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SYNANTHROPIC VEGETATION OF THE CITY OF KRANJ (CENTRAL SLOVENIA)

Urban ŠILC* & Petra KOŠIR*

Abstract
The city represents a special environment with characteristic site factors: higher temperature, lower radiation, higher pollution, sealed soils... Studies of synanthropic vegetation in urban environment are rare in Slovenia. The article presents a survey of spontaneous synanthropic vegetation and its distribution in various parts of the city of Kranj. Vegetation is classified into classes: *Asplenietea trichomanis*, *Koelerio-Corynephoretea*, *Polygono-Poetea*, *Stellarietea mediae*, *Artemisietea*, *Galio-Urticetea* and *Molinio-Arrhenatheretea*.
Key words: synanthropic vegetation, phytosociology, Slovenia

Izvleček
Mesto predstavlja posebno okolje z značilnimi rastiščnimi razmerami: višjo temperaturo, nižjim sevanjem, večjo onesnaženostjo, tlakovanimi tlemi ... Raziskave sinantropne vegetacije so bile dosedaj v Sloveniji redke. V članku sta predstavljena pregled spontane sinantropne vegetacije in njena razširjenost v različnih predelih mesta Kranj. Vegetacijo smo uvrstili v razrede: *Asplenietea trichomanis*, *Koelerio-Corynephoretea*, *Polygono-Poetea*, *Stellarietea mediae*, *Artemisietea*, *Galio-Urticetea* in *Molinio-Arrhenatheretea*.
Ključne besede: sinantropna vegetacija, fitocenologija, Slovenija

INTRODUCTION

Synanthropic vegetation of medium size settlements differs from ruderal vegetation of open rural landscapes and from urban vegetation of large cities. As such, a city is intermediate in the sense of population, the same is valid for the ecology of vegetation. City area is usually defined by a population of more than 100 000 and density of at least 1000 inhabitants per km^2 (Sukopp & Werner 1983) and rural area by agricultural land-use. A medium size city can be defined as a suburban ecosystem and shares characteristics of both vegetation types (rural and urban) that should indicate land-use history and future development because of further urbanization.

Review of urban vegetation research in Europe (Mucina 1990) shows a gap in research of these vegetation types of Slovenia. Although 15 years has passed since this publication, not much has changed. In the present paper we try to classify synanthropic vegetation of medium size city and make a stepping stone towards other studies in larger and more urbanized areas in Slovenia.

STUDY AREA

Kranj is a city with 35 000 inhabitants, together with the surroundings the population it grows to 55 000 and is the fourth largest city in Slovenia. The municipality extends over 150.9 km^2 and the city, in narrower sense, over 26.3 km^2. Density of population is 339.4 and 1354.2 inhabitants per km^2 respectively. The city is built on the confluence of two rivers, the Kokra and Sava, and has a long history of

* Institute of Biology, Scientific Research Centre of the Slovenian Acadamy of Sciences and Arts, Novi trg 2, SI-1000 Ljubljana.

settlement. Kranj was first mentioned as a city 750 years ago (*In civitate Creinburch*). Industrialisation and urbanization after World Wars I. and II. has led to growth of urban areas and population.

City boundaries range between 350–400 m a.s.l. (Figure 1). Longterm average temperature for Brnik is 8.3° C and precipitation 1387 mm per year.

According to the phytogeographical division by M. Wraber (1969), Kranj is in the pre-Alpine phytogeographical region.

Canyon of the Kokra river and the Sava river banks were excluded from the survey.

METHODS

The vegetation survey was made according to the Braun-Blanquet (1964, Westhoff & van der Maarel 1973) method. The nomenclature of vascular plants follows Ehrendorfer (1973) and the nomenclature of mosses is according to Martinčič (2003).

Phytosociological tables and calculation of Ellenberg indicator values (EIV) were made by Juice programme (Tichý 2002). Information on hemeroby and urbanity indexes was taken from Biolflor database (Klotz et al. 2002) and calculated according to Bornkamm (2002). For ordination of relevés CANOCO (ter Braak & Šmilauer 2002) was used.

Zlatnik's combined scale was used in synoptic table of all communities (Table 8). These values combine species relative frequencies with maximum cover and are avilable in Juice programme (Tichý 2002).

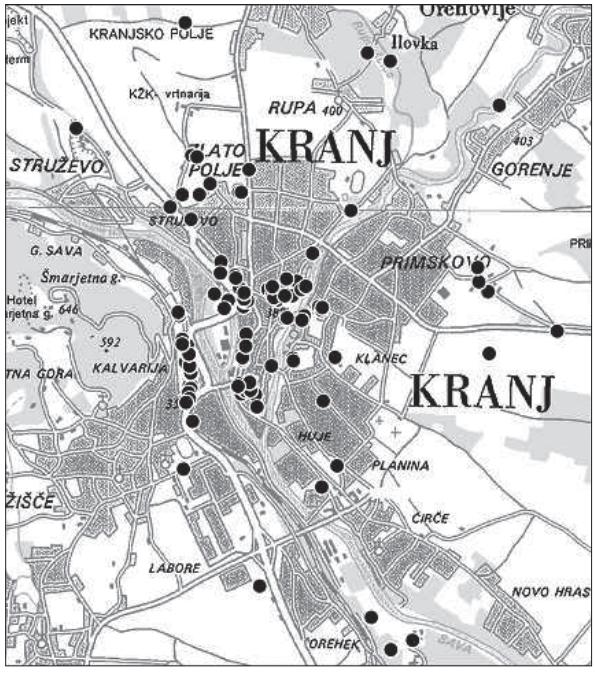

Figure 1: Distribution of 115 researched stands.
Slika 1: Razširjenost 115 proučevanih sestojev.

RESULTS

ASPLENIETEA TRICHOMANIS (Br.-Bl. in Meier et Br. Bl. 1934) Oberd. 1977
Tortulo-Cymbalarietalia Segal 1969
Cymbalario-Asplenion Segal 1969 em. Mucina 1993
Asplenietum ruta-murariae-trichomanis Kuhn 1937 (Tab. 2, relevés 1–8)
Cymbalarietum muralis Görs 1966 (Tab. 2, relevés 9–16)

Wall vegetation is under researched. Relevés exist only from Kras (Poldini 1980) and Posočje (Dakskobler et al. 1996). Surina & Seliškar (2001) studied walls in Ljubljana, but without relevé material.

Both associations are found in cracks and gaps of old stony, vertical walls, mainly in the centre of the city. The first association *Asplenietum ruta-murariae-trichomanis* is charaterized by dominance of both ferns, the second by species *Cymbalaria muralis*. Sites of the latter are more nutrient rich and shaded.

POLYGONO-POETEA ANNUAE Rivas-Martínez 1975 corr. Rivas-Martínez et al. 1991
Polygono arenastri-Poetalia annuae R. Tx. in Géhu et al. 1972 corr. Rivas-Martinez et al. 1991
Matricario matricarioidis-Polygonion arenastri Rivaz-Martínez 1975 corr. Rivas-Martínez et al. 1991
Matricario-Polygonetum arenastri T. Müller in Oberd. 1971 (Tab. 3, relevés 1–8)
Poetum annuae Felföldy 1942 (Tab. 3, relevés 9–10)
Saginion procumbentis R.Tx. et Ohba in Géhu et al. 1972
Sagino procumbentis-Bryetum argentei Diemont et al. 1940 (Tab. 3, relevé 11)

Trampled vegetation was the object of several studies in Slovenia (Marković 1984, 2000, 2005, Babij et al. 1996, Babij 2003, Čarni 2005).

Association *Matricario-Polygonetum arenastri* is the central association of the class and is found on mechanically disturbed, skelet rich and sunny sites. *Poetum annuae* (syntaxonomical rank is different by various authors) thrives on shaded sites with better soil.

Sagino procumbentis-Bryetum argentei is found in Kranj on moist soils, between stony slabs.

STELLARIETEA MEDIAE R. Tx., Lohmeyer et Preising in R. Tx. ex von Rochow 1951
Centaureetalia cyani R. Tx., Lohmeyer et Preising in R. Tx. ex von Rochow 1951
Veronico-Euphorbion Sissingh ex Passarge 1964
Veronicetum trilobae-triphyllidi Slavnić 1951 (Tab. 4, relevé 1)
Atriplici-Chenopodietalia albi R. Tx. (1937) Nordhagen 1940
Spergulo-Oxalidion Görs in Oberd. et al. 1967
Hyoscyamo-Chenopodietum hybridi Mucina 1993 (Tab. 4, relevés 2–3)
Panico-Chenopodietum polyspermi R. Tx. 1937 (Tab. 4, relevés 4–7)
Sorghum halepense community (Tab. 4, relevé 8)
Eragrostietalia J. Tx. ex Poli 1966
Eragrosti-Polygonion arenastri Couderc et Izco ex Čarni et Mucina 1998
Eragrostio-Polygonetum arenastri Oberd. 1954 corr. Mucina 1993 (Tab. 4, relevés 9–13)
Portulaco-Euphorbietum maculatae (Brandes 1993) Čarni et Mucina 1998 (Tab. 4, relevés 14–17)
Sisymbrietalia J. Tx. in Lohmeyer et al. 1962
Sisymbrion officinalis R. Tx., Lohmeyer et Preising in R. Tx. 1950
Erigeronto-Lactucetum serriolae Lohmeyer in Oberd. 1957 em. Mucina 1978 (Tab. 4, relevés 18–25)
Hordeetum murini Libbert 1933 (Tab. 4, relevés 26–31)
Linario-Brometum tectorum Knapp 1961 (Tab. 4, relevé 32)
Hyoscyamo-Malvetum neglectae Aichinger 1933 (Tab. 4, relevé 33)
Tripleurospermum inodorum community(Tab. 4, relevé 34)
Bromus sterilis community (Tab. 4, relevé 35)

Weed vegetation is one of the most researched vegetation types in Slovenia (Zalokar 1939, Marković 1984, 2000, 2005, Seljak 1989, Kaligarič 1992, 2001, Čarni 1997, Šilc 2004, 2005a, 2005b)

Ephemereous association *Veronicetum trilobae-triphyllidi* is rare in the urban environment. It is found on exposed soil. Association *Panico-Chenopodietum polyspermi* is the most widespread hoe weed vegetation and is found on tenant gardens of individual houses and some fields in the suburbia. Stands dominated by *Sorghum halepense* are potentially urban, more common are those in agricultural landscape. *Chenopodium hybridum* forms stands on freshly exposed, moist and nutrient rich soils.

Associations *Eragrostio-Polygonetum arenastri* and *Portulaco-Euphorbietum maculatae* are characteristic for trampled and extremly warm sites in urban areas.

Association *Erigeronto-Lactucetum serriolae* is a biannual weed association following the successional trajectory of weed vegetation. It is dominated by *Lactuca serriola* and composed of species of classes *Stellarietea mediae* and *Artemisietea* depending on the age of stands.

Hordeetum murini is a prominent vegetation type dominated by annual grass *Hordeum murinum* especially in early summer, when grass turns yellow. It is found on sandy soil, often on parking places and green plots.

Habitat of *Linario-Brometum tectorum* is at the railway station, on sunny rubble between abandoned railway tracks.

Hyoscyamo-Malvetum neglectae is a nitrophilous association found at the base of walls.

Two communities classified within *Sisymbrietalia* order are charaterized by dominating species *Tripleurospermum inodorum* and *Bromus sterilis*. The first is found on deposited soil near purifying plant, the second on warm rubble between railway tracks.

ARTEMISIETEA Lohmeyer et al. in R. Tx. 1950
Onopordetalia acanthii Br.Bl. et R. Tx. ex Klika et Hadač 1944
Onopordion acanthii Br.-Bl. et al. 1936
Potentillo-Artemisietum absinthii Faliński 1965 (Tab. 5, relevé 1)
Dauco-Melilotion Görs 1966
Echio-Melilotetum R. Tx. 1947 (Tab. 5, relevés 2–3)
Dauco-Picridetum Görs 1966 (Tab. 5, relevés 4–9)
Odontitio-Ambrosietum Jarolímek et al. 1997 (Tab. 5, relevés 10–14)
Melilotus alba community (Tab. 5, relevé 15)
Arction lappae R. Tx. 1937
Balloto-Malvetum sylvestris Gutte 1966 (Tab. 5, relevé 16)
Urtico-Chenopodietum boni-henrici R. Tx. 1937 (Tab. 5, relevés 17–18)
Lamio-Ballotetum nigrae Lohmeyer 1970 ex Seybold et Müller 1972 (Tab. 5, relevés 19–21)

Several studies about *Artemisietea* communities exist on the territory of Slovenia (Zalokar 1939,

Marković 1984, 2000, 2005, Poldini 1989, Seljak 1989, Kaligarič 1992, Čarni 1995, Zelnik 2000, Čušin 2001, Šilc 2001, 2002).

Association *Potentillo-Artemisietum absinthii* is characterized by silver-grey leaves of *Artemisia absinthum*. Sites are dry, classified into the *Onopordion* alliance, but closely related to *Dauco-Melilotion*. Association was not found in Slovenia so far, but some sites are also documented in neighbouring region.

Echio-Melilotetum and *Melilotus alba* community share similar ecological characteristics. The latter community is a fragment of the association *Echio-Melilotetum*. Both thrive on warm, sandy soils and form species rich stands. *Odontitio-Ambrosietum* is a rather new community of invasive species spreading along transport routes. It is found at railway station between abandoned railway tracks. In Kranj was not found along roads as it is common in SE Slovenia (Šilc 2002). *Dauco-Picridetum* is charateristic for road and railway verges. Stands on railways are species poorer than in agricultural landscape (vineyards).

Both stands of *Urtico-Chenopodietum boni-henrici* were found at the base of the wall. Association *Lamio-Ballotetum nigrae* also thrives on nutrient rich soils. All sites of both associations are located in former rural parts of city, where stables were present. *Lamio-Ballotetum nigrae* was so far recorded in Slovenia only for the Sub-Pannonian phytogeographic region (Marković 2000).

GALIO-URTICETEA Passarge ex Kopecký 1969
Lamio albi-Chenopodietalia boni-henrici Kopecký 1969
Galio-Alliarion (Oberd. 1957) Lohmeyer et Oberd. in Oberd. et al. 1967
Torilidetum japonicae Lohmeyer ex Görs et T. Müller 1969 (Tab. 6, relevé 1)
Urtico-Parietarietum officinalis Segal in Mennema et Segal ex Klotz 1985 (Tab. 6, relevés 2–8)
Geo urbani-Chelidonietum maji Jarolímek et al. 1997 (Tab. 6, relevés 9–15)
Physalidetum alkekengi Kaiser 1926 (Tab. 6, relevé 16)
Impatienti noli-tangere-Stachyion sylvaticae Görs ex Mucina 1993
Epilobio-Geranietum robertiani Lohmeyer ex Görs et T. Müller 1969 (Tab. 6, relevés 17–18)
Agropyro-Aegopodietum podagrariae R. Tx. 1967 em. Neuhäuslová-Novotnä et al. 1969 (Tab. 6, relevés 19–20)
Stachyo-Impatientetum noli-tangere (Passarge 1967) Hilbig 1972 (Tab. 6, relevés 21–22)
Galeopsis tetrahit community (Tab. 6, relevés 23–25)

Communities of class *Galio-Urticetea* are widely distributed and researched (Marković 1984, 2000, 2005, Čarni 1995).

Torilidetum japonicae is a very heterogeneous community (Mucina et al. 1993). It was found at the railway station, and more *Artemisietea* species are present.

Urtico-Parietarietum officinalis is a nitrophilous community found in shaded places along walls, hedgerows and around trees.

Geo urbani-Chelidonietum maji is new for Slovenia. Stands dominated by *Chelidonium majus* are found on nutrient rich, moist soils at the base of walls, fences and under conglomerate overhanging rock.

Epilobio-Geranietum robertiani is confined to moist, shaded places (often under projecting roofs), soils are skeletonal.

In Kranj *Agropyro-Aegopodietum podagrariae* thrive along paths and roads, shaded by hedgerows and trees in the vicinity. Soils are moist and nitrate rich.

Stands of *Physalidetum alkekengi* are subspontane, but can be found also on some other places in Kranj. They are found at the edges of hedgerows and forests. The association is new for Slovenia, but some stands were also detected in other parts of the country (near Gabrovka, Šilc unpublished).

Previously stands of *Impatiens noli-tangere* were classified as *Circeetum intermediae* (Mucina et al. 1993). That is a dubious name, as association is dominated by *Impatiens noli-tangere,* so classification into *Stachyo-Impatientetum noli-tangere* was used. Originally the community is tied to heliophilous gaps in lowland forests. In our case it is found as edge shaded by trees or neighbouring buildings.

Stands constituted of *Galeopsis tetrahit* are found in shaded places as tall herb edge communities along margins of hornbeam forest patches or walls.

KOELERIO-CORYNEPHORETEA Klika in Klika et Novák 1941
Alysso-Sedetalia Moravec 1967
Alysso alyssoidis-Sedion albi Oberd. et T. Müller in T. Müller 1961
Saxifrago-Poetum compressae (Kreh 1945) Géhu et Leriq 1957 (Tab. 7, relevé 1)
Saxifraga tridactylites community (Tab. 7, relevés 2–6)

This only fragmentary developed vegetation type is mentioned by Surina & Seliškar (2001).

This vegetation type is most often found at railway stations and on road bankette during spring

on fine sand in Slovenia. Stands with both character species *Saxifraga tridactylites* and *Poa compressa* are rare, but fragmentary developed stands are common. Similar findings are reported from Germany and Czech Republic (Mattheis & Otte 1989, Brandes 1993, Duchoslav 2002).

MOLINIO-ARRHENATHERETEA R. Tx. 1937 em. R. Tx. 1970
Arrhenatheretalia R. Tx. 1931
Arrhenatherion Koch 1926
Cichorietum intybi R. Tx. ex Sissingh 1969

In Slovenia this type was documented only by Šilc (2001).

Single relevé: Stražišče, along a road near Sava factory, sand; 390 m;15. 7. 2004; 60 %; 10 m^2; 450108; 5121084

Achillea millefolium +, *Agrostis stolonifera* + , *Bellis perennis* +, *Cichorium intybus* 4, *Convolvulus arvensis* +, *Dactylis glomerata* 1, *Daucus carota* +, *Galium mollugo* +, *Galium verum* +, *Hieracium piloselloides* +, *Lolium perenne* +, *Lotus corniculatus* 1, *Matricaria chamomilla* +, *Medicago lupulina* +, *Picris hieracioides* 1, *Plantago lanceolata* +, *Poa annua* +, *Ranunculus repens* +, *Taraxacum officinale* +.

Stands dominated by *Cichorium intybus* thrive on sandy soils along roads with moderate mechanical disturbance (mowing and trampling).

Ordination of relevé material (Fig. 2) presents (*Asplenietea* communities are excluded from analysis) distribution of relevés along Axis 1 from one-year weed communities on the left to nitrophilous tall herb communities on the right.

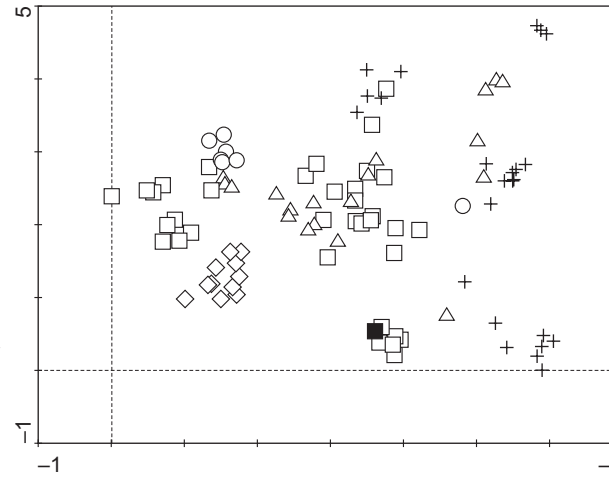

Figure 2: DCA analysis (◇ *Polygono-Plantaginetea*, □ *Stellarietea mediae*, ○ *Koelerio-Corynephoretea*, △ *Artemisietea*, + *Galio-Urticetea*, ■ *Molinio-Arrhenatheretea*).

Slika 2: DCA analiza.

Ellenberg's ecological indicator values (EIV) in Table 1 show some general characteristics of researched vegetation. Classes *Koelerio-Corynephoretea* and *Stellarietea mediae* are most thermophilous. Wall vegetation is most basiphilous and nutrient poor. Sites of *Galio-Urticetea* communities are moist and nutrient rich.

As most urbanophilic are classes *Polygono-Poetea* and *Stellarietea mediae*, the same classes are also most hemerobic.

Table 1: Ellenberg indicator values and indices of urbanity and hemeroby calculated for different vegetation classes (AS-*Asplenietea trichomanis*, PP-*Polygono-Plantaginetea*, SM-*Stellarietea mediae*, A-*Artemisietea*, GU-*Galio-Urticetea*, KC-*Koelerio-Corynephoretea*, MA-*Molinio-Arrhenatheretea*). Maximum (in bold) and minimum (in italic) values are indicated.

Tabela 1: Ellenbergove indikacijske vrednosti in indeks urbanosti in hemerobnosti za posamezne vegetacijske razrede (AS-*Asplenietea trichomanis*, PP-*Polygono-Plantaginetea*, SM-*Stellarietea mediae*, A-*Artemisietea*, GU-*Galio-Urticetea*, KC-*Koelerio-Corynephoretea*, MA-*Molinio-Arrhenatheretea*). Izpostavljene so maksimalne (krepko) in minimalne (poševno) vrednosti.

Vegetation class	Light	Temperature	Continentality	Moisture	Reaction	Nutrients	Urbanity	Hemeroby
AS	6.72	5.81	*3.32*	4.53	**7.66**	*4.41*	*2.53*	*3.19*
PP	7.37	*5.74*	3.75	4.85	6.75	6.64	3.15	4.35
SM	7.16	**6.14**	3.81	4.76	6.71	6.44	**3.17**	**4.52**
A	7.36	5.96	**4.01**	4.69	7.23	6.06	2.97	4.04
GU	*6.60*	5.86	3.70	**5.21**	7.08	**7.04**	2.95	3.95
KC	7.18	6.01	3.36	*4.14*	*6.43*	4.95	2.66	4.21
MA	**7.42**	5.89	3.92	4.72	7.20	5.20	2.84	3.69

DISCUSSION

Kranj has very diverse vegetation. It is a mixture of urban and suburban or even rural types. The city center is a typical urban agglomeration with charateristics of urban environment. But in the context of urban ecology it is a small city, as is shown in the extent of suburban environment and suburban vegetation. Landscape ecologists have identified four characteristics of an environmentally viable suburban landscape: large patches of undisturbed natural vegetation; connectivity between patches; natural vegetation corridors along water courses; and a heterogeneous distribution of nature throughout the community (Olsen 2006).

Vegetation types show us the level of urbanization of a settlement. The list of communites (and their number) is a useful indicator of environmental conditions (and better than number of species) (Pyšek 1993). Specific vegetation types are specific to the type of urbanity of the environment. Vegetation classified into association *Tanaceto-Artemisietum* and alliance *Sisymbrion* is characteristic of urban agglomerations in Central Europe and association *Lamio-Ballotetum* is nowdays typical for villages (Sukopp & Werner 1983).

In the case of Kranj, strictly urban vegetation (alliance *Sisymbrion*) is found only in the narrow center and at the railway station. On former rural parts of city there are found typical village associations (*Lamio-Ballotetum, Urtico-Chenopodietum bonihenrici*) which characterize suburban environment, even though the density of population indicates urban agglomeration. In cities, species and habitats can show traditional land use patterns with long continuity (Zerbe et al. 2003). Association *Cichorietum intybi* is also reported as very rare in a city environment (Ellenberg 1996).

Although some studies (Fajon & Pirnat 2005) show fragmentation of natural patches of vegetation in Kranj, they are still in function. Natural vegetation is also protected in the canyon of the Kokra river, that is preserved as a natural monument and passes through the city. On the other hand, we can conclude that there are parts of the city with typical urban characteristics.

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APPENDIX

Table 2 (Tabela 2): *Asplenietea trichomanis.*

		00000000|01111111
		12345678|90123456
Character species of association, order and class		
Asplenium ruta-muraria	C	**31222221**|+...++.+
Asplenium trichomanes	C	**+21++222**|+.+++1.+
Cystopteris fragilis	D	...**+**....|........
Cymbalaria muralis	C	....+++.|**43223332**
Tortula muralis	D	+.+++...|..1++...
Encalypta streptocarpa	D	.+++....|.......+
Sedum maximum	C	........|.......+
Other		
Homalothecium sericeum	D	22+...+.|...+..13
Didymodon rigidulus	D	+1+2+...|...+..+.
Sedum album	C	+.+...+.|..1...+3
Schistidium apocarpum	D	.+..+...|+.....+1
Chelidonium majus	C	.+.....1|+..1..+.
Clematis vitalba	C	...+...+|.++...+.
Hypnum cupressiforme	D	.2+.....|...+...+
Rubus caesius	C	.....+..|+.+...+.
Petrorhagia saxifraga	C	.+.1....|.......+
Tortella tortuosa	D	.+....1.|.......+
Taraxacum officinale	C	.+.....+|.+.....
Homalothecium lutescens	D	..2.....|...2...1
Bryum capillare	D	..1.....|1.+.....
Erigeron annuus	C	....+...|.++.....
Campanula rapunculoides	C	.++.....|........
Cardaminopsis arenosa	C	..2.....|.......+
Ajuga reptans	C	..+.....|..+.....
Bryoerythrophyllum recurvirostrum	D	..+.....|.......+
Calystegia sepium	C	........|+.....+.
Sonchus oleraceus	C	........|.++.....
Bryum sp.	D	........|....+.+.

Other species:
Didymodon sinuosus D 1: +; *Koeleria pyramidata* C 2: 1; *Potentilla heptaphylla* C 2: 1; *Brachythecium populeum* D 2: +; *Campyliadelphus chrysophyllus* D 2: +; *Hieracium sylvaticum* C 2: +; *Carex* sp. C 2: +; *Gymnocarpium* sp. C 2: +; *Cirriphyllum tommasinii* D 3: +; *Sedum* sp. C 3: +; *Rhynchostegium murale* D 3: +; *Mycelis muralis* C 3: +; *Eurhynchium hians* D 4: +; *Thymus longicaulis* C 4: +; *Rubus* sp. C 4: +; *Galeopsis* sp. C 5: +; *Fallopia convolvulus* C 8: +; *Geranium pusillum* C 9: +; *Tortella* sp. D 9: +; *Solanum nigrum* C 9: +; *Arrhenatherum elatius* C 11: 1; *Viola collina* C 11: +; *Medicago lupulina* C 11: +; *Homalothecium* sp. D 11: +; *Abies alba* C 12: r; *Hedera helix* C 13: +; *Cucubalus baccifer* C 15: +; *Galium mollugo* C 15: +; *Alliaria petiolata* C 16: 1; *Ceratodon purpureus* D 16: +; *Lapsana communis* C 16: +; *Cerastium tenoreanum* C 16: +; *Geranium robertianum* C 16: +; *Orthotrichum anomalum* D 16: +; *Rhodobryum roseum* D 16: +; *Ditrichium flexicaule* D 16: +; *Lonicera xylosteum* C 16: +; *Hieracium glaucum* C 16: +; *Anomodon viticulosus* D 16: +.

Table number; Day; Month; Year; Relevé area (m^2); Altitude (m); Aspect (degrees); Slope (degrees); Cover herb layer (%); Cover moss layer (%); Location; Latitude; Longitude
1. 12. 7. 2004; 5 m^2; 380; S; ; 30; 30; Kranj, Pungert, on the top of the wall; 450664; 5121539
2. 1. 9. 2005; 2 m^2; 380; N; 90; 20; 30; Kranj, Huje, church wall; 450930; 5121920
3. 12. 7. 2004; 3 m^2; 360; SW; ; 40; 50; Kranj, Vodopivčeva ul., conglomerate, base of the wall; 450650; 5121645

4. 1. 9. 2005; 2 m^2; 380; SW; 90; 20; 20; Kranj, Huje, church wall; 450936; 5121900
5. 12. 7. 2004; 4 m^2; 360; SW; 20; 3; Kranj, under Mobitel centre, top of the wall; 450520; 5122454
6. 12. 7. 2004; 5 m^2; 388; 30; 1; Kranj, Huje, Žanova ulica, top of the wall; 451127; 5122309
7. 12. 7. 2004; 10 m^2; 380; E; ; 40; 10; Kranj, Khiselstein, top of the concrete wall; 450601; 5121748
8. 1. 9. 2005; 3 m^2; 355; SW; 90; 20; 5; Kranj, pri klavnici; 450544; 5121652
9. 12. 7. 2004; 5 m^2; 360; SW; 70; 5; Kranj, under Mobitel centre, base of the wall; 450530; 5122449
10. 28. 9. 2005; 2 m^2; 388; 70; 0; Kranj, Center, in front of the shop Metulj; 450743; 5122441
11. 1. 9. 2005; 6 m^2; 360; NW; 90; 30; 5; Kranj, Jelenov klanec, wall in front of the parking place, shaded; 450548; 5121920
12. 12. 7. 2004; 3 m^2; 380; NW; ; 20; 30; Kranj, start of Partizanska st., shaded by neighbouring trees, base of the stone wall; 450843; 5122380
13. 1. 9. 2005; 1 m^2; 360; NE; E; 50; 1; Kranj, in front of the house Vodopivčeva ulica 10; 450572; 5121678
14. 12. 7. 2004; 5 m^2; 388; EEN; ; 50; 5; Kranj, Huje, Žanova ulica, top of the wall; 451148; 5122282
15. 12. 7. 2004; 5 m^2; 365; SE; ; 50; 10; Kranj, Kokrški breg, on the top of concrete and conglomerate wall; 450873; 5122219
16. 12. 7. 2004; 10 m^2; 388; W; 60; 70; Kranj, Huje, Žanova ulica, on the top of the wall at crossroads; 451018; 5122241

Table 3 (Tabela 3): *Polygono-Poetea*.

		00000000|01|1
		12345678|90|1
Character species of the associations		
Polygonum arenastrum	C	**13211232**|1.|.
Poa annua	C	221+211+|**53**|2
Bryum argenteum	D	........|..|**1**
Sagina procumbens	C	...1....|..|**2**
Character species of class		
Matricaria discoidea	C	11411221|.+|.
Other		
Plantago major	C	+2222211|+1|.
Trifolium repens	C	+1..++11|..|.
Taraxacum officinale	C	++.+..++|..|.
Achillea millefolium	C	+....+.+|.+|.
Digitaria sanguinalis	C	.+1+....|..|1
Capsella bursa-pastoris	C	1+...+..|..|.
Dactylis glomerata	C	+.+....+|..|.
Medicago lupulina	C	.+....+.|+.|.
Lolium perenne	C	....++.+|..|.
Arenaria serpyllifolia	C	2.....+.|..|.
Conyza canadensis	C	+..+....|..|.
Solidago canadensis	C	..+.....|+.|.
Oxalis fontana	C	..+.....|..|+
Sonchus asper	C	...+..+.|..|.
Artemisia vulgaris	C	.....++.|..|.
Chenopodium album	C	......+.|+.|.
Plantago lanceolata	C	......+.|.+|.
Veronica persica	C	......+.|..|+
Erigeron annuus	C	........|+.|+
Bellis perennis	C	........|.2|+

Other species:
Potentilla reptans C 1: +; *Panicum capillare* C 2: +; *Agropyron repens* C 2: +; *Euphorbia peplus* C 4: +; *Microrrhinum minus* C 4: +; *Galinsoga parviflora* C 4: +; *Eragrostis minor* C 4: +; *Picris hieracioides* C 4: +; *Bromus tectorum* C 6: +; *Rumex obtusifolius* C 7: +; *Scabiosa columbaria* C 8: +; *Sambucus nigra* C 9: +; *Senecio vulgaris* C 9: +; *Matricaria chamomilla* C 11: +; *Amaranthus lividus* C 11: +; *Portulaca oleracea* C 11: +.

Table number; Day; Month; Year; Altitude (m); Relevé area (m²); Cover herb layer (%); Location; Latitude; Longitude
1. 12. 7. 2004; 390; 3 m²; 30; Kranj, Jurčičeva ul., between pavement slabs, run over and trampled; 450985; 5122440
2. 18. 8. 2004; 400; 5 m²; 80; Kranj, behind OŠ F. Prešeren, shaded, pathway; 450544; 5123173
3. 15. 7. 2004; 388; 5 m²; 50; Kranj, parking lot at gymnasium, sand, heavily run over; 450559; 5122310
4. 15. 7. 2004; 355; 5 m²; 40; Kranj, railway station, in front of the main building, trampled, paving stones; 450124; 5121892
5. 15. 7. 2004; 353; 2 m²; 50; Kranj, Otok, old swimming pool, cart track; 450445; 5122355
6. 13. 8. 2004; 403; 2 m²; 70; Kranj, in front of student hall, macadam pathway; 450308; 5123237
7 17. 6. 2005; 393; 2 m²; 30; Kranj, behind Dipo! shopping centre, macadam; 452400; 5122422
8. 12. 7. 2004; 387; 3 m²; 30; Kranj, Planina, macadam pathway; 451249; 5121927
9. 5. 7. 2004; 390; 1 m²; 90; Kranj, Rotarjeva 3, trampled pavement slabs; 451020; 5122464
10. 6. 4. 2005; 387; 5 m²; 90; Kranj, kindergarten Planina, playground, trampled; 451160; 5121599
11. 15. 7. 2004; 388; 5 m²; 90; Kranj, parking lot at gymnasium, sand and very fine sand, shaded; 450561; 5122354

Table 4 (Tabela 4): *Stellarietea mediae*.

		0|00|0000|0|01111|1111|11222222|222233|3|3|3|3
		1|23|4567|8|90123|4567|89012345|678901|2|3|4|5
Character species of the associations		
Veronica hederifolia	C	**1**|..|....|.|.....|....|........|......|.|.|.|.
Chenopodium hybridum	C	.|**33**|....|.|.....|....|........|......|.|.|.|.
Echinochloa crus-galli	C	.|..|..**13**|.|.+...|....|.......+|......|.|.|.|.
Amaranthus retroflexus	C	.|..|..**11**|+|.....|.+..|......+.|......|.|.|+|.
Amaranthus powellii	C	.|..|+.**21**|.|.....|....|.1.....|......|.|.|.|.
Galinsoga ciliata	C	.|++|++**32**|.|.....|....|2..+...+|......|.|.|.|.
Digitaria sanguinalis	C	.|..|**21**+.|.|..++.|+.+1|.....2.|......|.|.|.|.
Sorghum halepense	C	.|..|....|**5**|.....|....|........|......|.|.|.|.
Polygonum arenastrum	C	.|..|....|.|**11**+**1**.|...+|........|......|.|.|.|.
Eragrostis minor	C	.|..|....|.|**33233**|**212**.|........|......|.|.|.|.
Euphorbia maculata	C	.|..|....|.|.....|**3431**|........|......|.|.|.|.
Lactuca serriola	C	.|+.|..+.|.|.....|....|**33333231**|......|.|.|1|.
Hordeum murinum	C	.|..|....|.|.....|....|........|**544555**|.|.|.|.
Bromus sterilis	C	.|..|....|.|.....|....|........|......|**4**|.|.|.
Malva neglecta	C	.|..|....|.|.....|....|........|......|.|**2**|.|.
Tripleurospermum inodorum	C	.|..|...1|+|.....|....|+..1.+1.|....+.|.|.|**5**|+
Bromus tectorum	C	.|..|....|.|.....|....|........|......|.|.|.|**4**
Stellarietea mediae		
Capsella bursa-pastoris	C	+|2.|1+..|.|....+|+.++|+.+++2..|.1.+++|+|+|+|1
Chenopodium album	C	.|1.|+.1+|+|.....|.+.+|+11+.++1|....1.|.|.|+|+
Stellaria media	C	4|13|2+11|.|.....|....|++12.3..|.2.+..|.|.|.|.
Polygonum aviculare	C	.|+.|+...|.|.....|....|.2.+...+|11++.+|.|+|.|.
Lamium purpureum	C	+|..|+.+2|+|.....|....|..13.+..|.+....|.|.|1|.
Sonchus oleraceus	C	.|.+|....|.|.....|.+.+|+.+...2+|......|.|+|.|.
Oxalis fontana	C	.|1.|12..|.|.....|....|1+...+..|.....+|.|.|.|.
Veronica arvensis	C	.|+.|....|.|.....|....|.+......|.+.+..|+|.|.|+
Portulaca oleracea	C	.|..|+3..|.|+....|.2.3|........|......|.|.|.|.
Sisymbrium officinale	C	.|..|....|.|.....|....|.++.+...|..1...|.|+|.|.
Solanum nigrum	C	.|..|.+.2|+|.....|....|.+......|......|.|.|.|.
Setaria pumila	C	.|..|..2+|+|.....|....|+.......|......|.|.|.|.
Setaria viridis	C	.|..|....|.|.....|2+2.|......2.|......|.|.|.|.
Chenopodium polyspermum	C	.|1.|1+..|.|.....|....|........|......|.|.|.|.
Atriplex patula	C	.|..|....|.|.....|...+|...+....|+.....|.|.|.|.
Sonchus asper	C	.|..|....|.|.....|....|+..2....|......|.|.|+|.

Viola arvensis	C	.	..	....	.	.....	....	..1..2..	......	.	.	.	+
Papaver rhoeas	C	.	+.	....	.	.....	....	.....1..	......	.	.	.	.
Euphorbia peplus	C	.	..	1+..	.	.....	....	....	......	.	.	.	.
Anagallis arvensis	C	.	..	+...	.	.....	....	+.......	......	.	.	.	.
Amaranthus lividus	C	.	..	.2.2	.	.....	....	....	......	.	.	.	.
Panicum miliaceum	C	.	..	..2.	1	.....	....	....	......	.	.	.	.
Galinsoga parviflora	C	.	..	..2+	.	.....	....	....	......	.	.	.	.
Senecio vulgaris	C	.	..	....	.	.....	....	.+..1...	......	.	.	.	.
Fumaria vaillantii	C	.	..	....	.	.....	....	..+..+..	......	.	.	.	.
Matricaria chamomilla	C	.	..	+...	.	.....	....	....	......	.	.	.	.
Sonchus arvensis	C	.	..	..2.	.	.....	....	....	......	.	.	.	.
Vicia angustifolia	C	.	..	....	.	.....	....	..+.....	......	.	.	.	.
Eragrostis pilosa	C	.	..	....	.	.+...	....	....	......	.	.	.	.
Myosotis arvensis	C	.	..	....	.	.....	....	.....1..	......	.	.	.	.
Anthemis arvensis	C	.	..	....	.	.....	....	.....+..	......	.	.	.	.
Lamium amplexicaule	C	.	..	....	.	.....	....	.....+..	......	.	.	.	.
Datura stramonium	C	.	..	....	.	.....	....	......+.	......	.	.	.	.
Euphorbia falcata	C	.	..	....	.	.....	....	......+.	......	.	.	.	.
Other													
Erigeron annuus	C	+	++	+...	1	.++..	+++.	11+.+++2	...1.+	+	.	.	+
Plantago major	C	.	+.	.+..	.	1112+	....	11..+.++	++.+..	.	+	.	.
Taraxacum officinale	C	.	+.	..++	.	+....	....	.1+.++.+	+++++.	+	+	.	.
Trifolium repens	C	.	+.	....	.	+.+r+	....	+1..1+++	.++1.1	.	.	.	.
Artemisia vulgaris	C	.	++	....	1	+...+	+.+.	..21+++.	..+...	+	.	.	.
Poa annua	C	.	+.	++..	.	.1...	....	++..+...	.+.+..	+	1	.	.
Medicago lupulina	C	.	..	....	.	.....	+++.	.+.++..+	......	.	.	+	2
Poa trivialis	C	.	.+	....	.	.....	....	+1+1++..	......	.	.	1	.
Achillea millefolium	C	.	..	..+.	+	.....	....	+.+++11.	......	.	.	.	.
Fallopia convolvulus	C	.	++	..++	.	.....	....	..+..1..	..+...	.	.	.	.
Conyza canadensis	C	.	+.	....	.	..+.1	....	++....12	......	.	.	.	.
Chelidonium majus	C	.	+1	+...	.	.....	....	.+......	.....+	.	1	.	.
Micrrorhinum minus	C	.	..	++..	.	.....	+++.	....	......	.	.	.	+
Calystegia sepium	C	.	..	..+.	1	.....	....	+.+...1.	.....+	.	.	.	.
Silene alba	C	.	..	..+.	+	.....	....	..++.+..	......	.	.	+	.
Panicum capillare	C	.	..	....	.	+....	+1+1	......+.	......	.	.	.	.
Veronica persica	C	1	..	...1	.	.....	....	+..+....	......	.	.	+	.
Rumex obtusifolius	C	.	+.	....	.	.....	....	.1.++...	......	.	.	+	.
Urtica dioica	C	.	+.	....	.	.....	....	...1+..1	......	.	.	2	.
Cirsium arvense	C	.	..	..++	+	.....	....	1.+.....	......	.	.	.	.
Daucus carota	C	.	..	....	+	.....	+.+.	..+.+...	......	.	.	.	.
Lolium perenne	C	.	..	....	.	.+...	....	.1......	..+2.1	.	.	.	.
Agropyron repens	C	.	..	....	.	.....	....	+.11.+.+	......	.	.	.	.
Glechoma hederacea	C	.	..	+...	.	.....	....	11...+..	......	.	.	.	.
Convolvulus arvensis	C	.	..	..+.	+	.....	+.+.	....	......	.	.	.	.
Dactylis glomerata	C	.	..	....	+	.....	....	.....+..	.+..+.	.	.	.	.
Polygonum persicaria	C	.	..	...1	.	.....	....	.+.1...+	......	.	.	.	.
Picris hieracioides	C	.	..	....	.	....+	....	.+....+.	......	+	.	.	.
Ranunculus repens	C	.	..	....	.	.....	....	2.+.+1..	......	.	.	.	.
Bellis perennis	C	+	..	....	.	.....	....	.+......	.+....	.	.	.	.
Acer pseudoplatanus	C	.	++	....	.	.....	....	....	......	.	+	.	.
Lapsana communis	C	.	.+	....	.	.....	....	.+......	......	+	.	.	.
Galium aparine	C	.	..	...+	.	.....	....	..2.....	......	.	.	+	.

Lepidium virginicum	C	.|..|....|.|.....|.+.+|......+.|......|.|.|.|.
Plantago lanceolata	C	.|..|....|.|.....|....|.++.+...|......|.|.|.|.
Galeopsis species	C	.|..|....|.|.....|....|....2...|..1...|.|.|+|.
Cerastium glomeratum	C	.|1.|....|.|.....|....|........|...+..|.|.|.|.
Cymbalaria muralis	C	.|.+|....|.|.....|....|........|......|.|1|.|.
Trifolium pratense	C	.|..|+...|.|.....|....|..+.....|......|.|.|.|.
Polygonum lapathifolium	C	.|..|..2.|.|.....|....|2.......|......|.|.|.|.
Rorippa sylvestris	C	.|..|...+|.|.....|....|..+.....|......|.|.|.|.
Matricaria discoidea	C	.|..|....|.|.+..+|....|........|......|.|.|.|.
Bryum bicolor	D	.|..|....|.|.....|2..2|........|......|.|.|.|.
Ceratodon purpureus	D	.|..|....|.|.....|+4..|........|......|.|.|.|.
Hieracium piloselloides	C	.|..|....|.|.....|+.+.|........|......|.|.|.|.
Agrostis stolonifera	C	.|..|....|.|.....|....|+1......|......|.|.|.|.
Potentilla reptans	C	.|..|....|.|.....|....|.++.....|......|.|.|.|.
Geranium pusillum	C	.|..|....|.|.....|....|.+......|.+....|.|.|.|.
Rubus caesius	C	.|..|....|.|.....|....|....+.+.|......|.|.|.|.
Lamium maculatum	C	.|..|....|.|.....|....|.....+.+|......|.|.|.|.
Galeopsis tetrahit	C	.|..|....|.|.....|....|......++|......|.|.|.|.
Solanum dulcamara	C	.|..|....|.|.....|....|......+.|..+...|.|.|.|.
Clematis vitalba	C	.|..|....|.|.....|....|.......+|.....+|.|.|.|.
Arabidopsis thaliana	C	.|..|....|.|.....|....|........|......|1|.|.|+
Saxifraga tridactylites	C	.|..|....|.|.....|....|........|......|+|.|.|1

Other species:
Veronica hederifolia C 1: 1; *Sorghum halepense* C 8: 5; *Bromus sterilis* C 32: 4; *Malva neglecta* C 33: 2; *Bromus tectorum* C 35: 4; *Ranunculus ficaria* C 1: 1; *Aegopodium podagraria* C 1: +; *Cardamine hirsuta* C 1: +; *Parietaria officinalis* C 3: +; *Matricaria chamomilla* C 4: +; *Sonchus arvensis* C 6: 2; *Eragrostis pilosa* C 10: +; *Cichorium intybus* C 10: +; *Bryum argenteum* D 14: +; *Bryoerythrophyllum recurvirostrum* D 14: +; *Herniaria hirsuta* C 15: +; *Geranium molle* C 17: +; *Papaver somniferum* C 18: +; *Equisetum arvense* C 18: +; *Cerastium holosteoides* C 19: +; *Festuca species* C 19: +; *Symphytum officinale* C 20: +; *Vicia cracca* C 20: +; *Vicia angustifolia* C 20: +; *Leontodon hispidus* ssp. *hastilis* C 20: +; *Linaria vulgaris* C 20: +; *Galeopsis speciosa* C 20: +; *Tussilago farfara* C 22: 1; *Verbascum species* C 22: +; *Euphorbia cyparissias* C 22: +; *Bromus hordeaceus* C 22: +; *Reseda lutea* C 22: +; *Myosotis arvensis* C 23: 1; *Anthemis arvensis* C 23: +; *Lamium amplexicaule* C 23: +; *Arrhenatherum elatius* C 23: +; *Prunus avium* C 23: r; *Fallopia dumetorum* C 24: 1; *Ambrosia artemisiifolia* C 24: 1; *Senecio viscosus* C 24: +; *Eupatorium cannabinum* C 24: +; *Melilotus officinalis* C 24: +; *Solidago canadensis* C 24: +; *Datura stramonium* C 24: +; *Euphorbia falcata* C 24: +; *Stachys sylvatica* C 25: 1; *Geum urbanum* C 28: +; *Oxalis articulata* C 28: +; *Poa angustifolia* C 29: +; *Geranium species* C 32: 1; *Sagina procumbens* C 33: 1; *Sambucus nigra* C 33: +; *Cerastium brachypetalum* C 35: 1; *Arenaria serpyllifolia* C 35: +;

Table number; Day; Month; Year; Relevé area (m^2); Altitude (m); Cover herb layer (%); Location; Latitude; Longitude
1. 2. 4. 2005; 3 m^2; 390; 80; Kranj, Partizanska ulica, shaded, trampled; 450833; 5122375
2. 25. 6. 2004; 5 m^2; 395; 90; Kranj, Koroška c., garden bed; 450390; 5122648
3. 17. 6. 2005; 5 m^2; 360; 60; Kranj, Jelenov klanec, under arch, edge of community *Geo-Chelidonietum maji*; 450552; 5121906
4. 19. 8. 2000; 30 m^2; 390; 70; Kranj, hoe garden, Rotarjeva 3; 451016; 5122465
5. 8. 6. 2003; 10 m^2; 390; 40; Kranj, Rotarjeva 3, hoe garden (carrot, leek, onion); 450788; 5122378
6. 29. 8. 2005; 50 m^2; 390; 100; Kranj, Primskovo, fallow ground; 452408; 5121955
7. 28. 9. 2005; 20 m^2; 412; 70; Kranj, Zlato polje, turnip, edge of the field; 450122; 5124450
8. 29. 8. 2005; 30 m^2; 408; 100; Kranj, Klanško polje, edge of the maize field; 452919; 5122124
9. 28. 9. 2005; 10 m^2; 401; 30; Kranj, edge of pavement at Gorenjska oblačila; 450602; 5123342
10. 18. 8. 2004; 4 m^2; 403; 60; Kranj, student campus, footpath; 450170; 5123449
11. 18. 8. 2004; 5 m^2; 403; 30; Kranj, Faculty, trampled between pavement slabs, entrance from road Kranj-Naklo; 450098; 5123154
12. 18. 8. 2004; 6 m^2; 400; 40; Kranj, behind OŠ F. Prešeren, paving stones, trampled, sandy footpath; 450524; 5123173
13. 18. 8. 2004; 4 m^2; 403; 30; Kranj, Faculty, in front of the entrance into student hall; 450227; 5123154
14. 1. 9. 2005; 1 m^2; 355; 60; Kranj, railway station, at factory Aquasava; 450076; 5122240
15. 29. 8. 2005; 2 m^2; 355; 80; Kranj, railway station, abandoned railway tracks, between main building and warehouse; 450154; 5121762

16. 1. 9. 2005; 1 m^2; 355; 60; Kranj, railway station, abandoned railway tracks into factory Tekstilindus; 450076; 5122240
17. 29. 8. 2005; 5 m^2; 355; 70; Kranj, railway station, between abandoned railway tracks; 450154; 5121692
18. 17. 6. 2005; 8 m^2; 350; 100; Kranj, Koreja, levelled construction material; 451148; 5120950
19. 8. 6. 2003; 10 m^2; 390; 50; Kranj, construction yard at the beginning of Partizanska street, deposited construction material; 450778; 5122398
20. 2. 6. 2004; 10 m^2; 393; 100; Kranj, Primskovo, behind Dipo! shopping centre, deposited soil; 452330; 5122496
21. 17. 6. 2005; 15 m^2; 346; 100; Kranj, Zarica purifying plant, deposited soil; 451508; 5119968
22. 16. 5. 2004; 15 m^2; 405; 70; Kranj, Struževo, over gravel pit, deposited construction material; 449302; 5123655
23. 2. 6. 2004; 8 m^2; 393; 100; Kranj, Primskovo, between Dolnov shopping centre and discarded logs, deposited soil; 452322; 5122606
24. 29. 8. 2005; 5 m^2; 355; 70; Kranj, railway station, mixed construction waste; 450154; 5121692
25. 9. 8. 2005; 3 m^2; 393; 90; Kranj, Šenčur, parking lot at industrial zone; 454881; 5121780
26. 9. 6. 2004; 1 m^2; 353; 100; Kranj, sandy parking place at swimming pool, at the base of a tree; 451369; 5123034
27. 16. 5. 2004; 3 m^2; 390; 100; Kranj, end of Partizanska street, green plot; 450814; 5122360
28. 24. 6. 2004; 2 m^2; 360; 90; Kranj, under Jelenov klanec, green plot at the base of a tree; 450526; 5121726
29. 25. 6. 2004; 3 m^2; 388; 90; Kranj, at gymansium, macadam parking place; 450590; 5122354
30. 16. 5. 2004; 8 m^2; 388; 100; Kranj, Ilovka, under highway bridge, bare ground; 451664; 5124160
31. 17. 6. 2005; 4 m^2; 375; 100; Kranj, behind church at Plečnik's staircase, fine sand,; 450612; 5121678
32. 4. 5. 2005; 7 m^2; 355; 80; Kranj, railway station, abandoned railway tracks at warehouse, shaded; 450156; 5121839
33. 17. 6. 2005; 3 m^2; 380; 80; Kranj, Khiselstein, base of the wall; 450606; 5121738
34. 17. 6. 2005; 20 m^2; 346; 100; Kranj, Zarica purifying plant, deposited soil, nitrate rich; 451522; 5119966
35. 17. 6. 2005; 3 m^2; 355; 80; Kranj, railway station, abandoned railway tracks, gravel, use of herbicides; 450152; 5121716

Table 5 (Tabela 5): *Artemisietea vulgaris*.

		0|00|000000|11111|1|1|11|122
		1|23|456789|01234|5|6|78|901
Character species of the associations		
Artemisia absinthium	C	**2**|..|.....|.....|.|.|..|...
Melilotus officinalis	C	.|**1+**|.....|..++2|.|.|..|...
Echium vulgare	C	.|.**2**|....+.|....+|.|.|..|...
Melilotus alba	C	.|**4**.|.....|.....|**4**|.|..|...
Picris hieracioides	C	.|2.|**333322**|1+1++|.|.|..|...
Ambrosia artemisiifolia	C	.|..|....+.|**44444**|.|.|..|...
Malva sylvestris	C	.|..|.....|.....|.|**3**|..|..+
Chenopodium bonus-henricus	C	.|..|.....|.....|.|.|**43**|...
Ballota nigra	C	.|..|.....|.....|.|1|..|**444**
Artemisietea		
Erigeron annuus	C	4|+2|+++22+|++21.|+|.|1+|..+
Artemisia vulgaris	C	+|1.|+..+++|.++..|1|.|..|.1.
Daucus carota	C	.|11|2.1+21|.++.+|1|.|..|...
Conyza canadensis	C	1|.+|.2.1+.|.+1+.|.|.|+.|...
Other		
Taraxacum officinale	C	+|+1|+11+++|.++.+|.|+|.+|++.
Medicago lupulina	C	1|+2|+1111.|++2+.|+|.|..|.+.
Achillea millefolium	C	+|1+|...+.+|+1+.+|.|.|..|...
Trifolium repens	C	+|.+|.+.+2.|.1++1|.|.|..|...
Lotus corniculatus	C	+|+1|+.+.1.|....+|+|.|..|...
Galium mollugo	C	+|+.|+.+..+|+.+..|+|.|..|...
Poa compressa	C	.|.+|.2.++.|+1+.1|.|.|..|...
Lactuca serriola	C	+|..|..+.1.|++.+.|2|.|..|...
Poa trivialis	C	+|..|...+..|....+|+|.|+1|.1.

Plantago lanceolata	C	.|++|.+.+..|.+..+|+|.|..|...
Lepidium virginicum	C	.|.+|....+.|+2+1+|.|.|..|...
Tripleurospermum inodorum	C	+|..|.+....|.1+++|.|.|..|...
Setaria viridis	C	.|..|.+..1.|1+2+.|.|.|..|...
Silene alba	C	.|++|......|.....|+|.|..|+1.
Calystegia sepium	C	.|+.|......|.....|+|.|..|++2
Lolium perenne	C	.|..|...1..|.+...|+|.|.+|.+.
Ranunculus repens	C	+|+.|+....1|.....|.|.|..|...
Silene vulgaris	C	+|..|1....+|.....|+|.|..|...
Symphytum officinale	C	+|..|+.....|.....|.|.|+.|1..
Dactylis glomerata	C	+|..|...+..|.....|.|+|+.|...
Vicia cracca	C	.|+.|+....+|.....|+|.|..|...
Verbascum nigrum	C	.|..|+..+.+|.....|+|.|..|...
Plantago major	C	.|..|.+....|.+..1|.|.|.+|...
Convolvulus arvensis	C	.|..|..+...|+....|+|+|..|...
Arrhenatherum elatius	C	.|..|...+..|1....|+|.|..|.+.
Chenopodium album	C	.|..|......|.++..|+|.|1.|...
Chelidonium majus	C	.|..|......|.....|.|+|.+|+.1
Agrostis gigantea	C	1|..|...+..|.....|.|.|..|.+.
Cichorium intybus	C	+|.+|......|.....|.|.|..|.+.
Agropyron repens	C	+|..|......|.....|+|.|..|1..
Linaria vulgaris	C	.|++|+.....|.....|.|.|..|...
Trifolium pratense	C	.|+.|+.+...|.....|.|.|..|...
Ranunculus acris	C	.|+.|+....+|.....|.|.|..|...
Hypericum perforatum	C	.|+.|+.....|.....|+|.|..|...
Tussilago farfara	C	.|..|+..+.2|.....|.|.|..|...
Microrrhinum minus	C	.|..|.+.+..|...+.|.|.|..|...
Sonchus oleraceus	C	.|..|..+...|.....|.|.|.+|.+.
Leontodon hispidus ssp. *hispidus*	C	.|..|...11.|+....|.|.|..|...
Pastinaca sativa	C	.|..|...+..|+...+|.|.|..|...
Clematis vitalba	C	.|..|...+..|.....|.|.|..|++.
Digitaria sanguinalis	C	.|..|......|1.+1.|.|.|..|...
Polygonum aviculare	C	.|..|......|.....|.|+|.+|.+.
Cirsium arvense	C	2|+.|......|.....|.|.|..|...
Solidago gigantea	C	+|..|...+..|.....|.|.|..|...
Sonchus asper	C	+|..|......|.....|+|.|..|...
Atriplex patula	C	+|..|......|.....|.|.|..|..+
Potentilla reptans	C	.|2.|......|.....|+|.|..|...
Tanacetum vulgare	C	.|+.|+.....|.....|.|.|..|...
Euphorbia cyparissias	C	.|.+|.....+|.....|.|.|..|...
Petrorhagia saxifraga	C	.|.+|......|..+..|.|.|..|...
Leucanthemum species	C	.|..|+....+|.....|.|.|..|...
Eragrostis minor	C	.|..|.+....|..+..|.|.|..|...
Malva neglecta	C	.|..|..+...|.....|.|1|..|...
Senecio vulgaris	C	.|..|...+..|...+.|.|.|..|...
Melilotus species	C	.|..|....+.|+....|.|.|..|...
Cerastium holosteoides	C	.|..|....+.|.....|.|.|+.|...
Panicum capillare	C	.|..|......|+.+..|.|.|..|...
Capsella bursa-pastoris	C	.|..|......|.+...|.|+|..|...
Asperula cynanchica	C	.|..|......|..1.+|.|.|..|...
Bromus arvensis	C	.|..|......|...++|.|.|..|...
Bromus sterilis	C	.|..|......|...+.|.|.|..|+..
Rubus caesius	C	.|..|......|.....|+|.|..|+..

Rumex obtusifolius	C	.|..|.....|.....|+|.|..|+..
Urtica dioica	C	.|..|.....|.....|.|.|+.|.2.
Stellaria media	C	.|..|.....|.....|.|.|+.|.+.
Aegopodium podagraria	C	.|..|.....|.....|.|.|.3|..+
Myosoton aquaticum	C	.|..|.....|.....|.|.|..|++.

Other species:

Fragaria vesca C 1: 1; *Mentha arvensis* C 1: +; *Euphorbia lathyris* C 1: +; *Lupinus polyphyllus* C 1: +; *Galinsoga ciliata* C 1: +; *Armoracia rusticana* C 1: +; *Robinia pseudacacia* C 2: +; *Lysimachia vulgaris* C 2: +; *Prunella vulgaris* C 2: +; *Centaurea jacea* C 2: +; *Lathyrus pratensis* C 2: +; *Trifolium hybridum* C 2: +; *Medicago falcata* C 3: 2; *Arenaria serpyllifolia* C 3: +; *Geranium robertianum* C 3: +; *Cerastium pumilum* C 3: +; *Cruciata glabra* C 4: 1; *Sanguisorba minor* C 4: 1; *Bromus hordeaceus* C 4: +; *Chamaecytisus supinus* C 4: +; *Quercus petraea* C 4: +; *Veronica chamaedrys* C 4: +; *Diplotaxis tenuifolia* C 5: +; *Senecio viscosus* C 5: +; *Poa annua* C 5: +; *Leontodon hispidus* C 6: 1; *Pinus sylvestris* C 7: +; *Calamagrostis epigejos* C 7: +; *Populus tremula* C 7: +; *Cerastium brachypetalum* C 7: +; *Ranunculus bulbosus* C 8: 1; *Ajuga reptans* C 9: +; *Chamaecytisus hirsutus* C 9: +; *Solidago canadensis* C 10: +; *Trifolium species* C 10: +; *Coronilla varia* C 12: 1; *Torilis japonica* C 13: +; *Amaranthus retroflexus* C 13: +; *Scabiosa columbaria* C 13: +; *Polygonum persicaria* C 14: +; *Fallopia convolvulus* C 14: +; *Salvia verticillata* C 14: +; *Papaver rhoeas* C 15: +; *Verbascum thapsus* C 15: +; *Reseda lutea* C 15: +; *Polygonum lapathifolium* C 15: +; *Knautia arvensis* C 15: +; *Festuca pratensis* C 15: +; *Leontodon species* C 15: +; *Cirsium vulgare* C 15: +; *Hordeum murinum* C 16: 2; *Sedum album* C 17: +; *Anagallis arvensis* C 17: +; *Carex praecox* C 18: +; *Brachypodium sylvaticum* C 18: +; *Glechoma hederacea* C 18: +; *Amaranthus lividus* C 19: +; *Alliaria petiolata* C 20: 1; *Rumex crispus* C 20: +; *Galium aparine* C 20: +; *Chenopodium hybridum* C 20: +; *Triticum aestivum* C 20: +; *Sambucus nigra* C 21: +;

Table number; Day; Month; Year; Relevé area (m^2); Altitude (m); Slope (degrees); Cover herb layer (%); Location; Latitude; Longitude

1. 18. 8. 2004; 10 m^2; 400; 80; Kranj, student campus; 450211; 5123439
2. 15. 7. 2004; 10 m^2; 400; 10; 100; Kranj, Predoslje, under highway bridge, motorway slope; 452496; 5123819
3. 17. 6. 2005; 10 m^2; 355; 80; Kranj, railway station, between tracks, sand, sunny; 450146; 5121660
4. 16. 5. 2004; 5 m^2; 388; 15; 80; Kranj, Ilovka, highway Ljubljana-Jesenice slope, bare ground; 451492; 5124224
5. 15. 7. 2004; 7 m^2; 355; 60; Kranj, railway station, railway crossing, sandy; 450164; 5121794
6. 16. 5. 2004; 5 m^2; 390; 70; Kranj, end of Partizanska street; 450926; 5122392
7. 18. 8. 2004; 5 m^2; 400; 60; Kranj, Zlato polje, unfinished building, deposited sand and gravel; 450165; 5122968
8. 29. 8. 2005; 4 m^2; 355; 90; Kranj, railway station, abandoned railway tracks in Tekstilindus factory; 450067; 5122265
9. 16. 5. 2004; 8 m^2; 400; 70; Kranj, Predoslje, under highway bridge, newly built slope; 452484; 5123828
10. 29. 8. 2005; 5 m^2; 355; 70; Kranj, railway station, abandoned railway tracks in Tekstilindus factory; 450069; 5122267
11. 15. 7. 2004; 5 m^2; 355; 90; Kranj, railway station, sand near loading ramp; 450172; 5121710
12. 29. 8. 2005; 5 m^2; 355; 80; Kranj, railway station, sand along active tracks, near bridge; 450133; 5121627
13. 18. 8. 2004; 5 m^2; 355; 70; Kranj, railway station, abandoned railway tracks; 450137; 5122020
14. 15. 7. 2004; 7 m^2; 355; 90; Kranj, railway station, abandoned railway tracks, sandy; 450163; 5121694
15. 15. 7. 2004; 20 m^2; 385; 100; Kranj, Labore, parking place near IskraTel factory, deposited construction material and river bed gravel; 450682; 5120201
16. 15. 7. 2004; 6 m^2; 380; 70; Kranj, Pungart, along city walls, behind bench, periodically mowed, nitrate rich; 450662; 5121553
17. 24. 6. 2004; 3 m^2; 365; 80; Kranj, Stara c., under Jelenov klanec, narrow zone along wall; 450386; 5122562
18. 11. 7. 2004; 5 m^2; 388; 90; Kranj, Huje, Žanova ulica, along road; 451152; 5122303
19. 12. 7. 2004; 7 m^2; 365; 90; Kranj, Kokrški breg, at the base of the wall; 450889; 5122226
20. 5. 7. 2004; 7 m^2; 365; 100; Kranj, Stara c., at the base of the wall, afternoon sun; 450496; 5122544
21. 18. 8. 2004; 5 m^2; 360; 80; Kranj, Jelenov klanec, under chestnut tree, nitrate rich; 450580; 5122102

Table 6 (Tabela 6): *Galio-Urticetea.*

		0|0000000|0111111|1|11|12|22|222
		1|2345678|9012345|6|78|90|12|345
Character species of the associations		
Torilis japonica	C	**3**|....+..|.......|.|..|..|..|+..
Parietaria officinalis	C	.|**5454434**|.+.1...|.|..|..|..|...
Chelidonium majus	C	.|.1.1.+.|**5454444**|+|..|.+|..|...
Physalis alkekengi	C	.|.......|.......|**3**|..|..|..|...
Geranium robertianum	C	+|.......|.11....|.|**34**|..|1.|..1
Aegopodium podagraria	C	.|.+....+|..1....|.|..|**53**|..|+..
Impatiens parviflora	C	.|.......|.......|.|..|..|**44**|...
Galeopsis tetrahit	C	+|.......|.......|.|..|..|+.|**454**
Galio-Urticetea		
Urtica dioica	C	.|1..1.+1|++..1++|.|..|.1|..|+22
Lamium maculatum	C	.|.+..+.+|1+.+1..|.|..|+.|..|...
Sambucus nigra	C	.|..++...|+.+.++.|.|..|..|..|+..
Rubus caesius	C	.|.++..2+|....+..|.|..|..|..|.1.
Calystegia sepium	C	.|.+..+..|......+|.|..|1+|..|.+.
Alliaria petiolata	C	.|.......|.+.+...|+|..|.+|2.|...
Festuca gigantea	C	.|...+..+|.......|.|..|..|..|2.2
Geum urbanum	C	.|....+.1|.......|1|..|..|..|+..
Galium aparine	C	.|......+|..+....|.|..|..|..|.+.
Galeopsis speciosa	C	.|...++..|.......|.|..|..|..|...
Glechoma hederacea	C	.|......+|.......|.|..|.2|..|...
Other		
Taraxacum officinale	C	.|++..++.|++.+..1|+|++|.1|++|...
Erigeron annuus	C	.|+...1+.|+..++..|.|+.|.+|..|+.+
Clematis vitalba	C	.|++.....|....++.|+|+.|+.|..|+.+
Medicago lupulina	C	.|..+.++.|..+....|.|..|.+|+.|...
Poa trivialis	C	.|...+..+|.+.+...|.|..|.+|1.|.+.
Stellaria media	C	.|....+..|+..1.+.|+|..|.+|+.|...
Dactylis glomerata	C	.|++....+|.......|+|.+|+.|..|...
Cichorium intybus	C	.|+.+.+..|.......|.|..|++|..|...
Artemisia vulgaris	C	+|.......|...+...|.|.+|..|..|+1.
Ranunculus acris	C	.|+...1..|....+..|+|..|+.|..|...
Plantago major	C	.|+...+..|......+|1|.+|..|..|...
Polygonum aviculare	C	.|..+....|..+....|+|..|+.|+.|...
Fallopia convolvulus	C	.|....++.|....+.+|.|+.|..|..|...
Sonchus oleraceus	C	+|.+.....|.+.....|+|..|..|..|...
Agropyron repens	C	.|.....+1|.......|.|..|1.|..|.+.
Chenopodium album	C	.|.....+.|....+..|.|..|..|.+|.+.
Poa compressa	C	1|.......|.......|.|2.|..|..|...
Microrrhinum minus	C	1|.......|.......|.|+.|..|+.|...
Lactuca serriola	C	+|.......|....+..|.|1.|..|..|...
Bromus sterilis	C	+|.......|......2|.|+.|..|..|...
Hedera helix	C	.|....+..|..+....|.|..|.+|..|...
Trifolium repens	C	.|....+..|.......|.|..|.+|..|...
Silene alba	C	.|.....+.|....+..|.|..|..|..|...
Galium mollugo	C	.|.....+.|.......|+|..|+.|..|...
Cirsium arvense	C	.|.....+.|.......|.|..|.+|..|.+.
Poa annua	C	.|.......|+......|.|..|.+|+.|...

Cymbalaria muralis	C	.|.....|r1..+..|.|..|..|..|...
Cardaminopsis arenosa	C	.|.....|.+.1.+.|.|..|..|..|...
Achillea millefolium	C	.|.....|.....|.|+.|+.|..|...
Rumex obtusifolius	C	.|.....|.....+|.|..|.+|..|.+.
Plantago lanceolata	C	2|.....|.....|.|..|..|..|...
Rosa species	C	+|.....|.....|.|..|.+|..|...
Digitaria sanguinalis	C	+|.....|.....|.|..|..|.+|...
Tripleurospermum inodorum	C	+|.....|.....|.|..|..|..|.+.
Trifolium pratense	C	.|..+..+.|.....|.|..|..|..|...
Lolium perenne	C	.|....1..|.....|.|.+|..|..|...
Lapsana communis	C	.|.....1.|.....|.|..|.+|..|...
Oxalis fontana	C	.|.....+.|.....|.|..|..|..|..+
Senecio vulgaris	C	.|.....|..+....|.|..|..|.+|...
Linaria vulgaris	C	.|.....|.....|.|1.|..|..|...
Conyza canadensis	C	.|.....|.....|.|.+|..|..|...
Solanum dulcamara	C	.|.....|.....|.|..|..|+.|..1

Plantago lanceolata C 1: 2; *Linaria vulgaris* C 17: 1; *Conyza canadensis* C 18: +; *Picris hieracioides* C 1: 1; *Poa pratensis* C 2: +; *Galeopsis species* C 4: +; *Verbena officinalis* C 4: +; *Humulus lupulus* C 5: +; *Euphorbia peplus* C 6: +; *Ranunculus repens* C 7: +; *Potentilla reptans* C 7: +; *Robinia pseudacacia* C 7: +; *Barbarea vulgaris* C 7: +; *Ajuga reptans* C 7: +; *Euphorbia helioscopia* C 7: +; *Chaerophyllum hirsutum* C 8: +; *Cerastium holosteoides* C 9: +; *Trifolium species* C 9: +; *Malva sylvestris* C 9: +; *Hordeum murinum* C 9: +; *Capsella bursa-pastoris* C 9: +; *Ballota nigra* C 9: +; *Solidago species* C 9: +; *Mycelis muralis* C 10: 1; *Acer pseudoplatanus* C 11: +; *Myosotis sylvatica* C 12: +; *Anthriscus sylvestris* C 12: +; *Holcus lanatus* C 13: 1; *Agrostis species* C 13: +; *Convolvulus arvensis* C 15: 1; *Galinsoga quadriradiata* C 15: +; *Campanula trachelium* C 16: +; *Bromus inermis* C 16: +; *Asperula cynanchica* C 17: +; *Salix caprea* C 18: 1; *Cardamine impatiens* C 18: +; *Salix eleagnos* C 18: +; *Tussilago farfara* C 18: +; *Populus tremula* C 18: +; *Pastinaca sativa* C 18: +; *Arrhenatherum elatius* C 19: +; *Verbascum nigrum* C 19: +; *Silene vulgaris* C 20: +; *Crepis species* C 20: +; *Arctium species* C 20: +; *Cardamine flexuosa* C 20: +; *Ranunculus bulbosus* C 20: +; *Prunella vulgaris* C 20: +; *Symphytum officinale* C 21: +; *Epilobium hirsutum* C 21: +; *Amaranthus powellii* C 22: 2; *Setaria viridis* C 22: 1; *Solanum nigrum* C 22: +; *Echinochloa crus-galli* C 22: +; *Salvia glutinosa* C 23: 1; *Stellaria nemorum s.str.* C 24: 3; *Lysimachia vulgaris* C 24: +; *Equisetum arvense* C 24: +; *Melilotus alba* C 25: +;

Table number; Day; Month; Year; Relevé area (m^2); Altitude (m); Cover herb layer (%); Location; Latitude; Longitude
1. 28. 8. 2005; 3 m^2; 355; 50; Kranj, railway station; 450164; 5125810
2. 4. 7. 2004; 3 m^2; 362; 100; Kranj, Koroška 47 b, along the wall; 450502; 5122524
3. 15. 10. 2005; 4 m^2; 394; 80; Kranj, Partizanska street; 451079; 5122712
4. 4. 7. 2004; 3 m^2; 390; 100; Kranj, Rotarjeva street, along the hedge; 450962; 5122500
5. 12. 7. 2004; 5 m^2; 380; 90; Kranj, under the bridge to Planina, shaded, nitrate rich; 450770; 5121862
6. 6. 7. 2004; 3 m^2; 390; 90; Kranj, Jurčičeva c., shaded under the tree; 450996; 5122438
7. 15. 7. 2004; 5 m^2; 353; 70; Kranj, Otok, old swimming pool, around the base of the tree; 450415; 5122297
8. 15. 7. 2004; 10 m^2; 353; 100; Kranj, Otok, old swimming pool, around the base of the tree; 450341; 5122405
9. 4. 5. 2005; 5 m^2; 360; 90; Kranj, under Mobitel center, shaded; 450564; 5122414
10. 15. 7. 2004; 5 m^2; 360; 80; Kranj, Jelenov klanec, under overhanging rock, moist; 450576; 5122007
11. 15. 7. 2004; 8 m^2; 388; 90; Kranj, parking place at gymnasium, along the fence, shaded; 450563; 5122368
12. 4. 5. 2005; 10 m^2; 360; 80; Kranj, Jelenov klanec, under overhanging rock, shaded, nitrate rich; 450552; 5121924
13. 4. 7. 2004; 5 m^2; 380; 80; Kranj, abandoned platform near Telekom building, mud, sunny; 450776; 5122460
14. 4. 5. 2005; 3 m^2; 360; 70; Kranj, Jelenov klanec, upper part of parking place, on conglomerate block; 450578; 5122011
15. 17. 6. 2005; 10 m^2; 355; 100; Kranj, slaughterhouse, along the wall, shaded, nitrate rich; 450520; 5121710
16. 11. 7. 2004; 3 m^2; 390; 80; Kranj, edge of the canyon of the Kokra river, along the path; 451028; 5122462
17. 15. 7. 2004; 10 m^2; 355; 50; Kranj, railway station; 450152; 5121616
18. 18. 8. 2004; 2 m^2; 400; 80; Kranj, Zlato polje, unfinished building, under projecting roof; 450007; 5123060
19. 18. 8. 2004; 4 m^2; 380; 100; Kranj, Partizanska, along the wall; 450871; 5122392
20. 4. 7. 2004; 10 m^2; 390; 90; Kranj, between Prešernov gaj and school ground, macadam, shaded and nitrate rich; 450884; 5122518
21. 17. 6. 2005; 10 m^2; 346; 100; Kranj, separation at Komunala Kranj, shaded; 451834; 5119794
22. 29. 8. 2005; 5 m^2; 355; 90; Kranj, railway station, along the wall between warehouse and tracks; 450148; 5121943
23. 29. 8. 2005; 5 m^2; 380; 80; Kranj, Planina, edge of the hornbeam forest; 451264; 5121110

24. 17. 6. 2005; 5 m^2; 346; 100; Kranj, Zarica purifying plant, deposited construction material, nitrate rich; 451668; 5119722
25. 29. 8. 2005; 5 m^2; 388; 100; Kranj, Huje, shaded at the base of the wall; 451000; 5122208

Table 7 (Tabela 7): *Koelerio-Corynephoretea*.

		1|23456
Character species		
Poa compressa	C	**1**|**.....**
Saxifraga tridactylites	C	**3**|**33443**
Character species of order and class		
Erophila verna	C	.|.++.1
Arabidopsis thaliana	C	+|++1++
Arenaria serpyllifolia	C	2|...22
Cerastium tenoreanum	C	1|1..1+
Veronica arvensis	C	1|++1++
Other		
Erigeron annuus	C	+|++.2+
Capsella bursa-pastoris	C	+|.11+1
Taraxacum officinale	C	1|.+.++
Bromus sterilis	C	.|++++.
Tripleurospermum inodorum	C	+|.++..
Geranium robertianum	C	.|1..r.
Poa annua	C	.|.1.+.
Medicago lupulina	C	.|..1.1
Viola arvensis	C	.|...1+

Other species:
Bromus hordeaceus C 1: +; *Picris hieracioides* C 1: +; *Hieracium piloselloides* C 1: +; *Linaria vulgaris* C 2: +; *Lactuca serriola* C 5: 1; *Galium mollugo* C 5: +; *Achillea millefolium* C 5: +; *Euphorbia cyparissias* C 5: +; *Draba muralis* C 5: +; *Trifolium species* C 5: +; *Reseda lutea* C 5: +; *Cardamine hirsuta* C 5: +; *Myosotis arvensis* C 6: +; *Trifolium repens* C 6: +; *Artemisia vulgaris* C 6: +;

Table number; Day; Month; Year; Relevé area (m^2); Altitude (m); Cover herb layer (%); Cover moss layer (%); Location; Latitude; Longitude
1. 4. 5. 2005; 1 m^2; 355; 70; 0; Kranj, railway station, railway tracks, finer sand, sunny; 450099; 5122028
2. 4. 5. 2005; 2 m^2; 355; 50; 0; Kranj, railway station, abandoned railway tracks near Iskra-Emeco, partly shaded; 450177; 5121444
3. 4. 5. 2005; 3 m^2; 355; 60; 0; Kranj, railway station, abandoned railway tracks, gravel between tracks, sunny; 450154; 5121863
4. 4. 5. 2005; 2 m^2; 355; 90; 0; Kranj, railway station, abandoned railway tracks, sunny; 450150; 5121951
5. 6. 5. 2001; 5 m^2; 355; 50; 1; Kranj, railway station, abandoned railway tracks; 450128; 5121586
6. 4. 5. 2005; 1 m^2; 355; 90; 0; Kranj, railway station, abandoned railway tracks, sunny; 450100; 5122062

Table 8: Synoptic table of researched communities. Diagnostic species and Zlatnik's combined values are presented.

Tabela 8: Sinoptična tabela proučevanih združb. Prikazane so diagnostične vrste in kombinirane vrednosti po Zlatniku.

Group No.	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
No. of relevés	8	8	8	2	1	1	2	4	1	5	4	8	6	1	1	1	1	1	2	6	5	1	1	2	3	2	3	1	7	7	1	2	2	1	5	1
Asplenium ruta-muraria	**58**	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Asplenium trichomanes	**58**	13	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cymbalaria muralis	1	**87**	.	.	.	.	2	.	.	.	.	.	.	.	18	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.
Matricaria discoidea	.	.	**58**	2	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Polygonum arenastrum	.	.	**58**	.	.	.	.	.	.	13	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Poa annua	.	.	58	**122**	58	.	2	2	.	0	.	1	1	6	18	.	.	.	.	0	.	.	.	.	.	2	.	.	0	.	.	2	.	3	6
Sagina procumbens	.	.	0	.	**58**	.	.	.	.	.	.	.	.	.	18	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Bryum argenteum	.	.	.	.	**18**	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Veronica hederifolia	.	.	.	.	.	**18**	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Chenopodium hybridum	.	.	.	.	.	.	**87**	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.
Echinochloa crus-galli	.	.	.	.	.	.	.	**22**	.	0	.	0	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.
Amaranthus retroflexus	.	.	.	.	.	.	.	**8**	6	.	1	0	.	.	.	6	.	.	.	.	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Amaranthus powellii	.	.	.	.	.	.	.	**37**	.	.	.	0	.	.	.	.	.	.	.	.	.	.	.	.	.	22	.	.	.	.	.	.	.	.	.	.
Digitaria sanguinalis	.	.	3	.	18	.	.	**37**	.	1	13	0	.	.	.	.	.	.	.	.	8	.	.	.	.	2	.	6	.	.	.	.	.	.	.	.
Sorghum halepense	.	.	.	.	.	.	.	.	**157**	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Eragrostis minor	.	.	0	.	.	.	.	.	.	**87**	37	.	.	.	.	.	.	.	.	0	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Euphorbia maculata	.	.	.	.	.	.	.	.	.	.	**87**	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Portulaca oleracea	.	.	.	.	6	.	.	22	.	0	**37**	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lactuca serriola	.	.	.	.	.	.	2	1	.	.	.	**87**	.	.	.	18	.	6	.	3	2	58	.	.	.	.	.	6	.	0	.	8	.	.	0	.
Hordeum murinum	.	.	.	.	.	.	.	.	.	.	.	.	**157**	.	.	.	.	.	.	.	.	.	58	.	.	.	.	.	.	0	.	.	.	.	.	.
Bromus sterilis	.	.	.	.	.	.	.	.	.	.	.	.	.	**122**	.	.	.	.	.	.	0	.	.	.	1	.	.	6	.	0	.	2	.	.	4	.
Malva neglecta	.	.	.	.	.	.	.	.	.	.	.	.	.	.	**58**	.	.	.	.	0	.	.	18	.	.	.	.	.	.	.	.	.	.	.	.	.
Tripleurospermum inodorum	.	.	.	.	.	.	.	3	6	.	.	8	0	.	.	**157**	6	6	.	0	13	.	.	.	.	.	.	1	6	.	.	.	.	6	1	.
Bromus tectorum	.	.	0	.	.	.	.	.	.	.	.	.	.	.	.	.	**122**	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Artemisia absinthium	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	**58**	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Melilotus officinalis	.	.	.	.	.	.	.	.	.	.	.	0	.	.	.	.	.	.	**18**	.	22	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Echium vulgare	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	**22**	0	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Melilotus albus	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	**52**	.	.	**122**	.	.	.	.	1	.	.	.	.	.	.	.	.	.
Picris hieracioides	.	.	0	.	.	.	.	.	.	0	.	1	.	6	.	.	.	.	22	**87**	18	.	.	.	.	.	.	18	.	.	.	.	.	6	.	18
Ambrosia artemisiifolia	.	.	.	.	.	.	.	.	.	.	.	0	.	.	.	.	.	.	.	0	**122**	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Malva sylvestris	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	**87**	.	1	.	.	.	0	.	.	.	.	.	.	.
Chenopodium bonus-henrici	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	**122**	.	.	.	.	.	.	.	.	.	.	.	.
Ballota nigra	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	18	.	**122**	.	.	.	0	.	.	.	.	.	.	.
Impatiens parviflora	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	**122**	.	.	.	.	.	.	.	.	.	.
Galeopsis tetrahit	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	.	2	**122**	6	.	.	.	.	.	.	.	.	.
Torilis japonica	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	.	.	.	.	.	1	**87**	0	.	.	.	.	.	.	.
Parietaria officinal	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	**122**	3	.	.	.	.	.	.
Chelidonium majus	3	3	.	.	.	.	18	1	.	.	.	0	0	.	18	.	.	.	.	.	.	.	6	2	13	.	.	.	8	**122**	6	.	2	.	.	.
Physalis alkekengi	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	**87**	.	.	.	.	.
Geranium robertianum	.	0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	.	.	.	.	.	.	8	3	6	.	3	.	**122**	.	.	1	.
Aegopodium podagrarie	.	.	.	.	.	6	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	37	1	.	1	.	1	0	.	.	**122**	.	.	.
Poa compressa	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2	22	13	.	.	.	.	.	.	18	.	.	.	22	.	**18**	.	.
Saxifraga tridactylites	.	.	.	.	.	.	.	.	.	.	.	.	.	6	.	.	18	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	**87**	**87**	.
Cichorium intybus	.	.	.	.	.	.	.	.	.	0	.	.	.	.	.	.	.	6	2	.	.	.	.	1	.	.	.	2	.	.	.	.	6	.	.	**122**