	VALEOFFI	.	.	.	1	+	.	.	.	.	.	.	.	+	.	.	.
Gentianella germanica	GENTGERM	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.
Melica nutans	MELINUTA	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Carlina vulgaris	CARLVULG	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.
Origanum vulgare	ORIGVULG	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Veronica teucrium	VEROTEUR	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Galium lucidum	GALILUCI	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.
Chamaespartium sagittale	CHAMSAGI	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Gentiana cruciata	GENTCRUC	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.
Trifolium montanum	TRIFMONT	.	+	.	.	.	.	.	.	.	+	.	.	.	.	.	.
Festuco-Brometea Br.-Bl. et R. Tx. ex Klika et Hadač 1944																	
Rhinanthus freynii	RHINALEC	+	2	.	+	+	1	1	+	+	2	1	+	+	+	.	+
Salvia pratensis	SALVPRAT	.	+	+	+	+	+	.	+	+	.	+	+	+	.	+	.
Euphorbia cyparissias	EUPHCYPA	.	+	.	+	.	.	.	.	.	.	.	.	.	+	.	.
Helianthemum ovatum	HELIOVAT	.	.	.	.	.	.	+	.	.	+	.	+	.	.	.	.
Centaurea scabiosa	CENTSCAB	.	.	+	.	.	.	.	.	.	+	.	.	+	.	.	.
Cuscuta epithymum	CUSCEPIT	.	+	.	.	+	+	.	.	+	.	.	.	.	.	.	.
Anthericum ramosum	ANTHRAMO	.	+	.	.	.	+	.	.	.	.	.	.	.	.	.	.
Filipendula vulgaris	FILIVULG	.	+	+	+	.	.	.	.	.	.	.	+	.	.	.	.
Asperula cynanchica	ASPRCYNA	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Helianthemum grandiflorum	HELIGRAN	+	+	.	.	.	.	.	.	.	+	.	.	.	.	.	.
Sanguisorba minor	SANGMINO	.	.	+	.	.	+	.	.	+	.	.	.	.	+	.	.
Scabiosa columbaria	SCABCOLU	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Carduus defloratus	CARDDEFLO	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cirsium pannonicum	CIRSPANN	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Hieracium praeltum	HIERPRAE	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.
Linum catharticum	LINUCATH	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Melica ciliata	MELICILI	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ononis spinosa	ONONSPIN	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

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	*Pres.*
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Number of relevé (Številka popisa)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Nardion Br.-Bl. 1926																	
Polygonum viviparum	POLYVIVI	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Leontodon helveticus	LEONHELV	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.
Campanula barbata	CAMPBARB	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ranunculus carinthiacus	RANUCARI	.	.	.	.	.	.	.	+	.	.	.	.	.	1	.	.
Calluno-Ulicetea Br.-Bl. et R. Tx. ex Klika et Hadač 1944																	
Anthoxanthum odoratum	ANTHODO	.	+	2	1	1	1	1	2	1	+	+	2	2	1	.	2
Rumex acetosella	RUMEACET	+	.	+	+	.	.	+	+	+	.	.	.	.	+	.	+
Hypericum maculatum	HYPEMACU	+	.	+	+	.	+	+	.	.	+	+	.	.	.	.	.
Arnica montana	ARNIMONT	.	.	.	+	.	.	+	.	.	.	+	.	.	.	.	.
Carex pallescens	CAREPALL	+	.	.	+	+	.	.	+	.	+	.	.	.	.	.	+
Dactylorhiza maculata	DACTMACU	.	.	.	.	.	.	.	+	.	.	+	.	+	.	.	.
Hypericum perforatum	HYPEPERF	.	+	.	.	.	.	.	.	.	.	.	.	.	+	.	.
Carex pilulifera	CAREPILU	.	+	.	.	.	.	.	.	.	+	.	.	.	.	.	.
Nardus stricta	NARDSTRI	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Antennaria dioica	ANTEDIOI	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calluna vulgaris	CALLVULG	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.
Seslerietalia coeruleae Br.-Bl. in Br.-Bl. et Jenny 1926																	
Betonica alopecuros	BETOALOP	+	.	+	.	.	1	.	.	.	.	.	.	.	.	.	.
Phyteuma orbiculare	PHYTORBI	+	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.
Trifolio-Geranietea sanguinei T. Müller 1961																	
Trifolium medium	TRIFMEDI	+	+	+	+	+	+	1	+	1	+	+	+	+	2	+	3
Orobanche sp.	OROBSP	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lilium bulbiferum	LILIBULB	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.
Lilium carniolicum	LILICARN	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.
Vaccionio-Piceetea Br.-Bl. 1939 em. Pass. 63																	
Deschampsia flexuosa	DESCFLEX	+	2	.	+	+	+	.	.	+	2	.	.	.	.	+	.
Luzula luzuloides	LUZULUZU	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Melampyrum pratense	MELAPRAT	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Maianthemum bifolium	MAIABIFO	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.
Calamagrostis arundinacea	CALAARUN	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.
Luzula luzulina	LUZULUZU	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.
Origanetalia Th. Müller 61																	
Clinopodium vulgare	CLINVULG	.	.	+	.	.	.	.	.	.	.	.	.	.	.	+	.
Laserpitium latifolium	LASELATI	+	+	.	.	.	+	.	.	+	.	.	.	.	.	.	.
Carex spicata	CARESPIC	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Polygonatum odoratum	POLYODOR	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Trifolium rubens	TRIFRUBE	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.
Other species																	
Cruciata glabra	CRUCGLAB	+	2	2	1	+	.	1	+	+	.	1	1	1	1	+	1
Biscutella laevigata	BISCLAEV	+	+	+	+	+	+	+	+	+	.	.	+	.	.	.	.
Alchemilla xanthochlora	ACHEXANT	+	.	+	+	.	+	+	+	+	.	+	+	.	+	.	+
Phyteuma zahlbruckneri	PHYTZAHL	+	.	.	.	.	.	+	.	+	.	+	.	+	.	.	.
Primula vulgaris	PRIMVULG	.	+	+	.	+	+	.	+	+	.	.	+	+	.	.	.
Achillea sp.	ACHISP	.	+	.	.	.	.	.	.	.	.	.	.	.	.	+	.
Tofieldia calyculata	TOFICALY	.	.	+	+	.	.	+	+	.	.	+	.	+	.	.	.
Sedum sp.	SEDUM	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.
Silene nutans	SILENUTA	.	.	.	.	+	.	+	+	.	.	.	+	.	.	.	.
Astrantia carniolica	ASTRCARN	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.
Scabiosa triandra	SCABTRIA	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Vincetoxicum hirundinaria	VINCHIRU	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

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	*Pres.*
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Number of relevé (Številka popisa)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Petrorhagia saxifraga	PETRSAXI	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.
Thalictrum aquilegiifolium	THALAQUI	.	.	.	.	.	+	.	.	+	.	.	+	.	.	.	.
Trifolium campestre	TRIFCAMP	.	+	.	.	.	.	.	.	.	.	+	.	.	.	.	.
Campanula trachelium	CAMPTRACH	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.
Helleborus niger	HELLNIG	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.
Centaurea phrygia ssp. *pseudophrygia*	CENTPHRY	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.
Aquilegia sp.	AQUIESP	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Vicia sepium	VICISEPI	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Viola tricolor	VIOLTRIC	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Alchemilla glabra	ALCHGLAB	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.
Phyteuma ovatum	PHYTOVAT	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.
Chamaecytisus supinus	CHAMSUPI	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Rhinanthus glacialis	RHINGLAC	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cirsium eriophorum	CIRSERIO	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Table 2: Analytical table of the association *Pastinaco-Arrhenatheretum* Passarge 1964.
T**abela 2:** Analitična tabela asociacije *Pastinaco-Arrhenatheretum* Passarge 1964.

Number of relevé (Številka popisa)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Altitude (m) (Nadmorska višina)	560	470	800	740	690	650	1000	900	690	1100	1100	1000	500	520	500	507	830	620
Relevé area (m) (Velikost popisne ploskve)	25	25	25	25	25	25	25	25	25	50	25	25	50	25	50	25	50	50
Exposition (Lega)	W	S	SW	S	S	S	S	S	S	E	S	S	0	0	0	0	0	SW
Inclination (°) (Naklon pobočja)	30	20	10	10	5	40	5	15	10	20	35	30	0	0	0	0	0	8
X-coordinate (X-koordinata)	467905	422656	423502	436159	443528	440616	439167	485788	477026	379454	479671	414378	484272	444856	427774	479334	447308	428153
Y-coordinate (Y-koordinata)	63164	109438	110030	112573	113115	113291	114995	120206	124169	125267	125735	127593	130576	131928	131992	132490	132879	133855
Pedologic cartographic unit (Pedološka kartografska enota – FAO)	X	CMd	CMe	CMd	CMd	CMd	CMd	CMe	CMd	LPm	CMd	LPm	CMd	CMe	LPk	CMd	CMe	CMe
Pedologic cartographic unit (Pedološka kartografska enota – PKE)	1394	1113	1110	1113	1115	1113	1115	1266	1334	1091	1202	1515	1202	1497	1079	1202	1442	216
Cover (%) (Pokrovnost)	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	95	100	100
Number of species (Število vrst)	32	47	39	31	32	34	34	33	27	36	29	30	35	26	34	33	31	41
Characteristic and differentiating species of the association																		
Campanula patula CAMPPATU	.	+	+	+	+	+	.	+	+	+	+	+	.	.	.	.	.	+
Pastinaca sativa PASTSATI	.	.	.	.	.	.	.	.	.	.	.	.	+	1	+	+	+	1
Characteristic and differentiating species of the subassociation *typicum* Passarge 1964																		
Arrhenatherum elatius ARRHELAT	4	3	4	4	4	2	1	4	4	3	3	.	4	4	4	3	4	4
Holcus lanatus HOLCLANA	1	2	+	3	3	2	+	1	3	+	1	1	+	+	1	1	.	1
Stellaria graminea STELGRAM	1	+	1	2	1	2	1	1	1	1	1	1	.	.	+	.	.	2
Ranunculus acris ssp. *acris* RANUACRI	1	+	+	1	+	+	.	1	+	+	1	+	+	.	+	+	+	+
Heracleum sphondylium HERASPHO	+	.	.	.	.	.	.	+	.	.	+	.	+	+	.	+	+	.
Characteristic and differentiating species of the subassociation *medicagetosum lupulinae* Passarge 1964																		
Anthoxanthum odoratum ANTHODO	2	2	+	2	1	3	2	3	1	1	1	1	.	+	.	.	.	.
Briza media BRIZMEDI	3	3	3	3	3	2	3	2	3	1	1	2	.	.	+	.	+	+
Salvia pratensis SALVPRAT	.	+	+	.	.	.	+	+	.	.	.	.	+	+	+	+	+	+
Knautia arvensis KNAUARVE	1	+	.	+	+	+	.	.	.	+	.	.	+	+	.	+	.	.
Pimpinella saxifraga PIMPSAXI	+	+	+	.	+	+	+	.	+	.	.	.	+	+	.	.	.	.
Medicago lupulina MEDILUPU	.	.	.	.	.	.	.	1	.	.	.	.	+	+	.	+	+	+
Galium verum ssp. *verum* GALIVERU	.	+	+	+	.	.	.	.	+	+	.	.	.	.	+	+	.	.
Bromopsis erecta BROMEREC	+	.	.	.	.	+	.	.	.	.	.	.	.	.	+	.	.	.

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	*Pres.*
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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	
615	770	1000	600	680	440	700	800	560	535	680	530	760	550	693	540	530	480	530	400	500	660	600	500	605	640	625	745	750	
25	25	25	25	25	25	25	50	25	25	25	25	25	25	25	25	50	50	25	50	50	25	50	25	25	25	25	25	50	
SW	S	SW	0	SE	NE	S	S	W	0	S	(S)W	W	0	SE	S	0	S	S	0	S	0	E	SE	SE	SW	W	S	W	
3	10	5	0	15	20	25	35	20	0	20	2	30	0	10	15	0	30	10	0	5	0	15	20	8	10	15	5	8	
538188	538899	530624	477397	481899	542769	546482	481261	437921	417086	482982	454075	452588	538353	482203	519664	546166	524992	545944	452417	478515	431577	437039	459409	440559	446899	450268	535174	536468	
141493	141979	142320	143472	148956	161448	162722	56538	113747	128769	129650	130024	130227	141175	148995	152782	163306	156966	163055	131236	131605	134878	135960	136358	136488	136804	139597	140653	141076	
CMd	CMd	CMd	LPk	CMx	CMd	CMe	LVh	CMd	CMd	CMd	LVh	CMe	CMd	CMd	CMd	CMe	CMd	CMe	CMe	CMx	CMe	LPm	LPk	CMe	CMe	LPk	CMd	CMd	
1030	1030	1781	1175	1195	1476	1474	727	1113	1521	1202	1505	1510	1030	1404	1817	1474	1816	1473	1246	1195	1434	1441	1175	1442	1433	1175	783	1030	
100	100	100	100	100	100	100	100	100	100	98	100	100	100	100	100	100	100	100	95	98	100	100	100	100	100	100	100	100	*Presence*
34	25	33	29	34	34	28	48	36	35	40	42	50	54	34	42	30	39	31	26	33	37	37	32	40	38	32	40	36	
.	+	+	+	.	+	+	+	+	+	.	+	.	.	+	+	+	+	.	.	.	.	.	.	+	+	.	.	.	III
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3	2	3	3	4	4	3	4	4	.	4	4	3	2	4	2	2	4	4	4	3	3	2	2	.	.	.	.	2	V
.	1	.	1	1	+	4	+	2	+	.	2	+	3	1	2	3	2	.	2	2	.	3	+	.	+	.	.	.	IV
+	.	+	1	1	.	1	1	+	.	2	+	1	3	1	1	1	1	.	.	.	2	+	.	+	.	1	.	1	IV
+	1	+	+	+	2	.	.	+	2	+	+	.	.	.	+	.	+	+	+	+	.	1	1	.	.	.	.	.	IV
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.	.	.	+	.	1	.	2	2	+	+	2	1	1	2	1	1	1	1	.	.	+	.	.		.	+	+		III

Number of relevé (Številka popisa)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Characteristic and differentiating species of the subassociation *lolietosum* subass. nova																			
Prunella vulgaris	PRUNVULG	.	+	+	.	+	.	.	.	1	.	.	.	+	.	1	+	+	+
Capsella bursa-pastoris	CAPSBUPA	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+
Erigeron annuus	ERIGANNU	.	+	+	.	.	+	.	.	.	.	.	.	+	.	.	.	.	+
Lolium perenne	LOLIPERE	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Phleum pratense	PHLEPRAT	.	+	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.
Arrhenatherion Koch 1926																			
Galium album	GALIALBU	+	+	+	+	+	+	+	+	.	.	+	.	+	+	+	+	.	+
Daucus carota	DAUCCARO	.	.	+	+	.	.	.	.	.	.	.	.	1	+	1	1	2	2
Pimpinella major	PIMPMAJO	+	.	+	.	.	.	.	.	.	+	+	.	1	+	.	+	+	+
Equisetum arvense	EQUIARVE	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.
Medicago sativa	MEDISATI	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.
Potentilla reptans	POTEREPT	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Arrhenatheretalia R. Tx. 1931																			
Crepis biennis	CREPBIEN	+	.	.	.	.	+	+	+	.	.	1	.	+	+	+	+	.	.
Cynosurus cristatus	CYNOCRIS	+	.	.	.	+	+	+	1	.	.	2	1	.	.	.	.	.	.
Helictotrichon pubescens	HELIPUBE	.	.	.	.	.	.	1	.	.	1	+	.	.	.	.	.	.	.
Alopecurus pratensis	ALOPPRAT	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Rumex obtusifolius	RUMEOBTU	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Colchicum autumnale	COLCAUTU	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+
Lychnis flos-cuculi	LYCHFLCU	.	.	.	.	.	.	.	+	.	+	+	.	.	.	.	.	.	.
Bromus hordeaceus	BROMHORD	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+
Astrantio-Trisetetum Knapp et Knapp ex Oberd. 1957																			
Luzula campestris	LUZUCAMP	.	+	+	+	1	.	.	+	+	+	+	1	.	.	.	.	.	.
Trifolium alpestre	TRIFALPE	1	3	+	.	.	+	+	+	.	.	+	.	.	.	.	.	.	.
Potentilla erecta	POTEEREC	.	+	+	.	1	.	.	.	+	.	.	.	.	.	.	.	+	.
Polygono-Trisetion Br.-Bl. et R. Tx. ex Marschall 1947 nom. inv.																			
Geranium sylvaticum	GERASYLV	.	.	.	.	.	+	.	.	.	.	.	.	.	.	+	+	.	.
Ranunculus nemorosus	RANUNEMO	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Crocus vernus	CROC VERN	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+
Cynosurion R. Tx. 1947																			
Bellis perennis	BELLPERE	+	+	+	+	+	+	+	+	+	+	+	+	+	.	+	+	+	+
Veronica chamaedrys	VEROCHAM	.	.	+	+	+	+	+	+	+	+	+	+	+	.	.	.	.	.
Plantago major	PLANMAJO	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.
Ranunculus repens	RANUREPE	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Molinietalia Koch 1926																			
Cirsium oleraceum	CIRSOLER	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	+	+	+
Betonica officinalis	BETOOFFI	.	+	.	1	.	.	.	.	.	.	.	.	.	.	+	.	.	.
Molinia caerulea	MOLICAER	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.
Symphytum officinale	SYMPOFFI	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Molinio-Arrhenatheretea R. Tx. 1937 em. R. Tx. 1970																			
Trisetum flavescens	TRISFLAV	3	4	4	4	4	4	4	4	4	3	5	4	4	4	4	5	4	4
Plantago lanceolata	PLANLANC	+	+	1	1	1	1	+	+	1	.	+	+	2	1	+	1	2	+
Dactylis glomerata	DACTGLOM	2	1	1	1	.	2	1	2	.	+	1	2	+	1	2	+	+	+
Trifolium medium	TRIFMEDI	2	.	1	+	+	1	2	1	.	+	1	+	2	3	1	.	+	1
Lotus corniculatus	LOTUCORNI	1	+	+	+	+	1	2	+	.	+	1	.	1	+	1	+	+	1
Trifolium pratense	TRIFPRAT	.	.	.	.	1	1	+	1	2	2	1	2	3	1	2	+	3	2
Knautia drymeia	KNAUDRYM	+	+	+	+	+	+	+	+	+	+	+	+	1	+	+	+	.	+
Vicia cracca	VICICRAC	+	+	+	+	.	.	+	+	.	+	+	+	+	+	.	+	+	+
Leucanthemum ircutianum	LEUCIRCU	2	+	2	1	2	2	2	3	.	2	+	2	2	1	+	2	1	+

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	*Pres.*
.	+	+	.	.	.	.	+	+	+	+	.	+	.	.	+	+	+	.	+	+	1	+	1	+	+	1	+	1	IV
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2	1	.	+	+	.	1	+	.	2	2	+	+	2	1	1	1	1	1	1	1	3	3	2	1	2	2	+	2	V
2	2	+	1	1	2	1	1	+	2	2	1	2	1	3	1	1	2	+	+	+	.	.	+	2	1	.	1	1	V
+	.	2	3	2	.	1	1	.	1	+	+	+	+	.	+	1	1	2	3	1	+	+	+	2	+	2	+	+	V
1	+	+	.	1	+	+	.	+	+	+	+	.	+	.	1	+	1	+	1	+	1	1	1	.	+	+	+	.	V
1	3	2	3	+	2	3	1	1	2	+	.	+	+	2	3	1	3	.	1	3	3	2	3	1	3	2	3	3	V
+	+	+	.	+	+	+	+	+	+	+	+	.	.	+	+	.	+	+	+	+	+	+	+	+	.	+	.	.	V
+	+	+	+	+	1	+	1	1	+	.	1	+	+	+	+	+	+	+	+	.	+	+	+	+	+	+	+	+	V
+	1	1	2	2	+	2	2	2	+	2	.	.	+	+	+	1	1	1	3	2	+	1	3	+	+	+	.	+	V

Number of relevé (Številka popisa)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Centaurea jacea ssp. *jacea*	CENTJACE	+	+	+	1	+	+	+	.	1	.	+	+	+	+	1	1	2	1
Tragopogon pratensis subsp. *orientalis*	TRAGPRAT	+	+	+	1	+	+	.	+	+	.	+	.	+	+	+	+	+	+
Festuca pratensis	FESTPRAT	1	.	+	1	.	.	3	1	1	1	+	2	.	.	+	+	.	+
Leontodon hispidus	LEONHISP	2	1	1	1	.	.	2	.	.	.	1	2	1	2	2	2	1	2
Achillea millefolium	ACHIMILL	+	1	1	1	1	1	1	+	+	2	+	+	2	1	2	2	1	+
Lathyrus pratensis	LATHPRAT	.	+	+	+	.	+	+	+	.	+	+	.	.	.	.	.	+	.
Poa pratensis	POAPRAT	1	.	.	+	+	1	.	+	1	.	1	.	.	.	.	.	.	.
Euphrasia rostkoviana	EUPHROST	+	+	+	.	.	.	.	+	.	.	.	+	.	.	.	.	+	.
Festuca rubra	FESTRUBR	.	+	.	.	.	.	.	.	.	+	.	+	.	.	.	.	+	.
Deschampsia cespitosa	DESCCESP	.	+	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.
Rumex acetosa	RUMEACET	.	.	+	+	.	.	.	+	.	.	.	.	+	.	.	.	.	.
Taraxacum officinale	TARAOFFI	.	.	.	.	.	.	.	.	.	.	.	.	+	+	.	.	.	+
Poa trivialis	POATRIV	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	+	+
Holcus mollis	HOLCMOLL	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.
Ajuga reptans	AJUGREPT	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Mesobromion Br.-Bl. et Moor 38 em. Oberd. 49																			
Silene vulgaris	SILEVULG	.	+	.	.	.	+	.	.	.	+	+	.	+	+	+	.	.	+
Thymus pulegioides	THYMPULE	.	1	+	1	+	.	.	+	+	+	.	+	+	.	.	.	.	+
Salvia verticillata	SALVVERT	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Veronica teucrium	VEROTEUR	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.
Brometalia erecti Br.-Bl. 1937																			
Plantago media	PLANMEDI	.	.	+	.	.	.	.	.	.	.	.	.	+	.	+	+	.	.
Anthyllis vulneraria	ANTHVULN	.	.	.	.	.	.	+	.	.	.	.	+	.	.	.	.	.	.
Polygala vulgaris	POLYVULG	.	.	+	.	+	.	+	.	+	+	+	+	.	.	.	.	.	.
Carex flacca	CAREFLAC	+	+	.	.	.	.	+	+	.	.	.	.	.	.	.	.	.	.
Prunella grandiflora	PRUNGRAN	.	.	.	.	.	.	.	.	+	.	.	.	.	.	+	.	.	.
Carlina acaulis	CARLACAU	.	.	.	.	.	.	+	.	.	.	.	+	.	.	.	.	.	.
Chamaespartium sagittale	CHAMSAGI	.	.	.	+	+	.	.	.	.	.	.	+	.	.	.	.	.	.
Gymnadenia conopsea	GYMNCONO	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.
Polygala chamaebuxus	POLYCHAM	+	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.
Trifolium montanum	TRIFMONT	.	.	.	.	1	.	.	.	+	.	.	.	.	.	.	.	.	.
Campanula glomerata	CAMPGLOM	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Festuco-Brometea Br.-Bl. et R. Tx. ex Klika et Hadač 1944																			
Rhinanthus freynii	RHINALEC	+	+	1	+	+	+	2	1	.	1	1	1	.	.	1	.	+	+
Sanguisorba minor	SANGMINO	+	.	.	.	.	+	+	.	.	.	.	.	.	.	.	+	.	.
Centaurea scabiosa	CENTSCAB	+	.	.	.	+	.	.	.	.	.	.	.	+	.	.	.	.	.
Allium carinatum	ALLICAARI	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+
Hieracium praeltum	HIERPRAE	.	+	.	+	+	.	.	.	+	.	.	.	.	.	.	.	.	.
Ononis spinosa	ONONSPIN	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.
Filipendula vulgaris	FILIVULG	.	.	.	2	.	.	.	.	.	.	.	.	.	.	+	.	.	.
Helianthemum ovatum	HELIOVAT	.	+	.	.	1	.	.	.	+	.	.	.	.	.	.	.	.	.
Cuscuta epithymum	CUSCEPIT	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Euphorbia cyparissias	EUPHCYPA	.	.	.	.	+	+	.	.	+	.	.	.	.	.	.	.	.	.
Anthericum ramosum	ANTHRAMO	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.
Centaurium erythraea	CENTERYT	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Brachypodium rupestre	BRACRUPE	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Phleum phleoides	PHLEPHLE	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Calluno-Ulicetea Br.-Bl. et R. Tx. ex Klika et Hadač 1944																			
Rumex acetosella	RUMEACET	.	+	.	.	+	+	.	.	+	+	+	+	.	.	.	.	.	.
Hypericum perforatum	HYPEPERF	.	.	+	+	.	.	.	.	.	+	.	.	.	.	.	.	.	+
Hypericum maculatum	HYPEMACU	+	+	.	+	.	+	.	.	.	.	.	+	.	.	.	.	.	.
Agrostis tenuis	AGROTENN	.	+	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.
Carex pallescens	CAREPALL	+	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

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	*Pres.*
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1	1	+	2	.	.	1	+	2	.	1	.	+	.	1	2	1	1	.	.	.	1	.	+	.	.	.	1	1	IV
.	.	+	.	.	.	1	2	1	.	2	+	1	.	1	1	1	2	1	1	2	.	2	2	.	.	2	+	1	IV
+	.	1	+	+	+	2	1	+	+	.	+	+	1	1	+	+	+	1	1	1	1	2	1	+	+	2	2	+	V
+	.	+	+	+	+	+	+	.	.	.	.	+	+	+	.	+	+	+	.	.	+	+	+	.	+	.	.	.	III
.	1	+	.	+	+	+	1	+	.	.	+	+	.	3	.	+	+	1	.	.	.	.	.	.	.	.	.	.	III
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Number of relevé (Številka popisa)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Leontodon helveticus	LEONHELV	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Nardus stricta	NARDSTRI	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.
Origanetalia Th. Müller 61																			
Silene nutans	SILENUTA	.	.	.	.	.	.	+	+	.	.	+	+	.	.	+	.	.	+
Clinopodium vulgare	CLINVULG	.	+	.	.	.	.	.	.	.	.	.	.	1	+	.	.	.	+
Orobanche sp.	OROBSP	.	+	.	.	.	.	.	.	.	.	.	.	.	+	+	+	.	.
Origanum vulgare	ORIGVULG	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+
Laserpitium latifolium	LASELATI	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Secalietea Br-Bl. 51																			
Agropyron repens	AGROREPE	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.
Lolium multiflorum	LOLIMULT	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.
Poa annua	POAANNU	.	+	.	.	.	.	.	+	.	.	.	.	.	.	.	.	.	.
Other species																			
Convolvulus arvensis	CONVARVE	.	.	.	+	.	.	.	.	.	.	.	.	+	.	.	.	.	.
Cruciata glabra	CRUCGLAB	.	1	1	+	2	.	.	.	2	+	1	.	.	.	.	.	1	.
Trifolium campestre	TRIFCAMP	.	+	.	.	+	.	+	.	+	.	.	.	.	.	+	.	.	.
Alchemilla xanthochlora	ALCHXANT	+	.	+	+	.	.	+	+	.	+	+	+	.	.	.	.	+	.
Deschampsia flexuosa	DESCFLEX	.	.	+	.	.	.	.	.	+	1	.	.	.	.	.	.	.	.
Sedum reflexum	SEDUREFL	+	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Galium lucidum	GALILUCI	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Achillea sp.	ACHIATRA	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Campanula trachelium	CAMPTRAC	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.
Primula vulgaris	PRIMVULG	.	.	.	.	.	.	.	.	.	.	.	.	.	.	+	.	.	.
Calamagrostis arundinacea	CALAARUN	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Petrorhagia saxifraga	PETRSAXI	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cirsium arvense	CIRSARV	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cirsium eriophorum	CIRSERIO	.	.	+	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Phyteuma zahlbruckneri	PHYTZAHL	.	.	.	.	.	.	.	.	.	+	.	.	.	.	.	.	.	.
Scabiosa triandra	SCABTRIA	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Vaccaria pyramidata	VACCPYRA	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

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Appendix to the tables 1 and 2: Interpretation of pedological cartographic units.
Dodatek k tabelama 1 in 2: Pojasnilo k pedološkim kartografskim enotam.

FAO	FAO_TYPE	FAO_TIPI	PKE	PKET
CMe	Eutric Cambisol	CMe_100%	216	EVT RJ / DELUVIJU, KOLUVIALNA_100%
LVh	Haplic Luvisol	LVh_100%	727	IZPRANA (LUVISOL) / PLIOC SEDIMENTIH, tip_100%
CMd	Dystric Cambisol	CMd_100%	783	DIS RJ / GNAJSU, tip gl_100%
CMd	Dystric Cambisol	CMd_70%, LPd_30%	1030	DIS RJ / METAMORFNIH kam tip 70%, RANKER, DIS REGOLITIČNI_30%
LPk	Rendzic Leptosol	LPk_50%, LPk_50%	1079	RENDZINA / apn + dol PRHNINASTA 50%, RENDZINA / apn + dol SPRSTENINASTA_50%
LPm	Mollic Leptosol	LPm_50%, LPm_50%	1080	RENDZINA / MORENI, PRHNINASTA 50%, RENDZINA / MORENI, SPRSTENINASTA_50%
CMd	Dystric Cambisol	CMd_80%, CMd_20%	1083	DIS RJ / DELUVIJU, tip 80%, DIS RJ / DELUVIJU, KOLUVIALNA_20%
LPm	Mollic Leptosol	LPm_70%, LPq_30%	1089	RENDZINA / POBOČNEM GRUŠČU, PRHNINASTA 70%, LITOSOL, KARB / POBOČNEM GRUŠČU_30%
LPm	Mollic Leptosol	LPm_80%, LPm_20%	1090	RENDZINA / POBOČNEM GRUŠČU, PRHNINASTA 80%, RENDZINA / POBOČNEM GRUŠČU, SPRSTENINASTA_20%
LPm	Mollic Leptosol	LPm_80%, CMe_20%	1091	RENDZINA / MORENI, SPRSTENINASTA 80%, EVT RJ / MORENI, tip_20%
CMd	Dystric Cambisol	CMd50%, CMe_30%, CMd_20%	1093	DIS RJ / NENEKARB FLIŠU + DEKALCIFICIRANEM LAPORJU, tip 50%, EVT RJ / PALEOCENSKEM + KREDNEM FLIŠU, tip_30%, DIS RJ / NENEKARB FL
CMe	Eutric Cambisol	CMe_80%, LPe_20%	1110	EVT RJ / MEŠANIH karb + nekarb kam tip 80%, RANKER, EVT REGOLITIČNI_20%
CMd	Dystric Cambisol	CMd_80%, LPd_20%	1113	DIS RJ / PERMO-KARBONSKIH skril + pešč tip 80%, RANKER, DIS EROZIJSKI_20%
CMd	Dystric Cambisol	CMd_80%, LPd_20%	1115	DIS RJ / GRODENSKIH pešč tip 80%, RANKER, DIS EROZIJSKI_20%
LPm	Mollic Leptosol	LPm_60%, LPm_40%	1126	RENDZINA / MORENI, PRHNINASTA 60%, RENDZINA / MORENI, KOLUVIALNA_40%
LPk	Rendzic Leptosol	LPk_70%, LPk_30%	1136	RENDZINA / apn + dol SPRSTENINASTA 70%, RENDZINA / apn + dol PRHNINASTA_30%
LPm	Mollic Leptosol	LPm60%, LPm_20%, LPm_20%	1137	RENDZINA / POBOČNEM GRUŠČU, SPRSTENINASTA 60%, RENDZINA / POBOČNEM GRUŠČU, PRHNINASTA_20%, RENDZINA / POBOČNEM GRUŠČU, KOLUVIA
LPm	Mollic Leptosol	LPm50%, LPm_30%, LPm_20%	1138	RENDZINA / MORENI, SPRSTENINASTA 50%, RENDZINA / MORENI, PRHNINASTA_30%, RENDZINA / MORENI, SUROVI HUMUS_20%
CMe	Eutric Cambisol	CMe_80%, CMe_20%	1141	EVT RJ / LED DOB prod + pešč NASUTINAH REK + REČ VRŠAJU, tip 80%, EVT RJ / MORENI, OGLEJENA_20%
CMe	Eutric Cambisol	CMe_80%, LPe_20%	1143	EVT RJ / DELUVIJU, tip 80%, RANKER, EVT REGOLITIČNI_20%
CMe	Eutric Cambisol	CMe_80%, LPm_20%	1151	EVT RJ / POBOČNEM GRUŠČU, tip 80%, RENDZINA / POBOČNEM GRUŠČU, SPRSTENINASTA_20%
LPk	Rendzic Leptosol	LPk70%, LPk_20%, LPk_10%	1175	RENDZINA / apn + dol SPRSTENINASTA 70%, RENDZINA / apn + dol PRHNINASTA_20%, RENDZINA / apn + dol RJ_10%
LPk	Rendzic Leptosol	LPk40%, LPk_30%, CMx_30%	1190	RENDZINA / apn + dol RJ 40%, RENDZINA / apn + dol SPRSTENINASTA_30%, RJ POKARB / apn + dol tip_30%
CMx	Chromic Cambisol	CMx_70%, LPk_30%	1195	RJ POKARB / apn + dol tip 70%, RENDZINA / apn + dol SPRSTENINASTA _30%
CMd	Dystric Cambisol	CMd_70%, LPd_30%	1202	DIS RJ / PIROKLASTIČNIH kam tip 70%, RANKER, DIS REGOLITIČNI _30%
LPd	Dystric Leptosol	LPd80%, CMd_10%, CMd_10%	1205	RANKER, DIS REGOLITIČNI 80%, DIS RJ / MAGMATSKIH kam tip pl_10%, DIS RJ / PIROKLASTIČNIH kam tip pl_10%
CMe	Eutric Cambisol	CMe_80%, LPm_20%	1246	EVT RJ / DELUVIJU, tip 80%, RENDZINA / POBOČNEM GRUŠČU, SPRSTENINASTA_20%
CMd	Dystric Cambisol	CMd_70%, CMd_30%	1248	DIS RJ / PERMO-KARBONSKIH skril + pešč tip 70%, DIS RJ / PERMO-KARBONSKIH skril + pešč IZPRANA_30%
CMe	Eutric Cambisol	CMe_80%, LPe_20%	1266	EVT RJ / RAZLIČNIH BAZIČNIH kam tip 80%, RANKER, EVT REGOLITIČNI_20%
CMd	Dystric Cambisol	CMd50%, CMd_30%, CMd_20%	1334	DIS RJ / METAMORFNIH kam tip 50%, DIS RJ / KREMENOVEM KERATOFIRJU/ PORFIRJU, tip_30%, DIS RJ / DIABAZU, tip_20%

CMe	Eutric Cambisol	CMe60%, LPe_20%, CMd_20%	1340	EVT RJ / MEŠANIH karb + nekarb kam tip sr gl 60%, RANKER, EVT REGOLITIČNI_20%, DIS RJ / PERMO-KARBONSKIH skril + pešč tip pl
LPm	Mollic Leptosol	LPm_80%, CMe_20%	1341	RENDZINA / MORENI, SPRSTENINASTA 80%, EVT RJ / MORENI, tip pl_20%
X	X	LPk_50%, CMx_50%	1394	RENDZINA / dol SPRSTENINASTA 50%, RJ POKARB / dol tip_50%
CMd	Dystric Cambisol	CMd60%, LPd_20%, CMd_20%	1404	DIS RJ / FILITOIDNIH skril tip gl 60%, RANKER, DIS REGOLITIČNI_20%, DIS RJ / METAMORFNIH kam tip_20%
CMe	Eutric Cambisol	CMe60%, LPe_20%, CMe_20%	1430	EVT RJ / MEŠANIH karb + nekarb kam tip 60%, RANKER, EVT REGOLITIČNI_20%, EVT RJ / MEŠANIH karb + nekarb kam IZPRANA_20%
CMe	Eutric Cambisol	CMe_80%, CMe_20%	1433	EVT RJ / POBOČNEM GRUŠČU, tip pl 80%, EVT RJ / POBOČNEM GRUŠČU, tip sr gl_20%
CMe	Eutric Cambisol	CMe_80%, CMe_20%	1434	EVT RJ / LED DOB prod + pešč NASUTINAH REK + REČ VRŠAJU, tip pl 80%, EVT RJ / LED DOB prod + pešč NASUTINAH REK + REČ VRŠAJU, tip
LPm	Mollic Leptosol	LPm_60%, LPm_40%	1441	RENDZINA / LED DOB prod + pešč NASUTINAH REK + REČ VRŠAJU, SPRSTENINASTA 60%, RENDZINA / LED DOB prod + pešč NASUTINAH REK + REČ
CMe	Eutric Cambisol	CMe_80%, CMe_20%	1442	EVT RJ / aluv -koluv NANOSU, KOLUVIALNA 80%, EVT RJ / aluv -koluv NANOSU, tip sr gl_20%
CMe	Eutric Cambisol	CMe_70%, CMd_30%	1473	EVT RJ / MIOCENSKIH pes pešč kongl tip 70%, DIS RJ / MIOCENSKIH pes pešč + kongl tip_30%
CMe	Eutric Cambisol	CMe_80%, ATa_20%	1474	EVT RJ / MIOCENSKIH pes pešč kongl tip 80%, RIGOLANA, VINOGRADNIŠKA (VITISOL), EVT_20%
CMd	Dystric Cambisol	CMd_70%, LPd_30%	1476	DIS RJ / METAMORFNIH kam tip 70%, RANKER, DIS EROZIJSKI_30%
CMe	Eutric Cambisol	CMe40%, CMe_30%, CMe_30%	1497	EVT RJ / LED DOB prod + pešč NASUTINAH REK + REČ VRŠAJU, tip gl 40%, EVT RJ / LED DOB prod + pešč NASUTINAH REK + REČ VRŠAJU, IZPRA
CMe	Eutric Cambisol	CMe_60%, LPm_40%	1504	EVT RJ / MORENI, tip pl 60%, RENDZINA / MORENI, SPRSTENINASTA _40%
LVh	Haplic Luvisol	LVh_60%, LVh_40%	1505	IZPRANA (LUVISOL) / KONGLOMERATU, PSEVDOOGLEJENA 60%, IZPRANA (LUVISOL) / KONGLOMERATU, tip_40%
CMe	Eutric Cambisol	CMe_80%, CMe_20%	1510	EVT RJ / SIVICI, tip 80%, EVT RJ / SIVICI, IZPRANA_20%
LPm	Mollic Leptosol	LPm_60%, LPm_40%	1515	RENDZINA / LED DOB prod + pešč NASUTINAH REK + REČ VRŠAJU, SPRSTENINASTA 60%, RENDZINA / LED DOB prod + pešč NASUTINAH REK + REČ
CMd	Dystric Cambisol	CMd_70%, CMe_30%	1521	DIS RJ / NENEKARB FLIŠU + DEKALCIFICIRANEM LAPORJU, tip 70%, EVT RJ / DELUVIJU, tip_30%
FLc	Calcaric Fluvisol	FLc_70%, FLc_30%	1527	OBREČNA, KARB sr gl / ILOVNATEM ALUVIJU70%, OBREČNA, KARB GLOBOKO OGLEJENA/ PEŠČENO PRODNATEM ALUVIJU_30%
CMd	Dystric Cambisol	CMd60%, CMd_30%, LPd_10%	1781	DIS RJ / BIOTITNO-MUSKOVITNEM BLESTNIKU, tip SR gl 60%, DIS RJ / BIOTITNO-MUSKOVITNEM BLESTNIKU, tip gl_30%, RANKER, DIS REGO
CMd	Dystric Cambisol	CMd60%, CMd_20%, CMd_20%	1816	DIS RJ / GNAJSU, tip pl 60%, DIS RJ / FILITOIDNIH skril tip pl_20%, DIS RJ / DIABAZU, tip pl_20%
CMd	Dystric Cambisol	CMd60%, LPd_20%, CMd_20%	1817	DIS RJ / TONALITU, tip pl 60%, RANKER, DIS RJAV_20%, DIS RJ / TONALITU, KOLUVIALNA_20%

Source (Vir): Ministrstvo za kmetijstvo, gozdarstvo in prehrano.