



**210 YEARS OF  
*EX-SITU*  
CONSERVATION**

**HORTUS BOTANICUS UNIVERSITATIS**

**LABACENSIS SINCE 1810**

***INDEX SEMINUM* SINCE 1839**

## 210 YEARS OF EX-SITU CONSERVATION

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# 210 years of *Ex-situ* conservation

University Botanic Gardens Ljubljana

Jože Bavcon, Nada Praprotnik, Blanka Ravnjak

## **Abstract**

The University Botanic Gardens Ljubljana was established as a Garden of native flora and has been taking care of the protection of domestic flora from the very beginning. In the cases of some species, we consider their cultivation in *ex-situ* conditions from the very beginning of the garden. Just as individual leaders and their gardeners discovered the species in the wild, they were then brought into the garden. Their successful cultivation in *ex-situ* conditions then led these species to exchanges with gardens across Europe. First, exchanges were made with personal correspondence between the gardens, and later with a printed list of seeds - *Index seminum*. By following the lists of seeds of these gardens, we can find out in a few years how successful they were in growing plants ordered in Ljubljana. The species that originated in Ljubljana appeared in the lists of garden seeds in Europe a few years later. The University Botanic Gardens

Ljubljana, with its species *Pastinaca sativa* var. *fleischmanni* known for the fact that the species has been preserved only in the University Botanic Gardens Ljubljana, has disappeared in nature. In 2011, we successfully reintroduced it to Castle Hill. It also appears that from some specimens growing in the wild, populations of plants have emerged in the garden whose original populations have disappeared in the wild.

**Key words:** *ex-situ* conservation, *Index seminum*, seed exchange, endangered species

## INTRODUCTION

We live in a time when both the professional and lay public encounter the concept of biodiversity every day. Not only scientific journals but also mass media warn us every daily about the reduction of biodiversity, which can have devastating consequences for nature and, consequently, of course, for humanity. For this reason, various biodiversity conservation projects are taking place around the world, with various measures at the level of individual countries or as international conventions on biodiversity protection. The Convention on Biological Diversity (CBD) was adopted in Nairobi on 22 May 1992. The Convention was opened for signature at the United Nations Conference on Environment and Development (UNNCED) in Rio de Janeiro on 5 June 1992. It entered into force on 29 December 1993. Today, the Convention is the main international instrument for addressing biodiversity and the first global agreement on its conservation. More than 150 government representatives signed the Convention document at the Conference in Rio, and since then the agreement has been ratified by more than 187 countries

(<https://www.cbd.int/history/default.shtml>). The convention has three main goals: the conservation of biodiversity, the sustainable use of biodiversity components, and the fair and equitable sharing of benefits arising from genetic resources.

Botanic gardens are also important guardians of biodiversity. With the diversity of plant collections they care for, they provide plant material for research as well as for the protection of plant species and the presentation of plant diversity and its importance to the general public. In total, botanic gardens worldwide contain as much as one third of all known plant species. According to the International Union for the Conservation of Nature, as many as 34% more plant species in nature would become extinct in nature without the intervention or work of botanic gardens (Sharrock 2011). Botanic gardens worldwide are connected by the Botanic Gardens Conservation International (BGCI), which directs and monitors the strategy and operation of botanic gardens (<https://www.bgci.org/about/about-bgci/>). The basic policies and objectives of botanic gardens are presented in two documents: The International Agenda for Botanic Gardens (Wyse Jackson & Sutherland 2000) and the Action Plan for Botanic Gardens (Cheney et al. 2000). Both documents also include guidelines for the protection of plant species or wider biodiversity. Thus, botanic gardens with their activities in the world prevent the extinction of plant species and their genetic diversity, prevent further degradation of the natural environment, raise general public awareness of the importance of plant diversity and its vulnerability, and promote and ensure sustainable use of natural resources for future generations (Wyse Jackson 2001).





*Figure 1* Plant system

## **THE BEGINNINGS OF THE PROTECTION OF SLOVENIAN FLORA IN THE BOTANIC GARDENS**

The Botanic Gardens in Ljubljana were established as the Homeland Flora Garden during the time of the Illyrian Provinces in 1810 (Lazar 1960; Strgar 1973; Bavcon 2000 a). As the name suggests, the garden originally focused on native plants. Hladnik, the founder and first head of the garden, stated in a preserved letter from 1810 to the rector of higher school that 447 plants from the surroundings of Ljubljana have already been planted in the garden, but that in the coming years it will be necessary to gather plants from the wider area (ZAL, LJU 184). In the following years, Hladnik and his gardener thoroughly criss-crossed the

territory of Carniola at the time, and also went to other parts of today's Slovenia (Praprotnik 1994, 2012 a). In 1812, the plant list included as many as 766 species (Praprotnik 2010 a). Freyer (1829) stated that over 2,200 domestic and foreign plants were planted in the botanical garden at that time.

All this reflects the fact that the number of plants in Hladnik's time grew very rapidly. Among them, newly discovered species or subspecies were also brought to the garden. Above all, the initial rather extensive activity of the garden shows that Hladnik was well aware of the importance of gathering plants in nature. He not only collected plant for herbariums (Praprotnik 1994, 2012 a), which was the custom at the time, but he also brought plants to the garden, where their descendants still grow today. Below we take a look at some species that have been under ex situ protection since the very beginnings of the garden or were brought to the garden by Hladnik's successors.

### ***Scopolia carniolica* (f. *hladnikiana*) 1810, 1819, 1938**

#### ***Scopolia hladnikiana* – henbane bell**

*S. carniolica* f. *hladnikiana* is an herbaceous perennial that grows up to 60 cm in height. Its leaves are wide lanceolate to ovate and up to 10 cm long. Individual drooping flowers are located in the axils. The corolla is bell-shaped and greenish yellow both inside and outside.

Hladnik's henbane bell is a form of the henbane bell species that has been in culture in the Botanic Gardens since its very beginning in 1810 (Strgar 1987a, b; Praprotnik 1997 b, 1999). Hladnik

found a yellow variety of the henbane bell in the vicinity of Turjak. The henbane bell is included in the first plant list from 1812. In the manuscript *Botanische notizien*, which seems to be a list of plants in the Botanic Gardens with their sites and synonyms, a yellow variety of *Scopolina Hladnikiana* (Biatzovsky) syn. *Scopolina viridiflora* is listed in addition to the usual species *Scopolina artopoides*. This indicates that Hladnik adopted this name and that the two plants were actually planted in the gardens at that time. In his Overview of Carniolan Flora (*Pregled Kranjske flore*), Fleischmann (1844 a) list the yellow variety of henbane bell for Želimplje, Turjak and Kočevje.



Figure 2 *Scopolia carniolica* f. *hladnikiana*

In the first list of seeds from 1889, Paulin mentions it as *Scopolina viridiflora* (Freyer). This list offered live plants, which again indicates that the species was already successfully cultivated *ex-situ* at that time. Quite a few botanical gardens from Europe ordered this species: Bonn, Budapest, Copenhagen, Greifswald, Prague, Minsk, Heidelberg, Würzburg.

Once a subspecies, it was later named as a form, although in reality it is probably only a colour variety of the basic species, which occurs in many other species (Bavcon 2014 a). Nevertheless, it is a stable colour variety that has been preserved in the Botanic Gardens since the time of Hladnik. The descendants of this plant still grow in the garden and reproduce by underground rhizome as well as seeds. So this form of yellow-flowered henbane bell is a real indicator of *ex-situ* protection of species in our garden. Neither Paulin from 1886 to 1931 nor later botanists found this variety at its initial site, even though it was collected there before (Fleischmann 1844 a). This thus indicates successful *ex-situ* protection of the form, which was later found on several other sites, but still only in Slovenia (in the wider area of central Slovenia). Its occurrence in two colour variations may indicate the specifics of Slovenia and its transitional location, where influences of the Alps, Dinaric region, sub-Mediterranean and the Pannonian regions intersect (Wraber 1969; Bavcon 2008, 2014 a). In Slovenia, it appears on shared sites with typical brown-flowered plants, with occasional intermediate variations. The heredity of the colour of flowers of this species was studied in the 1980s by the head of the Gardens, Dr Vinko Strgar (1987 a, b). Its artificially induced hybrids still grow in the Botanic Gardens of the University of Ljubljana today. In his cultivation experiments, Strgar found that the yellow colour of its flowers is a genotypic trait and that the brown colour of its flowers is the

dominant trait. In 1987, Luka Pintar discovered a new site of Hladnik's henbane bell in a gorge below Lubnik. He brought plants to the Botanic Gardens from this site as well. Less than 10 years later, in 1995, Dakskobler found a new site in the westernmost part of Slovenia, in the valley of Idrija in Zeleni potok.

The variety that is today considered a Slovenian endemic (*S. carniolica* Jacq f. *hladnikiana* (Biatz. & Fleischm) E. Mayer.) has historically had very different names (Strgar 1987 a, b): *S. hladnikiana* (Biatzowsky & Fleischmann, *S. hladnikiana* Nyman, *S. hladnikiana* (Freyer ex Kocy) Nyman, or as varieties *S. carniolica* f. *hladnikiana* (Biatzowsky & Fleischmann) Paulin, *S. carniolica* var. *brevifolia* Dunal.

### ***Hladnikia pastinacifolia* Rchb.**

In 1819, Franc Hladnik (Praprotnik 1994) allegedly found an unknown genus from the umbellifer family on Čaven. This information is generally listed in the literature. However, Tone Wraber (2002, 2003) cites hitherto unknown circumstances of the discovery of the famous *Hladnikia*, as Henrik Freyer (SI AS 863, fasc. 3) writes in his fragmented manuscript biography that he was "...on holiday in 1818 and 1819 in Čaven, where he found an unknown umbellifer and brought it to Hladnik's attention. He named it *Oenanthe apifolia*." So the first to discover this endemic genus was Freyer! In his autobiography, Freyer describes this situation somewhat differently. He was disappointed when botanist W. D. J. Koch (1835) renamed the plant to *Falcaria latifolia*. Freyer believed that "the honours to the first finder ... should not be taken away," adding that he had known about the

plant since 1822. H. G. L. Reichenbach (1831) described the new umbellifer and named it *Hladnikia pastinacifolia* Rchb. He stated that he named it in honour of Hladnik, prefect and professor of the Imperial Royal Gymnasium in Ljubljana. This quotation applies to the description of the new species, although he cites (by mistake?) his *Flora germanica excursoria* (Reichenbach 1832), where a description of the new genus will be published (?) under number 625 (DCXXV) and a more extensive description of the new species under number 3053, where he *states* that he got it from Hladnik. The first drawing (Reichenbach 1831) is also published, which is hand-painted in some copies of the book. This is also mentioned by Freyer:

“The first and faithfully naturally illuminated depiction was contributed by Reichenbach in his *Plantis criticis*.”



*Figure 3 Hladnikia pastinacifolia*



*In 1834, Reichenbach included Hladnikia pastinacifolia Rchb. under number 757 in his herbarium Flora Germanica exsiccata. It was sent to him by Hladnik. As its site, he noted: near Ljubljana in Carniola ("bei Laybach and Krain") and especially marked the specimen with the Latin exclamation, "-Isigne decus!-" With these words, he wanted to emphasise that the specimen of Hladnikia pastinacifolia Rchb. is a true pièce de résistance of his herbarium, and something special and rare. Koch (1835) described the species as Falcaria latifolia, mentioning Hladnik and Žiga Graf, while three years later (1838) he mentions only Hladnik. His name was not retained due to nomenclature rules, as the first valid description of the new species takes precedence. Fleischmann (1844a) wrote that Hladnikia pastinacifolia Rchb. was discovered in 1819, but does not mention who first found it. There are still many uncertainties in the story of the discovery of this famous plant!*

*Hladnikia pastinacifolia Rchb. is part of the umbellifer family. It grows 15 to 30 cm in height. Its basal leaves are one to two times pinnately divided, shiny dark green, with ovate to round and serrated segments. Its whitish flowers are in characteristic umbel inflorescences. Its involucre has many leaves, and its fruits have low ribs.*

Sušnik (1964) wrote about the taxonomic and historical problems of *Hladnikia pastinacifolia* Rchb. in his doctoral dissertation. He assumed that it is an old plant and a glacial relic. Its habitat was much larger in the past.

It grows only in Slovenia in a very small area on the southern and northern edge of Trnovo Forest. It thrives on rocky grasslands and on the rocks between Čaven and Kucelj on the south side and

Zeleni rob and Poldanovec on the north side. Its distribution is very small, with a narrow habitat of only 4 km<sup>2</sup>.

In the Slovenian Red List of endangered species (Rules on the inclusion of endangered plant and animal species in the Red List 2002), it is listed under rare plants (R), as it is one of the older endemic species and has in Slovenia a classical site.

In the Decree on protected wild plant species (2004), it is listed in category H, which requires measures to maintain a favourable condition of habitats, and category X (plant species and their habitats that are subject to environmental responsibility).

It is classified as a Natura 2000 species.

*Hladnikia pastinacifolia* Rchb. is a representative of an independent genus that includes only one species. Such genera are called monotypic and this in itself is peculiarity, as in the vast majority of cases genera have several species.

*Hladnikia pastinacifolia* Rchb. is one of Slovenian most characteristic conservative endemic species, and as the only endemic genus of Slovenian flora it has only one species. Tone Wraber wrote that it is “one of the most remarkable plants of the Slovenian flora” (Wraber 1990, Praprotnik 1996b, 2002a, Čušin 2004).

## ***Daphne blagayana* Freyer – Blagay’s Daphne**

Blagay’s daphne is species that has been written about the most and that has aroused the most interest (Piskernik 1926–1927, Petkovšek 1935, Praprotnik 2004).

In 1837, one of the farmers from Polhov Gradec brought a flowering twig of an unknown daphne to Count Rihard Ursini Blagay. Blagay sent it to Henrik Freyer, curator of the Regional Museum in Ljubljana, who described and named it in honour of

the person who discovered it – Blagay’s daphne (*Daphne blagayana*). He also sent hundreds of dried specimens to H. G. L. Reichenbach for his herbarium collection *Flora Germanica exsiccata*, and with this collection Blagay's daphne almost literally conquered Europe. Freyer also sent live specimens to his acquaintances and botanists. Thus, he sent a specimen in a flower pot to his friend Count J. K. Erberg in Dol and, of course, to botanic gardens throughout Europe, including Vienna.

In Europe at the time, the new species was a real botanic sensation, and the following year (1838), Frederick Augustus II, the King of Saxony, came to see it. To commemorate the royal visit, Count Blagay erected a monument over four metres high to the king, his visit, and the daphne, which people started calling the King’s rose. The monument is unique in Slovenia and is an important part of Slovenian cultural heritage.



Figure 4 *Daphne blagayana*

By a strange and unusual twist of fate, Blagay's daphne was discovered and also described twice as a new species from the daphne genus. In 1780, J. M. Lerchenfeld found a daphne in the vicinity of the town of Braşov in present-day Romania, which he was convinced was an alpine daphne (*Daphne alpina*). Based on his herbarium specimen, J. F. Schur described it as a new species in 1866 and named it Lerchenfeld's daphne (*Daphne lerchenfeldiana*) after the person who discovered it. It was not until 1884 that it was discovered to be Blagay's daphne. Under the Botanical Code, according to the principle of priority, the first validly described name takes precedence, and that is Blagay's daphne.



Figure 5 *Daphne blagayana*

For over thirty years, Mount Polhov Gradec was the only site of Blagay's daphne in Slovenia. In 1871, museum curator Karel Dežman found it on Jetrbenk – later, several other sites were

found. It was found in Styria in the hills above the lower course of Savinja, in the Kozjansko region, in the vicinity of Vrhnika, in the Kočevje region, and in the Trebuša Valley in the Primorska region.

In 1856, Blagay's daphne was found in Serbia by J. Pančić. Later, more sites were discovered in the Balkans: in Montenegro, Herzegovina, Bosnia, Croatia, Albania, Macedonia, Bulgaria, Greece, and Italy. But it was first discovered under the wrong name in 1780 in Romania.

The area of distribution of Blagay's daphne is not contiguous. The central and largest part of its area of distribution is in Bosnia and Herzegovina, Serbia and Montenegro, with separate (discrete) parts in Albania, Macedonia and Greece, and a smaller area is on Stara Planina in Bulgaria. The second area of distribution with several sites is in Romania, in the Carpathian Mountains and Transylvania, and the third area is on the south-eastern edge of the Alps in central Slovenia and Croatia. The north-western border of distribution is in north-eastern Italy in the Carnic Prealps, where there are two sites.

Blagay's daphne is a relic of tertiary vegetation. In terms of its distribution, it is an Illyrian-Carpathian species, and in terms of its origin and kinship, it is considered to be "laurel" flora.

Blagay's daphne is an evergreen, slightly branched shrub, up to 30 cm tall, with prostrate shoots and rising, leafy twigs at the top. The leaves are obovate, blunt, leathery, smooth, glabrous, shiny, almost sessile, entire, dark green above, lighter on the underside. Its flowers grow in bracteate umbel heads. There are usually 10 to 20 flowers in an umbel, surrounded by dark green leaves. Its flowers have a strong fragrance. An individual flower is yellowish white and without petals. It is pollinated by insects. The one-seeded, elongated ovate stone fruit matures in June. It is glabrous, light brown or whitish red, fleshy and transparent. Its

seeds are obovate and green, often not germinating. In Slovenia, it booms in March and April, sometimes in May.

During his visit, Frederick Augustus II already expressed his hope that the people of Carniola would protect the daphne and prevent its destruction. Because it was endangered, it was protected in Carniola as early as 1898, together with the edelweiss (*Leontopodium alpinum*), and it has become a symbol of our nature conservation efforts.

Shortly after its discovery, Blagay's daphne was planted in the Ljubljana Botanic Gardens by gardener Andrej Fleischmann (1839). From 3 May to 30 August, Fleischmann published lists of plants flowering in the Gardens in magazine *Carniolia*. Among the plants blooming before May 1, he also mentions Blagay's daphne.

He published small botanic news articles under the column *Kleine Landeschronik* (Fleischmann 1843). As the winter was mild at the time, "blagayove Joshefze" (Blagay's daphne) already flowered in the Botanic Gardens between 7 and 16 February.

According to available data, the winter was also quite normal in 1844, but Blagay's daphne blossomed as early as the end of February and the beginning of March (Fleischmann 1844b).

In 1846, the winter was again very mild, as he wrote about "flowers in winter in Carniola" at the end of January (Flejšman 1846). He mentions "Blagajove Jožefce" (Blagay's daphne), which already started sprouting flowers. According to his record, Count Blagay told him about the site of this plant, and so he was able to plant them in the Botanic Gardens as well:

"They are especially nice where they naturally grow in abundance, that is on the Hill of St Lovrenc next to Polhov Gradec, where the esteemed Count Jožef Blagay found them first, and a few years ago also told me about them, from where I



brought some and planted them in the Imperial Royal School Gardens.”

In the Slovenian Red List of endangered species (Rules on the inclusion of endangered plant and animal species in the Red List 2002), it is listed under vulnerable plants (R).

In the Decree on protected wild plant species (2004), it is listed in category H (measures to preserve a favourable condition of a habitat for this plant species).

Because Blagay’s daphne is a protected species and because it is also interesting from a horticultural perspective, attempts were undertaken to reproduce it in botanic gardens. Around 1955, the first successful attempts to reproduce Blagay’s daphne were made in the Ljubljana Botanic Gardens.

In the 1970s, Vinko Strgar conducted experiments in cultivation of Blagay’s daphne. When writing about the protection of Blagay’s daphne (1975), he suggested that it be reproduced for sales, as it grows very well in loose fertile soils. Strgar (1976) conducted experiments with summer cuttings with old, new and old and new parts of shoots. He wanted to identify opportunities for the multiplication of this species in culture. The results were promising and, in his opinion, would be a good foundation for further research, which did not take place. In recent times, Blagay’s daphne has been successfully bred from autumn cuttings for some years, and the plants currently growing in the garden are grown from these cuttings.

### ***Genista holopetala* Fleischm.**

In the 19th century, the Imperial Royal Botanical Gardener Andrej Fleischmann found a new species of the genus *Genista* on

one of his botanical trips to Čaven, and named it *Genista holopetala*.

Fleischmann collaborated on Reichenbach's herbarium *Flora Germanica exsiccata*, which was published in several volumes and was sent to various museums and natural science institutions throughout Europe. Herbarium sheet no. 2066 includes a dried specimen of the newly discovered species. Fleischmann listed Notranjska, Čaven pri Ajdovščini, as its site, adding that it may only be a variety of the southern greenweed (*Genista radiata*), and noted a few more distinctive traits. Although descriptions of new species are usually published in a journal or book, the attached herbarium label is considered a valid professional description for this species. Cards for the 21st *centuria* were published by Reichenbach (1842) (Wraber 1990; Praprotnik 1997a, 2001b; Surina 2004).

*Genista holopetala* Fleischm. is a shrub with crooked branches and narrow, firm, entire, permanent, trifoliate leaves that fall off quickly, and their role is taken over by green stems. This indicates that the plant is adapted to dry habitats. It has bright yellow papilionaceous flowers, which grow mostly by themselves or in small inflorescences.

*Genista holopetala* Fleischm. has a very small area of distribution. It has a north-western Illyrian or Liburnian distribution. It is a tertiary relic, growing along the Dinaric mountain chain from southern Velebit over Kapela and Gorski Kotar to Trnovo Forest. In Slovenia, it grows only on rocky, sunny slopes on the edge of Trnovo Forest above the Vipava Valley on Kucelj and Mala gora. In neighboring Italy, it grows in the valley of Glinščica, and it also thrived on Gabrovski hrib near Trieste. In Croatia, it also grows on Krk.

In the Slovenian Red List of endangered species (Rules on the inclusion of endangered plant and animal species in the Red

List 2002), it is listed under vulnerable plants (V), as it can only be found on one site in Slovenia, has a north-western distribution border and a classical site.

In the Decree on protected wild plant species (2004), it is listed in category H, which requires measures to maintain a favourable condition of habitats, and category X (plant species and their habitats that are subject to environmental responsibility).

It is classified as a Natura 2000 species.



Figure 6 *Eranthis hyemalis*

***Eranthis hyemalis* (L.) Salisb. – winter aconite**

As early as January, it can grow a stem with a flower and three palmately parted bracts from a gnarled tuber. Its basal petiolate leaves, divided into five to seven leaf lobes, develop only later. Its flowers are 20 to 30 mm long. They consist of 6 to 8 floral

leaves (in terms of origin, these are sepals), inside are nectary glands, numerous stamens and 4 to 6 pistils, which later develop into sacs full of seeds.



*Figure 7 Eranthis hyemalis* in the oldest part of the Garden

The winter aconite in the Botanic Gardens has been growing since Hladnik's time, when he named it *Helleborus hyemalis* (As 882). We do not know exactly from which site he brought it to the Botanic Gardens. However, we can deduce that he brought it from Nanos, as that was its only known site in Slovenia at the time. This is also confirmed by the record in Host's work *Flora Austriaca* from 1827, which for Carniola lists Nanos as its site in the former common state of Habsburg Monarchy, which included today's Slovenia (*"In Carniola im monte Nanos"*). According to

abundant correspondence, the data was provided by Hladnik (Praprotnik 1994, 2009, 2012 a,b; Bavcon et al. 2016, 2017 a). It is established that Hladnik explored many mountains and hills in Slovenia, including Nanos, first alone, as stated in his first letter to the rector in 1810 (ZAL LJU 184), and later with his gardener Fleischmann (Praprotnik 1994, 2010 b, 2012 a, b). In his Overview of Carniolan Flora (*Übersicht der Flora Krains*), Fleischmann (1844a) states that winter aconite grows in bushes near the Church of St Hieronymus on Nanos. So there is no reason to doubt this information, as the first one was reliably provided to Host by Hladnik and Fleischmann then just summed it up. Therefore, given that the second known site in this area in the lowlands around Strane (Pospichal 1897–1899) was discovered much later, it seems quite logical that the plant was brought to the Botanic Gardens from Nanos. Both of these sites, Hladnik-Fleischmann's and Pospichal's, are no longer confirmed today. Wraber, Bavcon and others searched on Nanos, but could not find winter aconite there nowadays. However, in the last 30 years, it was found on quite a few new sites on Bohor (Klenovšek et al. 2003) and also in Podsreda (Bavcon & Sušnik 2003). The head of the garden, Dr Vinko Strgar (1981), studies winter aconite in the vicinity of Sevnica. In the Botanic Gardens, winter aconite thrives best primarily in the oldest, i.e. Hladnik's, part of the garden. It is quite possible that these are the descendants of the now-extinct population of winter aconite around the Church of St Hieronymus. If this is true, then this population of specimens has been here for over 200 years, is very abundant, originates from

said extinct population, and could be used to repopulate the original site on Nanos.

Paulin collected the winter aconite specimen for his herbarium *Flora exiccata Carniolica* in the vicinity of Sevnica under the number: 1129 *Eranthis hiemalis* (L.) Salisb. – In large numbers in the fields near Sevnica (district of Brežice). – 300 m. – III.

These, too, were brought to the Botanic Gardens and are most likely located in another part of the garden, which was then expanded in Paulin's time. It is very likely that this is also in the new part of the garden, which was expanded after the Second World War, where it was brought first by the gardener and then head of the garden, Dr Vinko Strgar (1981). Thus, in historical terms, there are at least three different and separate populations in the garden. Today, Paulin's winter aconite site remains in nature only in fragments, but winter aconite in this regions grows in many gardens as people brought it home from the original site, where a factory stands today (Klenovšek 1996).

In the last 20 years, we discovered several new sites (Klenovšek 1996; Klenovšek et al. 2003; Bavcon & Sušnik 2003). Slovenia actually lies in a transitional area between the eastern and western distribution of the species.





Figure 8 *Eranthis hyemalis* in the oldest part of the Garden

***Paradisea liliastrum* (L.) Bertol. – St Bruno’s lily**

In *Botanische notizien* (As 882), Hladnik provided the following information for St Bruno’s lily: *Czakia Liliastrum* K.R.N. mountain slopes, Alpine meadows, Friuli, Carniola (Carinthia in patches) *Anthericum Liliastrum*. Linné (*mountains and barren areas of Croatia?*) *Hemerocallis Liliastrum* H H. Host lists only hills in Friuli for this species.

In his Overview of Carniolan Flora (*Übersicht der Flora Krains*), Fleischmann (1844a) lists the mountains of Triglav for this species. However, no one has found this species there after

Fleischmann. In the Overview of Carniolan Flora from 1916, Paulin wrote that he could not find this species in the site listed by Fleischmann. He also noted that other botanists did not find it there, neither before nor after Fleischmann. For his dried herbarium, Paulin collected St Bruno's lily specimens in the vicinity of Aclete, opposite Bela peč. He wrote that it grows "On wet meadows among the grass near the village of Aclete, opposite Bela peč (Gorenjska) 900m VI." As Dolšak wrote on the cards, this is the most eastern site of this species. This is where the species Paulin grew in the Botanic Gardens came from.

Nevertheless, as early as 1889, Paulin included the species in *Index seminum*, a collection of plant seeds from the garden in 1888. Paulin started working in the garden in 1886 and it is very unlikely that he went to Aclete in the first year, which is quite far from Ljubljana. At the same time, it is even less likely that the species would bloom so abundantly as early as next year that there would be enough seeds for exchange. Therefore, it is very likely these are plants that were already in the garden during the time of Hladnik and later Fleischmann.

At the original Paulin's site in Aclete, the species is still growing, which was confirmed in 2000 by Wraber and Bavcon. The habitat is slightly moist meadows on deeper and partially clayey soil. Paulin (1916) also described the plants among which St Bruno's lily grows and listed the species: *Anthoxanthum odoratum*, *Trisetum flavescens*, *Avenastrum pubescens*, *Koeleria pyramidata*, *Briza media*, *Dactylis glomerata*, *Poa pratensis*, *Festuca rubra*, *Brachypodium rupestre*, *Carex montana*, *C. caryophylla*, *Luzula campestris*, *Tofieldia calyculata*, *Colchicum autumnale*, *Lilium bulbiferum* and others.

At the start of summer in 2000, his colleague Dakskobler (2001 a, b) also found this species in the meadows above Drežnica, which is a completely new site and actually the first after Fleischmann's that is actually in present-day Slovenia. Today, *Aclete* are in fact in Italy. The new find is on the mown meadows below Krn, which have at least partially similar conditions. Dakskobler noted that Paulin listed 107 species in *Aclete*, and in the newly discovered site he himself listed 59 of the same species as in *Aclete*. He noted that the floristic similarity according to Sorensen is about 37%. He stated that the habitats in Krn Mountains are even more similar to those in the sub-Alpine zone in the Carnia Valley and Zilje Valley (Dakskobler 2001 b).

Although the original Fleischmann's site seems to be quite high compared to the more frequent distribution of St Bruno's lily in the altitude range between 1300 and 1500 metres, other authors also note that it can grow in the range from 500–600 metres to 2300 metres. Lippert lists the species for mown meadows, mountain pastures, even for herb communities and shrubland of green alder. Poldini (1991) classified it as a species of sub-Alpine grasslands. On the other hand, Lauber and Wagner classify it a species of mountain meadows (Lauber & Wagner 1998; summarised from Dakskobler 2001 b).

All this may suggest that the species could also be present under Kredarica on meadows as noted by Fleischmann. It is possible, however, that the species had already disappeared due to grazing before the establishment of the Triglav National Park.

***Pastinaca sativa* L. var. *fleischmanni* (Hladnik) Burnat -  
Fleischmann's parsnip**

On the slopes of the Ljubljana Castle Hill, Andrej Fleischmann found a new species of parsnip (*Pastinaca*) and planted it in the Botanic Gardens (Wraber 1989; Praprotnik 1996a; Bavcon 2002 a, b; 2013; Praprotnik, Bavcon & Ravnjak 2017). It was described by Hladnik and named after his gardener, Fleischmann's parsnip. The plant is thus also associated with Hladnik, who collected a specimen for the herbarium and wrote *Pastinaca Fleischmanni* on the label. The label list "Laibacher Schloßberge" (Ljubljana Castle Hill) as its site. The specimen has been preserved in the collection of the Slovenian Museum of Natural History (LJM).



*Figure 9 Pastinca sativa var. fleischmanni first year*

It was collected for *Flora Germanica exsiccata* collection on Ljubljana Castle Hill by Freyer, under the number 1193. The label lists *Pastinaca selinoides* Vis. as the first name and *P. Fleischmanni* Hladn. as a synonym. Later, a printed correction with the name *Pastinaca Fleischmanni* Hladnik was added. The herbarium label was published by Reichenbach (1837). With *Flora Germanica exsiccata*, Fleischmann's parsnip made its way to European universities, museums, and botanic gardens.

It was described as a parsnip variety by Swiss botanist Emile Burnat (1906) on the basis of specimens submitted by Nikomed Rastern from the Ljubljana Botanic Gardens, who also informed him that it no longer grows spontaneously in Carniola.

After Fleischmann, Hladnik, and Freyer, the species was no longer found in its original habitat, but it has been preserved in the Botanic Gardens (Bavcon et al. 2017 b). Carniolan botanists, among them Valentin Plemel (Praprotnik 2015a; Praprotnik et al. 2017), Jurij Dolliner (Praprotnik 2015a; Praprotnik et al. 2017), and Nikomed Rastern (Praprotnik 2015a, Praprotnik et al. 2017), collected it from the Gardens for their herbariums and sent specimens throughout Europe. Paulin collected it for collections *Flora exsiccata Austro-Hungarica* (Fritsch 1899) and *Flora exsiccata Carniolica* (Paulin 1904; Praprotnik et al. 2017).

Karel Dežman and Wilhelm Voss (1882, 1885, 2008) searched for it in vain on the Ljubljana Castle Hill. Voss planted Fleischmann's parsnip in Tivoli Park and by Rakovnik. For a few years, it thrived on this site, but we have no later confirmations.



*Figure 10* Reintroduction of *Pastinaca sativa* var. *fleischmanni* on Ljubljana castle

Why did Fleischmann's parsnip die out on the Ljubljana Castle Hill? As one option, Bavcon (2002 a, b; 2010) claims that botanists, in their zeal to collect the plant for their desiccated collections, over-collected the species and thus destroyed the habitat. For *Flora Germanica exsiccata*, each species, if possible, had to be collected in 150 perfect specimens (Reichenbach 1830; Wraber 2002). It is likely that Fleischmann's parsnip became extinct on the Ljubljana Castle Hill due to Freyer's gathering (Praprotnik et al. 2017)!

Mayer (1960) believed that the taxon probably developed spontaneously in the Ljubljana Botanic Gardens, while Sušnik and Druškovič (1968) observed that, based on its anatomical morphological traits, it is a genetically fixed mutation of common parsnip.



Fleischmann's parsnip is a biennial plant. During its first year it forms only a rosette with bipinnate leaves, growing from a long and thick main root, and during its second year, up to 100-centimetre-long stem grows from this rosette, which is rough and overgrown with short, pointy hairs. Its large umbels are yellow, composed of numerous tiny flowers. Fleischmann's parsnip is a mutation of common parsnip, which is otherwise one of the most common meadow plants. It is distinguished from the common parsnip by bipinnate leaves, by the shape and serration of leaves, and partially by a darker green shade of its leaves (Praprotnik et al. 2017).

Throughout these years, it persevered in culture in the Botanic Gardens, and does so even today, and thus represents an exceptionally precious genetic code. Regardless of the fact that the rank of taxon *Pastinaca fleischmanni* varies greatly, this is most likely a mutation of the common parsnip, as determined by Sušnik and Druškovič (1968). Multiple facts point to this. When we studied the germination rate of Fleischmann's parsnip, we discovered that the rate under natural conditions ranges from 45% to 54%, at most. For common parsnip, the bottom limit of 60% is listed as a still satisfactory germination rate. In the development of a larger number of plants from Fleischmann's parsnip seeds, we determined that other specimens occur, which are not completely typical for the species, but have pinnate and not bipinnate leaves; segments are also more ovate and roughly serrated, like with common parsnip, and not as sharp as with Fleischmann's parsnip. The colour of the leaves remains dark green, as is usual for the mutation. The percentage of non-typical plants is 3–5% (Bavcon 2008, Praprotnik et al. 2017).

In the last decades, the taxon in its living form almost ceased to exist quite a few times, primarily due to disorganised conditions in the Botanic Gardens (Bavcon 2010, 2013). In 1995,

we found only a few plants in the grass by the flower bed where the plant used to grow. Using these plants and the seeds stored in the seed bank, we managed to grow a very rich population of Fleischmann's parsnip (Bavcon 2008). Due to poor personnel circumstances, the number of living specimens critically decreased once again in 2007, and Fleischmann's parsnip was once again on the edge of extinction, but we managed to keep it alive. In 2011, we reintroduced the plant to the Ljubljana Castle Hill, specifically in the Castle courtyard by the offspring of the oldest grape wine. Here, the plant persevered and flowers every year. The site is very ruderal and sunny, and the parsnip reproduces by itself without any extra care. The reintroduction was therefore successful (Praprotnik et al. 2017).

Fleischmann's parsnip is also one of the Slovenian endemic plants (Mayer 1960, Wraber 1996, Skoberne 2001).

Interestingly, Paulin (1906), in his manuscript *Über botanische Naturdenkmäler in Krain* lists rare species that have only one or very few natural sites in Carniola, and mentions Fleischmann's parsnip as the first such plant, which can be found "spontaneously only in grassy areas in the Botanic Gardens" (Mayer 1988, Praprotnik & Skoberne 1995).

In the Slovenian Red List of endangered species (Rules on the inclusion of endangered plant and animal species in the Red List 2002), it is listed under extinct plants (Ex).

In 2016, in honour of this famous plant, we opened an educational path called On the path of Fleischmann's parsnip, which connect the Botanic Gardens and the Ljubljana Castle Hill (Ravnjak, Bavcon & Praprotnik 2016), and one year later we published a monograph on this interesting plant (Praprotnik et al. 2017). The path connects two institutions and runs from its replacement habitat in the Botanic Gardens, where it has a reserved flower bed among the umbellifers in the plant system, to

the old Karlovac Bridge, and then along the south side of the Ljubljana Castle Hill up to the Castle courtyard.

The plant, which survived for almost two hundred years in the care of gardeners, has thus been given its own path.



*Figure 11 Acer tataricum*

### ***Acer tataricum* L. - Tatar maple**

Tatar maple is a deciduous shrub or smaller tree with an irregularly branched canopy. Its bark is smooth, pale brown at first, but becomes dark grey with longitudinal fissures later. It has tiny buds covered with tiny brown scale leaves. It is a monoecious, entomophilous and predominantly mesophilic species. Its flowers are whitish but well noticeable, blooming from May to June. The fruit consists of two winged fruitlets that

fit together with their wings, with several fruits grouped in a cluster. The area of the species is, in a broader sense, Southern Europe and Central Russia (Tutin 1968).

Tatar maple is mentioned in the lists of Slovene flora in the work of Andrej Fleischmann (1804–1867, gardener from 1819 to 1850 and head of the Ljubljana Botanic Gardens from 1850 to 1867), Overview of Carniolan Flora (*Übersicht der Flora Krain*). In previous lists of flora for the area of Carniola, this species had not yet been mentioned. Scopoli's second edition of *Flora carniolica* (1772) listed three species: *Acer monspesulanum* L., *A. campestre* L., *A. platanoides* L (Bavcon et al. 2011). The list of plants from the Botanic Gardens from 1812 mentions a few maples, but Tatar maple is not among them (Praprotnik 2010 b).

In his famous work *Flora Austriaca*, Host N. T. (1827-1831) listed species *A. tataricum* for the entire common state at the time, but mentions Hungary and Croatia as its area of distribution, and does not mention Carniola. Hladnik had been in regular correspondence with Host since 1812, so that if Hladnik had data for this species, he would most likely forward it to Host in Vienna. It is very likely, therefore, that this species was not yet in the Botanic Gardens at that time.

Fleischmann is not considered reliable among botanists. He was particularly criticised by Paulin. Fleischmann found Tatar maple on hill Friedrichstein in Kočevsko (or by Kočevje) and in the forest near Gotenica (*In Berge Friedrichstein bei Gottschee und im walde bei Geteniz*), as he writes in the Overview of Carniolan

Flora. It is quite possible, that he then brought the plant to the Botanic Gardens, but we do not know for sure. It is also not known whether the species was naturally growing or planted on that site.

Although Paulin was very critical of Fleischmann, he then found the species himself. Perhaps even on the same site as Fleischmann, as he also mentions Friedrichstein: *Carniolia. In silvis montis Friedrichstein prope Gottschee. Inde alatum colitur in horto botanico Labacensi*. Which can be translated as: Carniola. In the woods near hill Friedrichstein, Kočevsko or Kočevje. This is also the origin of the specimen growing in the Botanic Gardens (Paulin 1907).

Later works describing the flora of Slovenia, such as Key for Determining Flowers and Ferns (*Ključ za določanje cvetnic in praprotnic*) by Angela Piskernik (1941, 1951) do not list Tatar maple. While Mayer's list of ferns and seed plants (1952) mentions Tatar maple, defining it as rare and growing in south-western Dolenjska (Kočevje area), and cultivated elsewhere. All editions of Little Flora of Slovenia (*Mala flora Slovenije*) from 1969 to 2007 mention Tartar maple. Kočevsko is listed as its habitat, while it is cultivated elsewhere. In his work, Šilić (1983) also noted only south-western Dolenjska in Slovenia, but lists it for southern parts of the former common state from Croatia and southward. This, too, is most likely data relating to Fleischmann and then Paulin. Material for the Atlas of Slovenian Flora (*Gradivo za Atlas flore Slovenije*) most likely contains the same data, with Drava Valley listed as an additional site. All of this

suggests that the data was most likely transcribed, without verification in nature. Kotar and Brus (1999) and Brus (2004) also reference Fleischmann's and Pauline's data, but note that there is no recent confirmation.

In our field work in various regions of Slovenia, we did not specifically look for this species. However, if it were more common, we would almost certainly notice it. Regardless of the fact that Tartar maple was not observed (most likely after Paulin) – it would be necessary to check all data from herbariums of various institutions in Slovenia – we share the opinion that it might not have been observed again.



*Figure 12 Acer tataricum*

Today, three trees grow in the University Botanic Gardens Ljubljana. However, the thickest tree is the one that was certainly planted last, as this is in the newer part of the Gardens, which was created after 1946. These are three “bush trees” as they have several equivalent trunks, and the latter is the largest. In the Gardens, during very snowy winters, it usually breaks due to snow, despite gardeners shaking snow off, but we always manage to get it back to a fairly normal shape after cutting – in other words, it is a very undemanding species. However, it is true that the one in the oldest part of the Gardens is smaller and with thinner trunks, because it has less moisture there and is very much exposed to sunlight. Although Tatar maple has not been found in Slovenia in recent times, it is a plant that reproduces very well in the Botanic Gardens. It germinates best in concrete pools with marshland plants, i.e. on a fairly acidic soil.

***Iris pallida* Lam. subsp. *cengialti* (Ambrosi) Foster = *I. cengialti* Ambrosi, incl. *I. cengialti* Ambrosi f. *vochinensis* Paulin - Bohinj iris**

In 1854, Italian botanist Francesco Ambrosi (1821–1897) published a description of a species called *Iris cengialti*. In 1886, Michael Foster (1836–1907), an English professor of physiology and an amateur botanist who primarily studies irises, classified the species in the group of sweet or Dalmatian irises (*Iris pallida* Lam.) at the level of a subspecies (*Iris pallida* subsp. *cengialti*) (Foster 1886). The name *cengialti* refers to the 1354-metre-high mountain Monte Cengio Alto, located north-west of the city of Vicenza, which is the species' classical site. This is a (south-) eastern Alpine taxon, which grows only in northern Italy and

north-western Slovenia, extending from the province of Brescia in the west to Bohinj in the east.

The Slovenian name for the species is Bohinj iris or South-Alpine iris. It has a dark blue to purple perianth. It has two to three flowers on the flower stalk. The flower directly below the highest flower is on a different, at least three-centimetres-long stalk. It grows on rocky or stony sites, scree slopes, grasslands and in light forests. In Slovenia, it has the largest number of sites in Zgornje Posočje, but it is also common in Bohinj.

Paulin studied specimens of species *Iris cengialti* on Komarča in detail, and described a special variety called *vochinensis*. In his texts, he wrote about Bohinj iris (*Wocheiner Iris*), which does not differ from the populations in Posočje (Paulin 1917).

In both keys, A. Piskernik (1941, 1951) listed it under the name Bohinj iris (*Iris cengialti* var. *vochinensis*). Mayer (1952) stated that taxon *Iris cengialti* Ambr. var. *vochinensis* (Paulin) E. Mayer grows in the Julian Alps. Martinčič & Sušnik (1969, 1984) included it in the species *Iris illyrica* Tommasini (*Iris cengialti* Ambr. var. *illyrica* (Tommasini) Pampan.), with the Slovenian name Illyrian iris. As its site, they listed the Julian Alps (Bohinj, Bavščica) and the sub-Mediterranean region. Wraber (1990) wrote that Bohinj iris belongs to the polymorphic family or irises, which are widespread in the Southern Alps and the North-western Dinarides. Trpin & Vreš (1995) listed taxon *Iris cengialti* Ambrosi f. *vochinensis* Paulin (*Iris cengialti* Ambrosi var. *vochinensis* (Paulin) E. Mayer) under the name Bohinj iris. Martinčič et al. (1999, 2007) listed species *Iris pallida* Lam. subsp. *cengialti* (Ambrosi) Foster (*Iris cengialti* Ambrosi, incl. *Iris cengialti* Ambrosi f. *vochinensis* Paulin) under the name of the South-Alpine iris, which grows in the Julian Alps in sunny positions in the upper part of the Soča Valley and in Bohinj, where it grows on the sunny cliffs above the lake, which botanist



and geneticist Fran Jesenko (1875–1932) briefly described as follows (Wraber 2006):

“Below you is a precipice, and above you is *Iris cengialti* and the blue sky – that is Komarča.”

The Decree on protected wild plant species (2004) protects all species of iris, which are listed in category H, which requires measures to maintain a favourable condition of habitats.

The International Alpine Flower Festival has been held in Bohinj since 2006. Its symbol is their very own Bohinj iris (Dakskobler 2019a, 2019b)!

Paulin’s scientific publications ended right in the middle of an article with the following words: “To be continued” (Paulin 1917, Wraber 1978).

***Centaurea dichroantha* A. Kerner = *Centaurea dichroantha* A. Kerner var. *julica* Hayek = *Centaurea alpigena* Paulin = *Centaurea alpigena* Paulin f. *dichroantha* (Paulin) E. Mayer - Paulin’s knapweed or bi-coloured knapweed**

The Viennese botanist Anton Kerner (1874) described a new species of the genus *Centaurea* found on gravel banks in Friuli. Species *Centaurea dichroantha* A. Kerner was named after the colour of its flowers. Its petals are sometimes pale yellow and sometimes light purple. The outer flowers in its inflorescence are longer than the inner ones. In 1912, Paulin found a species of knapweed on scree slopes and the rocks of Komarča and in the southern wall of Pršivec above Lake Bohinj, which he considered a new species and described it in an article (Paulin 1917) as

species *Centaurea alpigena* Paulin. In the description, he wrote that it differs from Kerner's bi-coloured knapweed by its stronger, taller growth and larger flower-heads, as well as by flowers that are only sulphur-yellow. He also collected the plant for herbarium *Flora exsiccata Carniolica* as the last specimen, with the number 2000 (Wraber 1966). The herbarium label states that he found it on a limestone scree not far from the Savica waterfall, on the southern slope of Pršivec above Lake Bohinj. Later, the plant was named in Slovene after the founder – Paulin's knapweed. A. Piskernik (1941, 1951) listed species *Centaurea dichroantha* and added that only Paulin's knapweed (var. *julica* (*alpigena*)) grows in the Julian Alps, which always has sulphur-yellow flowers and wider leaf tips. For the Julian Alps, Mayer (1952) listed taxon *Centaurea dichroantha* Kerner var. *julica* Hayek (*Centaurea alpigena* Paulin). Mayer (1960) classified this taxon only as a form that is endemic on the southern slope of Pršivec, where it grows scattered and reaches down the scree slopes to Lake Bohinj. Martinčič & Sušnik (1969) listed Paulin's knapweed (*Centaurea alpigena* Paulin (*Centaurea dichroantha* Kern. var. *julica* Hayek), and in the second edition of Little Flora of Slovenia (*Mala flora Slovenije*) (Martinčič & Sušnik 1984) the bi-coloured knapweed *Centaurea dichroantha* A. Kern. (*Centaurea dichroantha* Kern. var. *julica* Hayek; *Centaurea alpigena* Paulin). Trpin & Vreš (1995) listed species *Centaurea dichroantha* A. Kerner (*Centaurea alpigena* Paulin) and added two Slovenian names: bi-coloured knapweed and Paulin's knapweed. Martinčič et al. (1999, 2007) listed the species (*Centaurea dichroantha* A. Kerner (*Centaurea dichroantha* A. Kerner var. *julica* Hayek; *Centaurea alpigena* Paulin, *Centaurea alpigena* Paulin f. *dichroantha* (Paulin) E. Mayer) under the name bi-coloured knapweed and noted its sites in the Julian Alps, in Posočje and Bohinj.

More recently, the prevailing view has been that the Paulin's knapweed is not an independent species, but is probably only a stronger and taller variety of the typical bi-coloured knapweed, which has a classical site in neighbouring Italy, in Friuli (Wraber 1990). In Slovenia, it is found only in the Julian Alps on sunny rocks, on scree slopes and in pine forests above Lake Bohinj on Pršivec and Komarča. Other Slovenian sites are in Zgornje Posočje in the Lepena Valley, in Bavšica and around Log pod Mangartom (Praprotnik 1997c, 2010 c).

***Viola tricolor* L. subsp. *saxatilis* (F. W. Schmidt) Arcang.  
= *V. tricolor* L. subsp. *subalpina* Gaudin = *V. alpestris*  
Jord. subsp. *paulinii* Hayek - Paulin's pansy**

In honour of Paulin, Hayek (1909) named subspecies *Viola alpestris* (DC.) Jord. subsp. *paulinii* Hayek, which thrives on pre-Alpine meadows in Karavanke near Solčava (mountain pass Pastirk) and on Kum in Zasavje. It is also listed in the same sites by Paulin in collection *Flora exsiccata Carniolica* under number 331 and under the name *Viola saxatilis* Schmidt (Paulin 1902).

Piskernik (1951) listed subspecies *Viola alpestris* (DC.) Jord. subsp. *paulini* Hayek and named it Paulin's pansy. It grows on rocky and dry alluvial deposits on Kum.

Trpin & Vreš (1995) listed subspecies *V. tricolor* L. subsp. *subalpina* Gaudin and its synonym *V. alpestris* Jordan subsp. *paulinii* Hayek, and its Slovenian name, Paulin's pansy.

In Little Flora of Slovenia (*Mala flora Slovenije*) (Bačič 2007), it is listed as subspecies *Viola tricolor* L. subsp. *saxatilis* (F. W. Schmidt) Arcang., with synonyms *V. tricolor* L. subsp. *subalpina* Gaudin and *V. alpestris* Jord. subsp. *paulinii*. Hayek. Its site is listed in the Kamnik–Savinja Alps, on Pohorje, in the Dinaric and

pre-Alpine regions. It grows on dry meadows and rocky slopes. Bačić (2007) notes that all corolla leaves of Paulin's pansy are mostly yellow, rarely the two upper leaves are bluish purple. The spur is 5–6 mm long, as long or up to twice as long as the calyx appendages. Its flowers occasionally have a fragrance. The corolla has a diameter of 2–3.5 cm.

Taxon *Viola alpestris* (DC.) Jord. subsp. *paulinii* Hayek is only a synonym for species *Viola tricolor* L. (Wraber 2008, Rakar 2008).



Figure 13 *Helleborus* hybrids between *H. odorus* x *H. atrorubens*

***Helleborus x carniolicus* Paulin (*H. atrorubens* x *H. odorus*)**

Paulin collected the species for the 19th and 20th *centuria* in the vicinity of Boštanj, on the right bank of Sava, and wrote that it was a hybrid between *H. atrorubens* x *H. odorus*. The hybrid is still present on the greens in the then-Paulin's part of the Gardens, but it also moved to another part of the Gardens, which was created after the Second World War. Its bunches are very lush and usually blooms in abundance. The colour of these hybrids ranges from more purple to more greenish purple. On the greens in the Gardens, these hybrids are more common than the basic species. We leave bunches of plants all year round, only mowing the grass around them, so the plants grow very well.



*Figure 14 Helleborus hybrids between H. odorus x H. atrorubens*

This hybrid is very common in Dolenjska and Kozjansko. The diversity of these hybrids is very high in some parts of Kozjansko (Bavcon et al. 2012; Bavcon 2014 c). In the Botanic Gardens, however, the diversity of these hybrids is very low, but they persists nonetheless, most likely from specimens from Paulin's time.



*Figure 15 Helleborus hybrids between H. odorus x H. atrorubens*

Hellebores are still subject of research conducted at the Botanic Gardens today. Of the 15 species in the entire genus, five are present in Slovenia (Martinčič et al. 2007) and their diversity within the species is also very large (Bavcon et al. 2012, Bavcon 2014 c, 2016 c). We are mainly interested in the hybrids described

by Paulin, which are extremely diverse in some places, and we are also interested in the colouration of sepals in black hellebore (*Helleborus niger*) (Bavcon et al. 2012). We are growing all these special feature in *ex-situ* conditions in the Botanic Gardens, as many of them in nature simply transition back into the parent species and the combinations are lost. In *ex-situ* conditions, however, we try to preserve this diversity.



Figure 16 *Helleborus* hybrids between *H. odorus* x *H. atrorubens*

### ***Rhododendron luteum* Sweet – yellow azalea**

Yellow azalea (*Rhododendron luteum*) had long eluded Slovenian botanists in nature. It was not until 1954 that the horticultural expert Ing. Miha Ogorevc discovered and described the first site in Slovenia, below Gorjanci. This was followed by

the discovery of several further sites near Boštanj and Topolovec (Mayer 1958) and Mokronog (Wraber 1988). Yellow azalea is naturally distributed in the Caucasus, Asia Minor, Polesia and Volhynia in Ukraine and Belarus and Poland.



*Figure 17 Rhododendron luteum*

Although some botanists argued that the yellow azalea may have gone wild from castle gardens (Aichinger 1956), others argued that it is a wild species that has been preserved as a remnant of tertiary flora (Szafer 1954, Mayer 1958, Wraber 1988). Its spontaneousness is supported by the remoteness of its sites from human habitats, the large number of specimens of different ages, and good germination of its seeds. The site conditions, all in Dolenjska, are quite similar, which only strengthens the hypothesis. In Slovenia, it thrives best on shallow acidic and



moderately moist soils, and in sparse shade (Ogorevc 1954, Mayer 1958). The most beautiful specimens are right at the edge of forests, in forest gaps, but when the forest begins to overgrow, specimens have fewer and fewer flowers, until we get only poorly leafy green shrubs without flowers, as if they were sterile plants. We have written several times about how these sites should be protected (Bavcon 1998, 2000 a, 2010).

Furthermore, at the Botanic Gardens in the 70s and 80s, an attempt was made to germinate the seeds of yellow azalea, which resulted in the conclusion that during the first two years seeds germinate very well at a temperature of 18–20 °C and exposed to light. Seed germination rate was 90–100% in experimental conditions (Strgar 1987). In the 70s and 80s, yellow azalea was one of the most intensively cultivated and studied species in the University Botanic Gardens Ljubljana.

### ***Degenia velebitica* (Degen) Hayek**

This is a perennial plant with hairy grey-bluish leaves. These are ground semi-shrubs up to 10 cm high, with elongated oval leaves, 10–15 cm in length and 2–4 mm in width. Its flowers are yellow and 10–12 mm wide. Its fruit is a silicle with two seeds on each side. It is endemic to neighbouring Croatia, once known only from two sites on Velebit; however, two more sites have been found recently at much lower altitude (Matijević et al. 1999; Ivančević 2000). It was discovered relatively late. In 1907, Hungarian botanist Degen discovered the plant in its fertile form, so that Hayek then correctly classified it and named it after the person who found it.



*Figure 18 Degenia velebitica*

In the 1970s and 1980s, the University Botanic Gardens Ljubljana cultivated the plant in *ex-situ* conditions in large populations, studied it, and then repopulate it on Velebit. On Velebit, open gravel habitats started overgrowing, and the population size consequently began decreasing. *Degenia velebitica* is a botanically interesting monotypic genus, horticulturally interesting both when it blooms and in fertile form, and simultaneously a very vulnerable species in terms of nature conservation (Strgar 1979a, b; 1983). Horvat (1930) wrote that there are only about 100 specimens of fully developed semi-shrubs left, because the species is endangered by amateur botanists, gardeners and other factors.

The first culture of *Degenia velebitica* began in the Budapest Botanical Garden around 1908 (Degen 1937). The first otherwise unsuccessful attempts to grow the plant in the University Botanic Gardens Ljubljana began in 1937. In 1957, they tried again, and since then, *Degenia velebitica* has been successfully cultivated using seeds and cuttings. Every year at least a few plants bloomed. Similarly, the plant was then successfully cultivated both in the Zagreb Botanical Garden and in the garden on Velebit. In 1973, Strgar began very intensive cultivation experiments of *Degenia velebitica* in the garden. At that time, there were more plants in the Gardens than in the then-known natural sites. In 1978, the Gardens had 700 *Degenia velebitica* plants, 272 of which bloomed and produced seeds (Strgar 1979 a, b).



*Figure 19 Beds of Degenia velebitica*

In 1999 (Matijević et al. 1999, Ivančević 2000), Croatian colleagues discovered new sites outside Velebit on the Croatian coast, only 350 metres above sea level on a typical Karst landscape. Today, the species is successfully cultivated in the Botanical Garden of the University of Zagreb, with various studies of this rare species arising from this cultivation (Naumovski 2005, Stamenković 2012).

### ***Sempervivum juvanii* (Strgar) - Juvan's houseleek**

This is another Slovenian endemic species. Its site in Slovenia has been known for a long time, dating back to the first half of the 19th century, but this new species was given a name as late as 1971. It was described by Prof Dr Vinko Strgar, then head of the University Botanic Gardens Ljubljana. Until then, the houseleek on Donačka gora and Resenik was considered to be Wulfen's houseleek (*S. wulfenii* Hoppe ex Mert. & W. D. J. Koch), which otherwise grows in the Swiss, Italian and Austrian Alps. Wulfen's houseleek has yellow flowers, the same as Juvan's houseleek from Slovenia. Only a more detailed and precise examination showed that the Slovenian houseleek, which grows outside the Alpine region in the sub-Pannonian region of Slovenia, differs from the houseleek growing in the Alps. Juvan's houseleek has hairy rosette leaves, even finely glandular hairs, while Wulfen's houseleek is glabrous. Vinko Strgar was the first to discover this, and he also proved this difference in cultivation experiments in the Botanic Gardens. The scientific description of the species was published in 1971 in the Biological Journal (*Biološki vestnik*) (Strgar 1971).

Vinko Strgar named the species after Franc Juvan (1875–1960), a long-time gardener at the University Botanic Gardens Ljubljana and an authority on plants. Franc Juvan worked in the Gardens from 1896 until 1960. He came to the Gardens at a time when it was already successfully managed by Alfonz Paulin, and became Paulin's assistant and plant collector. After the long period of Paulin's leadership, he survived many quick changes in the Gardens, and he probably had a decisive influence in preventing the deterioration of the Gardens during this time. He was a teacher for the younger generation, including Vinko Strgar, who, by naming the plant after him, best honoured him for his many years of dedicated work in the Botanic Gardens (Bavcon 2010).



*Figure 20 Sempervivum juvanii*

Juvan's houseleek grows in nature on hard-to-reach terrain, and can be seen in culture in the University Botanic Gardens Ljubljana, where it has grown since Vinko Strgar started conducting cultivation experiments. The plant blooms at the end of July, but in culture often blooms again or blooms normally in late summer or early autumn (Bavcon 2000 a, b).

In the last thirty years, the distribution of Wulfen's houseleek became more known, and new sites have been found in the Alps. Some experts claim that specimens from these sites may be quite similar to the Slovenian Juvan's houseleek, but this species as such still exists in all professional and scientific literature for the time being. Perhaps greater knowledge of Wulfen's houseleek distribution will bring new insights. In addition to cultivation experiments on plants from these new sites and morphological studies, more detailed genetic research is likely to be needed to confirm or refute these claims.

The current situation of habitats on Donačka gora is very worrying, as houseleek is no longer there – at least not where it could be easily reached – because it was picked clean, mostly by gardeners and collectors of stonecrop family specimens from different parts of Europe. It still thrives in areas only accessible with climbing equipment. Therefore, we in the Gardens are striving to cultivate large enough populations to be able to repopulate it in former and more easily accessible sites. As in nature, the plant in the University Botanic Gardens Ljubljana is always the prey of collectors, so we now grow it on the roof-top gardens in the Botanic Gardens, which visitors cannot access.



*Figure 21 Sempervivum juvenii*

## **Protection of marshland flora**

In his nature conservation efforts, Paulin already wrote about the protection of marshland flora. Nowadays, there is almost no real marshland flora on one of the southernmost high marshes in Europe – the Ljubljana Marshes (Martinčič 1987, 1996, Melik 1946, Pajnič 1934, Zor 1958 a, b, 1961). As late as the 1970s, there were at least some still fairly good fragments, but they were changed with individual interventions. This is why we started protecting and cultivating marshland flora (Bavcon 1997a, b, 1998) in the Gardens in the 1990s, in the water pools built by Paulin in 1907 (Strgar 1973, Bavcon 2000 a, 2010). For this

purpose, we planted several marshland plant species, which could still be found in the remains of the Ljubljana Marshes, on peat soil in these pools, as well as round-leaved sundew, which was brought from other higher-altitude high marshes (Bavcon 1997a, b). Their growth and spread indicates that these plants were given suitable alternative habitats. In these 20 odd years, peat moss has grown into real marshy hills, just like on a real marsh, rising above the ground level by up to 39 centimetres, which shows that the growth of peat moss, which typically grows in hills, is similar to the growth in the Ljubljana Marshes for thousands of years. On these peat islands, similar to nature, there are round-leaved sundew (*Drosera rotundifolia* L.), great sundew (*D. anglica* Huds.), European cranberry (*Oxycoccus palustris* Pers.), bog-rosemary (*Andromeda polifolia* L.), bog sedge (*Carex limosa* L.), few-flowered sedge (*C. pauciflora* Lightf.), white beak-sedge (*Rhynchospora alba* (L.) Vahl.) and others.

Although this surface is sometimes completely dry in warm dry summers, it looks completely different when it finally rains. We have been conducting pedagogical activities here for years, especially for schools on all levels, and we also explain to students about the protection and the importance of protection of species in ex situ conditions. Above all, we can show them the development and formation of true high marsh peat moss islands, and explain the processes, as they occurred on the Ljubljana Marshes (Bavcon 1998). From 1997 to 2020, individual islands of peat moss have already risen from the flat surface.





*Figure 22 Carex limosa*

In the hollows next to the rock garden, we established a habitat for the protection of featherfoil (*Hottonia palustris* L.), marsh calla (*Calla palustris* L.) and flowering rush (*Butomus umbellatus* L.), which are also endangered in Slovenia, as well as other aquatic plants, such as common water-plantain (*Alisma plantago-aquatica* L.) and others. We started with only a few plants, which used to be abundant in the Ljubljana Marshes, but are now very rare. They grow once occasionally in canals on the Marshes. From only a few plants, we have grown successful colonies of both species in the Gardens, which are now sufficiently large for the needs of possible reintroduction.



*Figure 23* Marshland flora

### **Alfonz Paulin, Juliana and Albert Bois de Chesne**

Juliana in Trenta is the only alpine botanic garden in Slovenia. It was founded in 1926 by Albert Bois de Chesne (1871–1953), a merchant from Trieste (Praprotnik 2011, 2012a).

Alfonz Paulin, friend Julius Kugy, botanist Rajko Justin and others, among others, helped or advised Bois de Chesne with information on plant habitats. Franc Juvan, a long-time gardener at the Ljubljana Botanic Gardens, accompanied Albert Bois de Chesne several times on his search for plants in Yugoslavia, on the other side of the former border.

We can learn more about the collaboration between Paulin and Bois de Chesne from their correspondence. Tone Wraber (2010a,

2010b, 2010c, 2010d, 2010e) wrote about this correspondence in one of his last articles. The collaboration between Bois de Chesne and Paulin was “appropriately respectful for that period, but in any case professionally close and almost friendly”. Paulin provided him with information on plant sites and sent him live plants, their seeds, and helped him determine their species. Bois de Chesne sent to Paulin in Ljubljana mainly plants from Karst, Istria and the Soča region, whose sites were practically inaccessible in these places during Italian rule.

Letters written by Bois de Chesne to Paulin have been preserved, proving Paulin’s collaboration in the creation of Juliana.

Wraber described this collaboration in more detail on the basis of their correspondence. 12 letters, 3 correspondence cards and 4 postcards have been preserved. The first letter is dated 28 October 1928, while the penultimate is dated 20 June 1930. The last letter was sent on 9 June 1933.

In it, Bois de Chesne asks Paulin to send several specimens of Hladnik’s henbane bell to gardener Anton Tožbar in Trenta. Interestingly, even after World War Two, several attempts were made to introduce Hladnik’s henbane bell from the Botanic Gardens to Trenta, usually unsuccessfully! He also asked him for species *Centaurea alpigena*, which Paulin first described and which was named Paulin’s knapweed in Slovene. This taxon, however, is classified only as a form of the bi-coloured knapweed (*Centaurea dichroantha*).

In 1929, he sent a large number of specimens of striped crocus (*Crocus reticulatus* Steven ex Adam) to Ljubljana. For several years, the exchange of plants and a wide variety of data had been very lively and two-way.

Bois de Chesne sent Paulin mainly plants from Karst. Thus, he sent to Ljubljana, among others, Welden’s crocus (*Crocus*

*biflorus* subsp. *weldenii* Hoppe & Fürnrohr ex Baker Mathew), *Genista sericea*, and *Genista sylvestris*.

## **PROTECTION OF ENDEMIC SPECIES AND SPECIES WITH A CLASSICAL SITE**

Protection of endemic species is one the Gardens' tasks since the very beginning. As already mentioned for *Hladnikia pastinacifolia* Rchb., Hladnik's henbane bell, Fleischmann's parsnip, Carniolan primrose, *Primula x venusta*, Juvan's houseleek, there are other endemic species and species with a classical site. Most of these important species have been cultivated in the Botanic Gardens for many years. Slovenia is very diverse in terms of its flora, with over 3,500 different plant species (Martinčič et al. 2007) and over 64 endemic species (Mayer 1960; Wraber & Zupančič 1996), so their protection is very important. We are well aware of this in recent times (Bavcon 1998, 1999, 2003, 2007 b, 2010), so we dedicate a lot of attention to these species. We always keep these species in the seed bank, we always provide them for exchange with botanic gardens (Bavcon 2009, 2012 d, Paulin 1889, Praprotnik 1994), and in the last 25 years we keep them in the seed bank first in dry and then in a permanent seed bank (Bavcon & Ravnjak 2016). Since 2016, our seed bank contains over 20% of Slovenian native flora, including our endemic species and endangered species with known natural sites (Bavcon et al. 2019). At the same time, we also conduct monitoring in nature for individual endangered species (Bavcon et al. 2019). In the last year, we started a project

to protect endemic species in roof gardens (Bavcon & Ravnjak 2020), where plants are protected from possible interference or theft. The Gardens have always been concerned in this issue, as evidenced by the 210 years of work with some species (*Scopolia carniolica* f. *hladnikiana*) or slightly fewer years with *Hladnikia pastinacifolia* and *Pastinaca sativa* var. *fleischmanni*, which are subject of a long tradition of protection (Fleischmann 1844a, Paulin 1889, Strgar 1973), and many others.



*Figure 24 Primula carniolica*

## **EX SITU PROTECTION OF SPECIAL FEATURES OF SLOVENIAN FLORA**

In addition to the protection of endemics, endangered species, marshland flora and in situ protection of dry meadows, the University Botanic Gardens Ljubljana engage in selection of various special features in individual species and subsequently their ex situ protection. Such special features include large research collections with over 6000 units of *Galanthus nivalis* in Slovenia (Bavcon 2007 a, 2008, 2012 a, 2014 a, b; 2016 b, Bavcon & Ravnjak 2020), where we have also described new varieties within these abundant populations in Slovenia (Bavcon et al. 2019, Bavcon & Ravnjak 2020). These are then successfully cultivated in research flower beds of the Botanic Gardens. In 2019 and 2020, we equipped our research flower beds with new infrastructure so that the plants will have better conditions for growing in ex situ conditions. In these species, we also follow phenological phenomena (Bavcon 2014 a, b; Bavcon & Ravnjak 2020; Praprotnik & Bavcon 2016). We also presented our work to the wider European public with lectures at the Snowdrop Festivals in Belgium, England and Ireland (Bavcon 2011, 2012 c, 2016 b, c).

In addition to species *Galanthus nivalis*, we also have a fairly extensive collection of special features of genus *Crocus* in Slovenia (Bavcon 2010). This collection includes all species growing in Slovenia (Martinčič et al. 2007, Dakskobler & Wraber 2008). In this genus, hybrids are also found in nature, but they are a rarity and some of them are successfully grown in ex situ

conditions as different colour varieties of individual species, as well as the full-flowered form – Flore Pleno, which are even rarer (Bavcon 2012 c, 2013, 2014b).



*Figure 25 Beds with varieties of Crocus in Slovenia*

Although only one species of the daffodil genus is naturally present in Slovenia, similarly to species *Galanthus nivalis*, its diversity is just as great (Praprotnik et al. 2018). Our collection in the Gardens includes quite a few interesting stable specimens of mutations of this species that are preserved in culture. Here, too, we have described some new varieties (Bavcon 2010; Praprotnik et al. 2018). In this genus, the special features in nature are even less persistent than in genus *Galanthus*, where they reappear every few years in locations where they appeared before, whereas

this is truly rare with daffodils. That is why we preserve these mutations in *ex situ* conditions in the Botanic Gardens.

Furthermore, due to a very diverse location and different phytogeographical regions (Wraber 1969), different colour varieties of individual species appear in Slovenia (Bavcon 2010). We were especially interested in the white-flower varieties of different genera and species of Slovenian flora. Many of them are very rare or are associated with various specific conditions (Bavcon 2010, 2014 a, b; 2015, Bavcon & Ravnjak 2015). Generally, these specimens disappear over time in nature. In the Gardens, we try to cultivate and reproduce them in *ex-situ* conditions, because they are interesting as new forms for horticulture. These white-flower varieties are usually also smaller and have less flowers than their basic forms. Nevertheless, in all these years we have managed to obtain specimens that are equivalent in vitality and shape to the basic species, but are very rare in nature (Bavcon & Ravnjak 2015 a, b).



## Literature:

- Aichinger E. 1956. Die Excursion zu *Rhododendron luteum* Sweet ober Pusarnitz im Raume des Lurnfeldes. *Angewandte Pflanzensoziologie* Hf. XVI. pp. 36-37. Wien.
- Ambrosi F. 1854. *Flora del Tirolo meridionale*. 1: 643.
- Bavcon J. & Ravnjak B. 2015. Population occurrence of white flowered varieties of some plant species in the submediterranean area of Slovenia. V: Fišer, Živa (ur.), Lužnik, Martina (ur.). Book of abstracts. International workshop biodiversity in the Mediterranean basin Koper. 11 - 13 March 2015. Koper: University of Primorska Press. 27 pp.
- Bavcon J. & Ravnjak B. 2015. Travniška kadulja (*Salvia pratensis* L.) v Sloveniji =Meadow clary (*Salvia pratensis* L.) in Slovenia. Ljubljana: Botanični vrt. Oddelek za biologijo. Biotehniška fakulteta. 160 pp.
- Bavcon J. & Ravnjak B. 2016. Ljubljansko barje : 16. november 2016. Botanični vrt Univerze v Ljubljani. Ljubljana.
- Bavcon J. & Ravnjak B. 2020. New snowdrop findings in Slovenia. V: Bassett-Smith, Camilla (ur.). et al. Daffodil : snowdrop and tulip yearbook 2020 : an annual for amateurs and specialists growing and showing daffodils, snowdrops and tulips in association with Royal Horticultural Society, London. London: Royal Horticultural Society. pp. 64-68.

- Bavcon J. & Sušnik S. 2003. *Eranthis hyemalis* (L.) Salisb. *Hladnikia*. [Tiskana izd.]. december 2003. št. 15-16. pp. 93-94.
- Bavcon J. 1997 a. Vzgoja visokobarjanskih in nizkobarjanskih rastlin v kulturi : (Fazno poročilo). Ljubljana: Biotehniška fakulteta. Oddelek za biologijo. Botanični vrt. 1997. 19 pp.
- Bavcon J. 1997 b. Vzgoja visokobarjanskih in nizkobarjanskih rastlin v kulturi : (Poročilo). Ljubljana: Biotehniška fakulteta. Oddelek za biologijo. Botanični vrt. 1997. 23 pp.
- Bavcon J. 1998. Gojitev nekaterih ogroženih rastlin Slovenije na nadomestnih rastiščih : zaključno poročilo. Ljubljana: Biotehniška fakulteta. 9 pp.
- Bavcon J. 1999. Conservation of some threatened and endemic plants of Slovenia. V: Botanikus kertek mint élő múzeumok : [publikáciok] = Botanical gardens as live museums : [publications]. Budapest. pp. 15-20.
- Bavcon J. 2000 a. Botanični vrt v Ljubljani : "Vrt domovinske flore" = Botanical garden in Ljubljana : "Native Flora Garden". Ljubljana: Kmečki glas. 111 pp.
- Bavcon J. 2000 b. Implementing action plants for botanic gardens in Europe : conservation in the Ljubljana University botanical garden. V: Eurogard 2000. pp. 2-3.
- Bavcon J. 2002 a. Fleischmannov rebrinec. *Moj mali svet*. 34: 36-37.

- Bavcon J. 2002 b. The Ljubljana botanical garden and its role in the conservation of plants. IFPRA bulletin. 10 pp.
- Bavcon J. 2003. Conservation efforts in the Ljubljana University botanical garden. V: Hobson, Christopher Michael (ur.). European botanic gardens : studies in conservation and education : papers from the EuroGard 2000 congress, (Marec 2000). [Richmond: Botanic Gardens Conservation International Descanso House. pp. 26-30.
- Bavcon J. 2007 a. Snowdrop (*Galanthus nivalis* L.) and its phenotypic diversity in Slovenia = Fenotipska raznolikost malega zvončka (*Galanthus nivalis* L.) v Sloveniji. Acta biologica slovenica ABS: 50 (1): 53-58.
- Bavcon J. 2007 b. Conservation in the University botanic garden Ljubljana. Biuletyn Ogródów Botanicznych, Muzeów i Zbiorów. letn. 16a. 20 pp.
- Bavcon J. 2008. Conservation in the University botanic garden Ljubljana. Biuletyn Ogródów Botanicznych. Muzeów i Zbiorów. 17: 3–6.
- Bavcon J. 2009. 120 let nabiranja semen rastlin za Index Seminum = 120 years of seed harvesting for Index seminum. V: Bavcon, Jože (ur.). 120 let nabiranja semen rastlin za Index seminum = 120 years of seed harvesting for Index seminum : 120 let prvega natisa Index seminum = 120 years of the first printed Index seminum : Index

- seminum anno 2008 collectorum. Ljubljana: Botanični vrt. Oddelek za biologijo. Biotehniška fakulteta. pp. 5-34.
- Bavcon J. 2010. Botanični vrt Univerze v Ljubljani. Ljubljana. Kmečki glas. 231 pp.
- Bavcon J. 2011. University Botanic gardens Ljubljana-200 years od dedicated conservation and presentation of biodiversity. V: BAVCON, Jože (ur.). Botanic gardens and biodiversity. Ljubljana: Botanični vrt. Oddelek za biologijo. Biotehniška fakulteta. pp. 123-146.
- Bavcon J. 2012 c. Slovenian snowdrops : Galanthus Gala at Kelly College, Tavistock, Devon 11th February.
- Bavcon J. 2012 d. Seed exchange on the basis of Index seminum. V: Schulman, Leif (ur.), Kotze, Johan (ur.), Lehvāvirta, Susanna (ur.). EuroGard V : botanic gardens in the age of climate change : supplementary proceedings. [Helsinki]: Botanic Garden of the University of Helsinki. Ulmus. 14. pp. 8-14.
- Bavcon J. 2012. *Crocus reticulatus* and its hybrids in Slovenia. V: Santana Ortega, Ana T. (ur.). Book of abstracts : COST action FA1101 - main questions and foreseen solutions in the frame of Saffronomics research. WG2 Interim Meeting on Phytochemistry and Metabolics and WG2/WG4 Looking for Synergy and Dissemination Capacity Building (Athens, May 24-26, 2012). WG1 Interim Meeting on Genetics, Genomics & Transcriptomics and

- WG2/WG3/WG4 Looking for Synergy and Dissemination Capacity Building (Toledo, June 21-22, 2012). EU Seminar on Saffronomics in Conjunction with the First Management Committee Meeting and Working Groups Meetings (Cuenca, November 7-9, 2012). [S. l.]: COST Office. 2012. pp. 203-220, ilustr.
- Bavcon J. 2013. Naše rastline. Mohorjeva družba v Celovcu. Celovec. 256 pp.
- Bavcon J. 2014 a. Belo cvetoče različice v slovenski flori = White-flowered varieties in Slovenian flora. Ljubljana: Botanični vrt. Oddelek za biologijo. Biotehniška fakulteta. 349 pp.
- Bavcon J. 2014 b. *Crocus reticulatus* x *C. vernus* subsp. *albiflorus* in Slovenia. V: Food and Agriculture COST action FA1101 'SaffronOmics' 2014 annual conference, 2 & 3 October 2014. Wageningen. The Netherlands. 15 pp.
- Bavcon J. 2014 c. *Helleborus* diversity in Slovenia. V: KRIGAS, Nikos (ur.). European botanic gardens in a changing world : insights into Eurogard VI. Thessaloniki: Balkan Botanic Garden of Kroussia, Hellenic Agriculture Organisation-Demeter: Botanic Gardens Conservation International, 2014. Str. 53-62.
- Bavcon J. 2015. White Purple broom (*Chamaecytisus purpureus* Scop.) = Rdeči reličnik (*Chamaecytisus purpureus* Scop.). *Folia biologica et geologica*. 56 (3): 17-23.

- Bavcon J. 2016 b. Žafrani (*Crocus L.*) - raznolikost v Sloveniji = *Crocus (Crocus L.) - diversity in Slovenia*. Ljubljana: Botanični vrt. Oddelek za biologijo. Biotehniška fakulteta. 177 pp.
- Bavcon J. 2016 c. Telohi (*Helleborus L.*) - raznolikost v Sloveniji = *Hellebore (Helleborus L.) - diversity in Slovenia*. Ljubljana: Botanični vrt, Oddelek za biologijo, Biotehniška fakulteta, 235 pp.
- Bavcon J., Božič G., Kutnar L. & Košiček B. 2011. Tehnične smernice za ohranjanje in rabo genskih virov : maklen, trokrpi javor in tatarski javor : *Acer campestre*, *Acer monspessulanum*, *Acer tataricum* : Slovenija. Gozdarski vestnik : slovenska strokovna revija za gozdarstvo. Tehnične smernice za ohranjanje in rabo genskih virov. 69 (9): 417-424.
- Bavcon J., Klemen E. & Sušek A. 2012. Telohi (*Helleborus L.*) v Sloveniji = *Helleborus (Helleborus L.) in Slovenia*. Ljubljana: Botanični vrt Univerze: = University Botanic Gardens, 205 pp.
- Bavcon J., Praprotnik N. & Ravnjak B. 2016. Franc Hladnik und seine Zusammenarbeit mit Nicolaus Thomas Host. V: *Deutsch-Österreichische Forschungsreisen auf dem Balkan und nach Nahost : Programm & Abstracts*. Europäische Wirtschaftsbeziehungen 13. 19.-21. Mai Wien. pp. 16-17.

- Bavcon J., Praprotnik N. & Ravnjak B. 2017 a. Franc Hladnik und seine Zusammenarbeit mit Nicolaus Thomas Host. V: Seidl, Johannes (ur.). Deutsche und österreichische Forschungsreisen auf den Balkan und nach Nahost. Aachen: Shaker. pp. 323-344. Europäische Wissenschaftsbeziehungen. Bd. 13.
- Bavcon J., Ravnjak B. & Praprotnik N. 2017 b. Long-term Ex-Situ conservation of Fleischmann's Parsnip (*Pastinaca sativa* L. var. *fleischmannii* (Hladnik) Burnat). V: Botanic gardens in society: visions for the future : book of abstracts. 6th Global Botanic Gardens Congress. 26-30 June 2017. Geneva.
- Bavcon J., Ravnjak B. & Praprotnik N. 2019. Senožeti, rovti - strme in pisane površine = Meadows - steep and colourful grasslands. Ljubljana: Botanični vrt Univerze v Ljubljani. Oddelek za biologijo. Biotehniška fakulteta: = University Botanic Gardens Ljubljana. Department of Biology. Biotechnical Faculty. 235 pp.
- Brus R. 2004. Drevesne vrste na Slovenskem. Mladinska knjiga. 399 pp.
- Burnat E. 1906. Flore des Alpes Maritimes. Vol. IV. Genève & Bale. pp. 219.
- Cheney J., Navarrete Navarro J. & Wyse Jackson P. 2000. Action Plan for Botanic Gardens in the European Union. Botanic Gardens Conservation International. U.K.

- Čušin J. 2004. *Hladnikia pastinacifolia* Rchb. - rebrinčevolistna hladnikija, hladnikovka. V: Čušin, B. (ur.), Čušin, B., Babij, V., Bačič, T., Dakskobler, I., Frajman, B., Jogan, N., Kaligarič, M., Praprotnik, N., Seliškar, A., Skoberne, P., Surina, B., Škornik, S. & B. Vreš: Natura 2000 v Sloveniji. Rastline. Založba ZRC, ZRC SAZU. pp. 93-96.
- Dakskobler I. & Wraber T. 2008. *Crocus biflorus* Mill. (Iridaceae) - A new species in the flora of Slovenia. Razprave IV razred SAZU XLIX. pp. 165-205.
- Dakskobler I. 1995. Hladnikov volčič (*Scopolia carniolica* f. *hladnikiana*) tudi v Zelenem potoku. Proteus. 58 (3): 102-103.
- Dakskobler I. 2001 a. Paradiževka dokončno v flori Slovenije. Proteus : ilustriran časopis za poljudno prirodoznanstvo. 63 (5): 200-204.
- Dakskobler I. 2001 b. Vrsta *Paradisea liliastrum* (L.) Bertol. v Krnskem pogorju (Julijske Alpe) = *Paradisea liliastrum* (L.) Bertol. in the Krn mountains (the Julian Alps). Razprave. 42 (2): 87-113.
- Dakskobler I. 2019 a. Južnoalpska perunika. Sweet iris (*Iris pallida* subsp. *cengialti*) (sin. bohinja perunika (*I. cengialti* f. *vochinensis*)). V: al. Bohinj cveti. Odkrijte botanične lepote Bohinja. 13. mednarodni festival alpskega cvetja. Bohinj in bloom Discover the botanical richness of



- Bohinj. 13th International Wild Flower Festival. Bohinj. 24. 5.-9. 6. 2019. Turizem Bohinj. pp. 6-7.
- Dakskobler I. 2019 b. Južnoalpska perunika (*Iris pallida* subsp. *cengialti*) (sin. bohinjska perunika (*I. cengialti* f. *vochinensis*). Sweet iris (*Iris pallida* subsp. *cengialti*) (syn. the Bohinj iris (*I. cengialti* f. *vochinensis*). V: & al. Bohinj cveti. Rastlinsko bogastvo Bohinja. Bohinj in bloom. The floral richness of Bohinj. Turizem Bohinj. pp. 102-105.
- Degen A. 1937. Flora Velebitica II. Verlag der Ungar. Akademie der Wissenschaften, Budapest.
- Fleischmann A. 1839. Krain's Flora. Carniolia. 2 (1): 4. 3. maj 1839.
- Fleischmann A. 1843. Kleine Landeschronic. Carniolia. 5 (84): 335-336. 17. februar 1843.
- Fleischmann A. 1844 a. Übersicht der Flora Krain's. Sep. 1-144.
- Fleischmann A. 1844 b. Spomladanjfke zvetlice. Novice. 2 (12): 48. 20. marec 1844.
- Flejšman A. 1846. Cvetlice pozimi na Kranjskim. Novice. 4 (4): 16. 28. januar 1846.
- Forster M. 1886. The Gardeners' Chronicle. 1: 555, 586.

- Freyer H. 1829. Eine kurze Nachricht über Entstehen, Grösse und Inhalt des Botanischen Garten zu Laibach. *Flora* 12 (1) 173-175.
- Fritsch C. 1899. Schedae ad floram exsiccatam Austro-Hungaricam. Opus ab A. Kerner creatum. 8 (2801-3200). pp. 29.
- Hayek A. 1909. *Flora von Steiermark*. Band. 1: 596.
- Horvat I. 1930. Vegetacijske studije o hrvatskim planinama. Zadruga na planinskim goletima. *Rad Jugoslav. Akad. Znan.*, 238, 1–96.
- Host N. T. 1827-1831. *Flora Austriaca* Vol 1,2. Sumptibus Frider. Beck Bibliop. Univers. Viennae. [https://www.researchgate.net/publication/27189176\\_Germination\\_ecology\\_of\\_seeds\\_of\\_endemic\\_species\\_Degenia\\_velebitica\\_Degen\\_Hayek\\_Brassicaceae](https://www.researchgate.net/publication/27189176_Germination_ecology_of_seeds_of_endemic_species_Degenia_velebitica_Degen_Hayek_Brassicaceae).
- <https://www.bgci.org/about/about-bgci/>
- <https://www.cbd.int/history/default.shtml>
- Invančević V. 2000. Od sada velebitska degenija i na velikoj kapeli. *zb. 27*. pp. 329-338.
- Klenovšek D. 1996. Navadna jarica – prva znanilka pomladi. *Proteus* 58 (6): 244-246.

- Klenovšek D., Budna S. & Brinovec M. 2003. Rastlinski svet Bohorja. 107 pp.
- Koch W. D. G. J. 1835-37. Synopsis Florae Germanicae et Helveticae. Ed. 1. Frankfurt am Main.
- Koch W. D. G. J. 1838. Synopsis der Deutschen und Schweizer Flora. Ed. 1. Frankfurt.
- Kotar M. & Brus R. 1999. Naše drevesne vrste. Slovenska matica. Ljubljana. 320 pp.
- Lauber K. & Wagner G. 1998. Flora Helvetica. 2. Auf. Bern-Stuttgart-Wien.
- Lazar J. 1960. 150 let Botaničnega vrta v Ljubljani. Universitas Labacensis – Univerza v Ljubljani ad annum Horti botanici Labacensis Solemnem CL. Zbornik ob 150- letnici botaničnega vrta v Ljubljani:1-5.
- Martinčič A. & Sušnik F. 1969. Mala flora Slovenije. Cankarjeva založba. Ljubljana. 515 pp.
- Martinčič A. & Sušnik F. 1984. Mala flora Slovenije. Praprotnice in semenke. Državna založba Slovenije. Ljubljana. 793 pp.
- Martinčič A. 1987. Fragmenti visokega barja na Ljubljanskem barju. Scopolia 14: 1-53.
- Martinčič A. 1996. Barja. Narava Slovenije stanje in perspektive. Društvo ekologov Slovenije. Ljubljana. pp. 122-132.

- Martinčič A., Wraber T., Jogan N., Podobnik A., Turk B., Vreš B., Ravnik V., Frajman B., Strgulc Krajšek S., Trčak B., Bačič T., Fischer M. A., Eler K. & B. Surina. 2007. Mala flora Slovenije. Ključ za določanje praprotnic in semenk. Tehniška založba Slovenije. Ljubljana. 967 pp.
- Martinčič A., Wraber T., Jogan N., Ravnik V., Podobnik A., Turk B. & B. Vreš. 1999. Mala flora Slovenije. Ključ za določanje praprotnic in semenk. Tehniška založba Slovenije. Ljubljana. 845 pp.
- Matijević M., Mihelj D., Plazibat M., Matijević & Randić M. 1999. A new Locality of the Species *Degenia velebitica* (Degen) Hayek (Brassicaceae) in Croatia. Nat. Croat. Vol.8 No.2.: 147-154.
- Mayer E. 1952. Seznam praprotnic in cvetnic slovenskega ozemlja. SAZU. Razred za prirodoslovne in medicinske vede. Dela. 5: 1–427.
- Mayer E. 1960. Endemične cvetnice z območja jugovzhodnih apneniških Alp, njihovega predgorja in Ilirskega prehodnega ozemlja. Zbornik ob 150 letnici botaničnega vrta v Ljubljani. Univerza v Ljubljani. pp. 25-45.
- Mayer E. 1981. *Degenia velebitica*(Deg.) Hay. and *Fibigia triquetra*(DC.) Boiss. Morfolo ko-taksonomska paralela. Acta Biokov. 1. pp. 283–290.

- Mayer E. 1988. Usoda in vsebina rokopisa A. Paulina :  
Über botanische Naturdenkmaler in Krain. Schicksal und  
Inhalt des Manuskriptes von A. Paulin. Über Botanische  
Naturdenkmaler in Krain«Schicksal und Inhalt des  
Manuskriptes von A. Paulin. The Fate and Contents of A.  
Paulin s. Bio. Vest. 36 (3): 33-52.
- Mayer. E. 1958. *Rhododendron luteum* Sweet na jugovzhodnem  
obrobju Alp : (z 2 kartama in 4 slikami). Razprave. 4. pp.  
39-83.
- Melik A. 1946. Ljubljansko mostiščarsko jezero in dediščina po  
njem. Akademija znanosti in umetnosti v Ljubljani. Dela 5.
- Naumovski D. 2005. Germination ecology of seeds of endemic  
species *Degenia*.
- Ogorevc M. 1954. Pontska azaleja pod Gorjanci. *Proteus* 16 (10):  
274-277.
- Pajnič E. 1934. Izprehodi na barje. *Proteus*. 1: 82-85.
- Paulin A. 1889. Index seminum. 6pp
- Paulin A. 1902. Schedae ad Floram exsiccata Carniolicam II.  
Centuria III. – IV. Beiträge zur Kenntnis der  
Vegetationsverhältnisse Krains. 2: 105-214.
- Paulin A. 1904. Schedae ad Floram exsiccata Carniolicam III.  
Centuria V. - VI. Beiträge zur Kenntnis der  
Vegetationsverhältnisse Krains. 3: 215-308.

- Paulin A. 1906. Über botanische Naturdenkmäler in Krain. Kamnotisk. R 12/X-16.
- Paulin A. 1916. Über einige für Krain neue oder seltene Pflanzen und die Formationene ihrer Standorte II. Carniola 7 (1): 61-72.
- Paulin A. 1917. *Iris Cengialti* Ambrosi und *Centaurea alpigena* Paulin, zwei für Krain neue Pflanzen aus der Wocheiner Alpen. Carniola. 8 (1/2): 93-109.
- Paulin A., 1907. Schede ad Floram exsiccatam Carniolicam 5. IX. et X. Ljubljana. pp. 367.
- Petkovšek V. 1935. Blagajev volčin. Proteus. 2: 181-188.
- Pintar L. 1987. Hladnikova bunika tudi v Soteski pod Lubnikom. Proteus. 50 (1): 41.
- Piskernik A. 1926-1927. Blagay in Freyer. Glasnik muzejskega društva za Slovenijo. 7-8(1-4): 59-63. B. Prirodoslovni del.
- Piskernik A. 1941, 1951. Ključ za določanje cvetnic in praprotnic. 1 in 2 izdaja. Ljubljana.
- Piskernik A. 1951. Ključ za določanje cvetnic in praprotnic. 2. predelana in pomnožena izdaja. Državna založba Slovenije. 414 pp.
- Poldini L. 1991. Atlante corologico delle piante vascolari nel Friuli-Venezia Giulia. Inventario floristico

regionale Regione Autonomo Friuli-Venezia Giulia &  
Universita di Trieste, Udine.

Pospichal E. 1897-1899. Flora des Österreichischen  
Kunstenlandes 1-2. Leipzig. Wien.

Praprotnik N. & Bavcon. J. 2016. Andrej Fleischmann (1804-  
1867), vrtnar in vodja v Botaničnem vrtu v Ljubljani.  
Andrej Fleischmann (1804-1867), gardener and head of the  
Botanic Gardens in Ljubljana. Ljubljana. Botanični vrt  
Univerze. University Botanic Gardens. 455 pp.

Praprotnik N. & Skoberne P. 1995. Od kraljeve rože in planike  
do Rdečega seznama. V: Aljančič M., Gregori J.,  
Praprotnik N., Hlad B., Peterlin S., Skoberne P. & J. Vidic:  
Varstvo narave na Slovenskem. Ljubljana. Prirodoslovni  
muzej Slovenije. pp. 26-47.

Praprotnik N. 1994. Botanik Franc Hladnik (1773-1844). Ob  
stopetdesetletnici smrti. Proteus. 57: 94-99.

Praprotnik N. 1996 a. Fleischmannov rebrinec z ljubljanskega  
Gradu. Iz starih herbarijskih zbirk. Gea. 6 (8): 65.

Praprotnik N. 1996 b. Botanični dragulji Slovenije. 2.  
Hladnikovka. Mavrica. 26 (4-5): 15.

Praprotnik N. 1997 a. Botanični dragulji Slovenije. 10. Primorska  
košeničica ali celovenčni reličnik. Mavrica. 27 (4-5): 32.

- Praprotnik N. 1997 b. Botanični dragulji Slovenije. 8. Hladnikova bunika. Mavrica. 27 (1-2): 24.
- Praprotnik N. 1997 c. Paulinova Kranjska posušena flora. Iz starih herbarijskih zbirk. *Gea*. 7 (3): 33.
- Praprotnik N. 1999. Vmesna oblika med Hladnikovo in kranjsko buniko?. *Gea*. 9 (12): 66.
- Praprotnik N. 2001 b. Primorska košeničica. *Botanika*. *Gea*. 11 (8): 65-66.
- Praprotnik N. 2002 a. Hladnikovka, ena najznamenitejših slovenskih rastlin. *Gea*. 12 (9): 65.
- Praprotnik N. 2004. Blagajev volčin – naša botanična znamenitost. *Prirodoslovni muzej Slovenije*. 65 pp.
- Praprotnik N. 2010 a. Inventar Botaničnega vrta v Ljubljani iz leta 1812 = Inventory of the Botanical Garden in Ljubljana from 1812. V: Bavcon, J. (ur.). 200 let botaničnega vrta v Ljubljani, (Index seminum). Ljubljana. Botanični vrt. Oddelek za biologijo. Biotehniška fakulteta. pp. 72-112.
- Praprotnik N. 2010 b. Franc Hladnik, "ilirskih rož vertnar" = Franc Hladnik, "jardinier des fleurs illyriennes". V: DULAR, Anja (ur.), PODPEČNIK, Jože (ur.), ŠUMRADA, Janez (ur.). *Sous les aigles Napoléoniennes : bicentenaire des provinces Illyriennes : [catalogue de l'exposition : Narodni muzej Slovenije, Metelkova, Ljubljana, Slovenija, du 14 octobre 2009 au 28 février 2010, Musée national de l'Armée, Paris, France, du 22 mars 2010 au 20 mai 2010] = Pod Napoleonovim orlom : 200 let ustanovitve Ilirskih provinc : [razstavni katalog : Narodni muzej Slovenije, Metelkova, Ljubljana, Slovenija, 14. oktober 2009-28. februar 2010, Musée*



- national de l'Armée, Paris, Francija, 22. marec 2010-20. maj 2010*. Ljubljana: Narodni muzej Slovenije, pp. 230-237,
- Praprotnik N. 2010 c. Dvobarvni glavinec. *Gea* 20 (10): 10.
- Praprotnik N. 2011. Alpski botanični vrt Juliana. Prirodoslovni muzej Slovenije.
- Praprotnik N. 2012 a. Franc Hladnik in njegovo botanično delovanje = Franc Hladnik and his botanic work. V: BAVCON, Jože (ur.), PRAPROTNIK, Nada (ur.). *Franc Hladnik - ustanovitelj Botaničnega vrta v Ljubljani = Franc Hladnik - founder of the Ljubljana Botanic Garden*. Ljubljana: Botanični vrt, Oddelek za biologijo, Biotehniška fakulteta, pp. 147-160, 331-345.
- Praprotnik N. 2012 a. Franc Hladnik v delih tujih botanikov = Franc Hladnik in the works of foreign botanists. V: BAVCON, Jože (ur.), PRAPROTNIK, Nada (ur.). *Franc Hladnik - ustanovitelj Botaničnega vrta v Ljubljani = Franc Hladnik - founder of the Ljubljana Botanic Garden*. Ljubljana: Botanični vrt, Oddelek za biologijo, Biotehniška fakulteta, pp. 123-132, 301-310.
- Praprotnik N. 2012 a. Franz Hladnik v delih tujih botanikov = Franz Hladnik in the works of foreign botanists. V: BAVCON, Jože (ur.), PRAPROTNIK, Nada (ur.). *Franc Hladnik - ustanovitelj Botaničnega vrta v Ljubljani = Franc Hladnik - founder of the Ljubljana Botanic Garden*. Ljubljana: Botanični vrt, Oddelek za biologijo, Biotehniška fakulteta, pp. 123-132, 301-311.
- Praprotnik N. 2012 b. Alpski botanični vrt Juliana in sezname rastlin. The Juliana Botanical garden and lists of its plants. *Scopolia*. 75. pp. 1-111.
- Praprotnik N. 2015 a. Botaniki, njihovo delo in herbarijske zbirke praprotnic in semenk v Prirodoslovnem muzeju Slovenije. The botanists, their work and herbarium collections of

vascular plants in the Slovenian Museum of Natural History. *Scopolia*. 83/84. pp. 309-325.

Praprotnik N., Bavcon J. & Ravnjak B. 2017. Fleischmannov rebrinec (*Pastinaca sativa* L. var. *fleischmanni* (Hladnik) Burnat), dragocenost in posebnost Botaničnega vrta v Ljubljani. Fleischmann's Parsnip (*Pastinaca sativa* L. var. *fleischmanni* (Hladnik) Burnat), a treasure and special feature of the Ljubljana Botanic Garden. Botanični vrt Univerze v Ljubljani. Oddelek za biologijo. Biotehniška fakulteta.

Praprotnik N., Bavcon J. & Ravnjak B. 2018. Narcise v Sloveniji: gorski narcis, bedenica ali ključavnica (*Narcissus poeticus* L. subsp. *radiiflorus* (Salisb.) Baker) = Daffodils in Slovenia : poet's daffodil, poet's narcissus, nargis, pheasant's eye, findern flower or pinkster lily (*Narcissus poeticus* L. subsp. *radiiflorus* (Salisb.) Baker). Ljubljana. University Botanic Gardens. Department of Biology. Biotechnical Faculty. 213 pp.

Pravilnik o uvrstitvi ogroženih rastlinskih in živalskih vrst v rdeči seznam (Uradni list Republike Slovenije. Leto XII. no. 82. 24. 9. 2002.8899 pp.)

Rakar T. 2008. Revizija rodu *Viola* v Sloveniji. Diplomsko delo. Univerzitetni študij. Revision of genus *Viola* in Slovenia. Graduation thesis. University studies. Ljubljana.

- Ravnjak B., Bavcon J. & Praprotnik N. 2016. Po poti Fleischmannovega rebrinca. Path of the Fleischmann's parsnip. Botanični vrt Univerze. Ljubljanski grad.
- Reichenbach H. G. L. 1830. Flora Germanica exursoria. (1).
- Reichenbach H. G. L. 1831. Iconographia botanica, seu Plantae criticae. 9. Leipzig.
- Reichenbach H. G. L. 1832. Flora Germanica exsiccata. Centuria IV. Flora. 35 (1): 33-40.
- Reichenbach H. G. L. 1834. Flora Germanica exsiccata. Centuria VIII. Flora 37 (2): 23-29.
- Reichenbach H. G. L. 1837. Flora Germanica exsiccata. Centuria XII. Flora 40 (1): 1-8.
- Reichenbach H. G. L. 1842. Icones Flora Germanicae et Helveticae.
- Scopoli I. A. 1772. Flora carniolica I, II. Impensis Ioannis Pavli Kravss.
- Sharrock S. 2011. The biodiversity benefits of botanic gardens. Trends in Ecology and Evolution 26 (9): 233 pp.
- SI AS 863. Freyer H. 1802-1866. Fasc. 3. Življenjepisne listine Henrika Freyerja. Arhiv Republike Slovenije.
- Skoberne P. 2001. Problematika izumiranja in varstva rastlinskih vrst v Sloveniji. Doktorska disertacija. Extinction and

- conservation of plant species in Slovenia. Dissertation thesis. Ljubljana. Univerza v Ljubljani, Biotehniška fakulteta, Oddelek za biologijo.
- Stamenković V. 2012. Fiziološki odgovori velebitske degenije, *Degenia velebitica* (Degen) Hayek na UV zračenje, phd thesis Sveučilište u Zagrebu Prirodoslovno-matematički fakultet. Biološki odsjek. 143 pp.
- Strgar V. 1971. *Sempervivum juvenii* strgar spec. nova. Biološki vestnik: glasilo slovenskih biologov. 1 (19): 83-91.
- Strgar V. 1973. Botanični vrt. V Mariboru. Obzorja. 30 pp. Kulturni in naravni spomeniki Slovenije. Zbirka vodnikov. 41pp.
- Strgar V. 1975. O varstvu Blagayevega volčina na Slovenskem. Varstvo narave 8. pp. 67-70.
- Strgar V. 1976. Vegetativno množenje blagajevega volčina (*Daphne blagayana* Freyer) s poletnimi potaknjenci. Biološki vestnik. 24 (2): 151-159.
- Strgar V. 1979 a. Nekaj rezultatov raziskav uspevanje vrste *Degenia velebitica* (Degen) Hayek v naravi in kulturi. IV simpozij društva za fiziologiju biljaka Jugoslavije Abstrakti. Sarajevo. 80 pp.
- Strgar V. 1979 b. Trying to conserve the rare and endangered *Degenia*. Survival or extinction. Proceedings of Conference held at the Royal Botanic Gardens Kew. pp. 211-214.

Published by the Bentham-Moxon Trust Royal Botanic Gardens Kew.

- Strgar V. 1981. Še o jarici. *Proteus* : ilustriran časopis za poljudno prirodoznanstvo. 46 (1): 41.
- Strgar V. 1983. Velebitska degenija je zares ogrožena. *Proteus*. 46 (2): 75-79.
- Strgar V. 1987 a. Novo in zanimivo o hladnikovi buniki. *Proteus*. 50. pp. 8-11.
- Strgar V. 1987 b. *Scopolia carniolica* Jacq. f. *hladnikiana* (Biatz. et Fleischmann) E. Mayer - dedovanje barve cvetov in razmnoževanje. *Biološki vestnik*. 35 (2): 103-112.
- Strgar V. 1987. *Rhododendron luteum* Sweet – kalitev semena z naravnih rastišč v Sloveniji. *Varstvo narave* 13: 25-44.
- Surina B. 2004. *Genista holopetala* (Fleischm.ex Koch) Baldacci – primorska košeničica. V: Čušin, B. (ur.), Čušin, B., Babij, V., Bačič, T., Dakskobler, I., Frajman, B., Jogan, N., Kaligarič, M., Praprotnik, N., Seliškar, A., Skoberne, P., Surina, B., Škornik, S. & B. Vreš: *Natura 2000 v Sloveniji*. Rastline. Založba ZRC. ZRC SAZU. pp. 93-96.
- Sušnik F. & Druškovič B.. 1968. Prispevek k morfologiji in citologiji taksona *Pastinaca fleischmannii* Hladnik ex Koch. *Biološki vestnik*. 16: 29-38.

- Sušnik F. 1964. Taksonomska in horološka problematika taksona *Hladnikia pastinacifolia* Rchb. Doktorska disertacija. Univerza v Ljubljani. Biotehniška fakulteta. Oddelek za biologijo. 69 pp.
- Szafer W. 1954. Pliocenska flora okolja Czorsztyna i jej stosunek do plejstocenu. Inst. Geolog. Prace. 11 pp.
- Šilić Č. 1983. Atlas drveća i grmlja. »Svejtlost« OOUR Zavod za udžbenike i nastavna sredstva, Sarajevo, Zavod za udžbenike i nastavna sredstva, Beograd 218 pp.
- Trpin D. & Vreš B.. 1995. Register flore Slovenije. Praprotnice in cvetnice. Znanstvenoraziskovalni center SAZU. zbirka ZRC 7. Ljubljana.
- Tutin T.G. et al. 1968. Flora europaea 2 Cambridge, University Press, pp. 238. velebitica (Degen) Hayek (*Brassicaceae*). Acta Bot. Croat. 64 (2). 323–330.
- Uredba o zavarovanih prosto živečih rastlinskih vrstah (Uradni list republike Slovenije. No. 46/30. 4. 2004). <http://www.pisrs.si/Pis.web/pregledPredpisa?id=URED3192>
- Voss W. 1882. Zur flora von Laibach. ÖBZ 32. pp.284-285.
- Voss W. 1885. Versuch einer Geschichte der Botanik in Krain (1754 bis 1883). Jahresbericht der Staats-Ober-Realschule in Laibach für das Schuljahr 1885. 41 pp.

- Voss W. 2008. Zgodovina botanike na Kranjskem. (Znanstvenokritična izdaja). Versuch einer Geschichte der Botanik in Krain (1754 bis 1883). Poskus zgodovine botanike na Kranjskem (1754 do 1883). Celjska Mohorjeva družba. 276 pp.
- Wraber M. 1969. Pflanzengeographische Stellung und Gliederung Sloweniens.- Vegetatio. The Hague. 17 (1-6). pp. 176-199.
- Wraber T. & Zupančič M. 1996. Rastlinstvo. V: Javornik, Marjan (ur.), Voglar, Dušan (ur.), Dermastia, Alenka (ur.). Enciklopedija Slovenije. 1. natis. Ljubljana. Mladinska knjiga. zv. 10: pt-savn. pp. 85-93. ilustr.
- Wraber T. 1966. Paulinova »Flora exsiccata carniolica« XIX. in XX. centurija. Razprave 4. razreda SAZU 9 (3). pp. 125-164.
- Wraber T. 1978. Kako se je končala publicistična dejavnost Alfonza Paulina. Proteus. 41: 151-152.
- Wraber T. 1988. Rumeni sleč - tudi četrtič na Dolenjskem. Proteus : ilustriran časopis za poljudno prirodoznanstvo. maj-jun. letn. 50. no. 9/10. pp. 327-330
- Wraber T. 1989. Fleischmannov rebrinec. Enciklopedija Slovenije 3. pp.125-126.
- Wraber T. 1990. Sto znamenitih rastlin na Slovenskem. V Ljubljani. Prešernova družba. 239 pp.

- Wraber T. 1996. Rastlinstvo. Enciklopedija Slovenije. 10. pp. 87.
- Wraber T. 2002. Henrik Freyer kot botanik. V: Predin, Š. (ur.): Slovenski farmacevti v naravoslovju. Zbornik referatov s simpozija ob 200 letnici rojstva Henrika Freyerja (1802-1866) v Mariboru. 14. 6. 2002. Mariborske lekarne Maribor. pp. 105-140.
- Wraber T. 2003. Henrik Freyer kot botanik. Idrijski razgledi 48 (1): 104-135.
- Wraber T. 2006 Fran Jesenko (1875-1932) rastlinski fiziolog, genetik, zagovornik in pospeševalec Triglavskega narodnega parka IN: BANOVEC, Tomaž, MIHELIC, Jože, VIDRIH, Renato, PETERLIN, Stane, SKOBERNE, Peter, WRABER, Tone, ŠOLAR, Martin (urednik). Snovalci Triglavskega narodnega parka - ljudje pred svojim časom : [zbornik posveta ob 25. letnici TNP 1981-2006]. Bled: Javni zavod Triglavski narodni park, 34- 43.
- Wraber T. 2008. Pisna zapuščina botanika Alfonza Paulina v Biblioteki SAZU. V: Koman, Dušan (ur.), et al. Sedemdeset let Biblioteke Slovenske akademije znanosti in umetnosti. Ljubljana. Slovenska akademija znanosti in umetnosti. Biblioteka. 13: 199-236.
- Wraber T. 2010 a. Alfonz Paulin, »Juliana« in Albert Bois de Chesne. Alfonz Paulin, »Juliana« and Albert Bois de Chesne. V: Bavcon, J. (ur.). 200 let botaničnega vrta v Ljubljani. 200 years - botanic gardens in Ljubljana. Index



seminum. Ljubljana. Botanični vrt. Oddelek za biologijo. Biotehniška fakulteta. pp. 113-125.

Wraber T. 2010 b. Alfonz Paulin, »Juliana« in Albert Bois de Chesne. V: Bavcon, J. (ur.). 200 let Botaničnega vrta v Ljubljani. 200 years of Botanic gardens in Ljubljana. 200 ans du Jardin botanique de Ljubljana. I 200 anni dell'Orto botanico di Lubiana. 200 Jahre des Botanischen Gartens in Ljubljana. Ljubljana. Botanični vrt. Oddelek za biologijo. Biotehniška fakulteta. pp. 66-72.

Wraber T. 2010 c. Alfonz Paulin, »Juliana« and Albert Bois de Chesne. V: Bavcon, J. (ur.). 200 let Botaničnega vrta v Ljubljani. 200 years of Botanic gardens in Ljubljana. 200 ans du Jardin botanique de Ljubljana. I 200 anni dell'Orto botanico di Lubiana. 200 Jahre des Botanischen Gartens in Ljubljana. Ljubljana. Botanični vrt. Oddelek za biologijo. Biotehniška fakulteta. pp. 115-122.

Wraber T. 2010 d. Alfonz Paulin, »Juliana« et Albert Bois de Chesne. V: Bavcon, J. (ur.). 200 let Botaničnega vrta v Ljubljani. 200 years of Botanic gardens in Ljubljana. 200 ans du Jardin botanique de Ljubljana. I 200 anni dell'Orto botanico di Lubiana. 200 Jahre des Botanischen Gartens in Ljubljana. Ljubljana. Botanični vrt. Oddelek za biologijo. Biotehniška fakulteta. pp. 158-166.

Wraber T. 2010 e. Alfonz Paulin, »Juliana« e Albert Bois de Chesne. V: Bavcon, J. (ur.). 200 let Botaničnega vrta v Ljubljani. 200 years of Botanic gardens in Ljubljana. 200

ans du Jardin botanique de Ljubljana. I 200 anni dell'Orto botanico di Lubiana. 200 Jahre des Botanischen Gartens in Ljubljana. Ljubljana. Botanični vrt. Oddelek za biologijo. Biotehniška fakulteta. Pp. 200-208.

Wyse Jackson P. S. 2001. Global Strategy for Plant Conservation supported by Biodiversity Convention's Scientific and Technical Advisory Body (SBSTTA). Volume 3(7). Botanic Gardens Conservation International.

Wyse Jackson P.S. & Sutherland L. A. 2000. International Agenda for Botanic Gardens in conservation. Botanic Gardens Conservation International. UK.

Zor L. 1958 a. O flori močvirnatih predelov Ljubljane. *Proteus* XXI. (1): 24- 25.

Zor L. 1958 b. O flori močvirnatih predelov Ljubljane. *Proteus* XXXI. (3): 88 - 89.

Zor L. 1961. Ob Botanični ekskurziji na ljubljanskem barju. *Proteus* XXIII . 9-10: 254- 259.

Sources:

ZAL, LJU 184 Hladnikovo pismo rektorju

*AS 882 Fas. 18 Arhiv Republike Slovenije Hladnik Franc*

*AS 882 Fas 27 Arhiv Republike Slovenije Hladnik Franc*

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*Jože Bavcon, Janja Makše, Blanka Ravnjak*

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198. *Crocus weldenii* Hoppe IT-0-LJU-G-001-388  
199. *Gladiolus illyricus* Koch SI-1-LJU-G-555-1246  
200. *Iris pallida* Lam. SI-0-LJU-G-555-477  
201. *Iris pontica* Zapal. XX-0-LJU-G-555-1252  
202. *Iris pseudacorus* L. SI-1-LJU-G-555-478  
203. *Iris sibirica* L. subsp. *sibirica* SI-1-LJU-G-555-480

### **Juglandaceae**

204. *Carya cordiformis* (Wangenh.) K.Koch XX-0-LJU-G-555-654  
205. *Juglans cinerea* L. XX-0-LJU-G-555-679  
206. *Juglans nigra* L. XX-0-LJU-G-555-680  
207. *Pterocarya fraxinifolia* (Lam.) Spach. XX-0-LJU-G-555-557

### **Lamiaceae**

- 208. *Ajuga reptans* L. XX-0-LJU-G-555-637
- 209. *Ballota rupestris* (Biv.) Vis. XX-1-LJU-G-555-334
- 210. *Betonica officinalis* L. SI-0-LJU-G-555-336
- 211. *Betonica officinalis* L. subsp. *serotina* (Host) Hayek SI-0-LJU-G-555-337
- 212. *Clinopodium vulgare* L. XX-0-LJU-G-555-660
- 213. *Horminum pyrenaicum* L. XX-1-LJU-G-555-675
- 214. *Lavandula angustifolia* Mill. SI-0-LJU-G-555-487
- 215. *Lycopus europaeus* L. SI-0-LJU-G-555-503
- 216. *Marrubium vulgare* L. SI-0-LJU-G-555-507
- 217. *Melissa officinalis* L. SI-0-LJU-G-555-278
- 218. *Mentha aquatica* L. XX-0-LJU-G-555-695
- 219. *Monarda fistulosa* L. XX-0-LJU-G-555-517
- 220. *Nepeta grandiflora* Bieb. XX-0-LJU-G-555-1258
- 221. *Origanum vulgare* L. SI-0-LJU-G-555-530
- 222. *Phlomis tuberosa* L. XX-0-LJU-G-555-545
- 223. *Rosmarinus officinalis* L. XX-0-LJU-G-555-1265
- 224. *Salvia glutinosa* L. SI-0-LJU-G-555-575
- 225. *Salvia officinalis* L. SI-1-LJU-G-555-1266
- 226. *Salvia sclarea* L. SI-1-LJU-G-555-576
- 227. *Salvia verticillata* L. SI-0-LJU-G-555-577
- 228. *Satureja montana* L. subsp. *variegata* (Host.) P.W.Ball SI-0-LJU-G-555-580
- 229. *Scutellaria altissima* L. SI-1-LJU-G-555-586
- 230. *Sideritis syriaca* L. DE-0-LJU-G-002-1013
- 231. *Teucrium arduini* L. XX-0-LJU-G-555-612
- 232. *Teucrium chamaedrys* L. SI-0-LJU-G-555-613
- 233. *Teucrium hircanicum* L. XX-0-LJU-G-555-741

### **Lardizabalaceae**

- 234. *Decaisnea fargesii* Franch. XX-0-LJU-G-555-394

### **Liliaceae**

235. *Gagea lutea* (L.) Ker-Gawler SI-0-LJU-G-555-425  
236. *Hosta ventricosa* (Salisb.) Stearn XX-0-LJU-G-555-981  
237. *Tulipa sylvestris* L. XX-0-LJU-G-555-1272

#### **Linaceae**

238. *Linum usitatissimum* L. SI-0-LJU-G-555-276

#### **Lythraceae**

239. *Lythrum salicaria* L. SI-0-LJU-G-555-505

#### **Malvaceae**

240. *Abutilon theophrasti* Medik. XX-0-LJU-G-555-947  
241. *Althaea armeniaca* Ten. XX-0-LJU-G-555-311  
242. *Althaea officinalis* L. XX-0-LJU-G-555-312  
\* 243. *Hibiscus coccineus* Walter XX-0-LJU-G-555-455  
\* 244. *Lagunaria patersonia* (Andrews) G.Don. xx-GZU-83-110127

#### **Martyniaceae**

- \* 245. *Ibicella lutea* (Lindl.) Van Eselt. XX-0-LJU-G-555-1250

#### **Melanthiaceae**

246. *Veratrum album* L. subsp. *album* SI-0-LJU-G-555-746

#### **Meliaceae**

- \* 247. *Melia azedarach* L. XX-0-LJU-G-555-509

#### **Mimosaceae**

- \* 248. *Mimosa pudica* L. XX-0-LJU-G-555-513

#### **Myrtaceae**

- \* 249. *Myrtus communis* L. SI-1-LJU-G-555-522  
\* 250. *Psidium cattleianum* Sabine xx-GZU-yy-110137  
\* 251. *Psidium guajava* L. xx-GZU-yy-1102261

#### **Nyctaginaceae**

252. *Mirabilis jalapa* L. XX-0-LJU-G-555-514

### **Oleaceae**

253. *Chionanthus virginicus* L. XX-0-LJU-G-555-368

### **Onagraceae**

254. *Circaea lutetiana* L. XX-0-LJU-G-555-369

255. *Oenothera biennis* L. XX-0-LJU-G-555-990

### **Paeoniaceae**

256. *Paeonia officinalis* L. SI-1-LJU-G-555-535

257. *Paeonia romanica* Brandz. XX-0-LJU-G-555-536

258. *Paeonia wittmanniana* Hartw. XX-0-LJU-G-555-707

### **Papaveraceae**

259. *Chelidonium majus* L. SI-0-LJU-G-555-366

260. *Eschscholzia californica* Cham. XX-0-LJU-G-555-416

261. *Papaver rhoeas* L. SI-0-LJU-G-555-537

### **Passifloraceae**

\* 262. *Passiflora suberosa* L.. XX-0-LJU-G-555-540

### **Plumbaginaceae**

263. *Limonium latifolium* (Sm.) O.Kuntze XX-0-LJU-G-555-985

### **Poaceae**

264. *Anthoxanthum odoratum* L. XX-0-LJU-G-555-1230

265. *Brachypodium pinnatum* (L.) Beauv. XX-0-LJU-G-555-1233

266. *Brachypodium sylvaticum* (Huds.) PB. SI-0-LJU-G-555-342

267. *Briza media* L. SI-0-LJU-G-555-264

268. *Bromus erectus* Huds. SI-0-LJU-G-555-1234

269. *Calamagrostis epigejos* (L.) Roth. SI-0-LJU-G-555-1236

270. *Chrysopogon gryllus* (L.) Trin. XX-0-LJU-G-555-658

271. *Dactylis glomerata* L. SI-0-LJU-G-555-1241

272. *Deschampsia caespitosa* (L.) Beauv. SI-0-LJU-G-002-1242

273. *Festuca ovina* L. SI-1-LJU-G-019-974  
274. *Festuca rubra* L. SI-0-LJU-G-555-1244  
275. *Helictotrichon pratense* (L.) Pilger XX-0-LJU-G-555-979  
276. *Lolium multiflorum* Lam. XX-0-LJU-G-555-1255  
277. *Melica ciliata* L. SI-0-LJU-G-555-987  
278. *Phleum pratense* L. XX-0-LJU-G-555-1261  
279. *Sesleria autumnalis* F. W. Schultz SI-0-LJU-G-009-1012  
280. *Sesleria caerulea* (L.) Ard. XX-0-LJU-G-555-1268

### **Polemoniaceae**

281. *Polemonium caeruleum* L. XX-0-LJU-G-555-1000

### **Primulaceae**

282. *Lysimachia vulgaris* L. XX-0-LJU-G-555-504  
283. *Primula vulgaris* Hudson SI-0-LJU-G-555-1003

### **Ranunculaceae**

284. *Anemone apennina* L. XX-0-LJU-G-555-1229  
285. *Anemone hortensis* L. XX-1-LJU-G-555-642  
286. *Anemone sylvestris* L. XX-1-LJU-G-555-321  
287. *Caltha palustris* L. SI-0-LJU-G-555-346  
288. *Clematis integrifolia* L. XX-0-LJU-G-555-1238  
289. *Clematis recta* L. SI-0-LJU-G-555-374  
290. *Eranthis hyemalis* (L.) Salisb. SI-1-LJU-G-555-411  
291. *Helleborus atrorubens* Waldst. & Kit. SI-1-LJU-G-555-980  
292. *Helleborus dumetorum* Waldst. & Kit. SI-1-LJU-G-555-1248  
293. *Nigella damascena* L. XX-0-LJU-G-555-701  
294. *Pulsatilla halleri* (All.) Willd. subsp. *slavica* (G. Reuss) Zamels XX-0-LJU-G-555-560  
295. *Pulsatilla nigricans* Ströck. SI-1-LJU-G-002-1006  
296. *Pulsatilla vulgaris* Mill. XX-0-LJU-G-555-562  
297. *Ranunculus millefoliatus* Vahl XX-0-LJU-G-555-564

### **Rosaceae**

298. *Agrimonia eupatoria* L. SI-0-LJU-G-009-299



299. *Cotoneaster bullatus* Bois. XX-0-LJU-G-555-384  
 300. *Cotoneaster niger* (Thunb.) Fries XX-0-LJU-G-555-1239  
 301. *Crataegus crus-galli* L. XX-0-LJU-G-555-269  
 302. *Crataegus laevigata* (Poir.) DC XX-0-LJU-G-555-1240  
 303. *Crataegus monogyna* Jacq. XX-0-LJU-G-555-966  
 304. *Crataegus pedicellata* Sarg. XX-0-LJU-G-555-385  
 305. *Filipendula ulmaria* (L.) Maxim. SI-0-LJU-G-555-421  
 306. *Geum coccineum* Sibth. & Sm. XX-0-LJU-G-555-437  
 307. *Potentilla nivea* L. XX-0-LJU-G-555-551  
 308. *Potentilla rupestris* L. XX-0-LJU-G-555-552  
 309. *Potentilla thuringiaca* Bernh. ex Link. XX-0-LJU-G-555-719  
 310. *Prunus tenella* Batsch XK-0-LJU-G-555-554  
 311. *Pyrus nivalis* Jacq. XX-1-LJU-G-555-1263  
 312. *Pyrus pyraeaster* (L.) Borkh XX-0-LJU-G-555-563  
 \* 313. *Rhaphiolepis umbellata* Makino xx-GZU-yy-110258  
 314. *Rhodotypos scandens* (Thunb.) Mak. XX-0-LJU-G-555-565  
 315. *Rosa canina* L. SI-0-LJU-G-012-1264  
 316. *Rosa glauca* Pourr. SI-0-LJU-G-555-568  
 317. *Rosa multiflora* Thunb. XX-0-LJU-G-555-284  
 318. *Rosa pendulina* L. SI-0-LJU-G-555-569  
 319. *Rosa rugosa* Thunb. XX-0-LJU-G-555-571  
 320. *Sanguisorba officinalis* L. XX-0-LJU-G-555-1267  
 321. *Stephanandra tanakae* Franch. & Sav. XX-0-LJU-G-555-605  
 322. *Stranvaesia davidiana* Decne. XX-0-LJU-G-555-606

### **Rutaceae**

323. *Zanthoxylum simulans* Hance XX-0-LJU-G-555-287

### **Scrophulariaceae**

324. *Digitalis grandiflora* Miller XX-0-LJU-G-555-401  
 325. *Digitalis laevigata* Waldst. & Kit. SI-0-LJU-G-001-968  
 326. *Erinus alpinus* L. XX-0-LJU-G-555-412  
 327. *Pseudolysimachion barrelieri* (Schott ex Roem. & Schult.) Holub subsp.  
*barrelieri* SI-0-LJU-G-555-1262

328. *Verbascum austriacum* Schott ex Roem. & Schult. SI-0-LJU-G-555-621  
329. *Veronica jacquinii* Baumg. SI-0-LJU-G-555-1273  
330. *Veronica prostrata* L. SI-0-LJU-G-555-624  
331. *Veronicastrum virginicum* (L.) Farw. XX-0-LJU-G-555-625

#### **Solanaceae**

332. *Atropa bella-donna* L. XX-0-LJU-G-555-646  
333. *Datura metel* L. XX-0-LJU-G-555-391  
334. *Datura metel* L. f. *inermis* XX-0-LJU-G-555-392  
335. *Nicandra physalodes* (L.) Gaertner XX-0-LJU-G-555-525  
336. *Nicotiana rustica* L. SI-0-LJU-G-003-526  
337. *Nicotiana tabacum* L. XX-0-LJU-G-555-527  
338. *Nicotiana viscosa* Lehm. XX-0-LJU-G-003-528  
339. *Scopolia carniolica* Jacq. SI-0-LJU-G-555-585

#### **Staphyleaceae**

340. *Staphylea pinnata* L. SI-0-LJU-G-555-604

#### **Styracaceae**

341. *Halesia carolina* L. XX-0-LJU-G-555-273

#### **Ulmaceae**

342. *Celtis occidentalis* L. XX-0-LJU-G-555-358  
343. *Zelkova carpinifolia* (Pall.) K. Koch XX-0-LJU-G-555-288

#### **Urticaceae**

344. *Parietaria officinalis* L. XX-0-LJU-G-555-538

#### **Valerianaceae**

345. *Valeriana officinalis* L. XX-0-LJU-G-555-745  
346. *Valerianella locusta* (L.) Laterrade XX-0-LJU-G-555-620

**Verbenaceae**

347. *Callicarpa bodinieri* Levl. var. *giraldii* Rehd. XX-0-LJU-G-555-345

\* 348. *Lantana camara* L. XX-0-LJU-G-555-485

\* *Semina plantarum in caladariis cultarum.*

**Horti praefectus:** dr. Jože Bavcon

**Seminum Curator, hortulana:** Janja Makše

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# Semina e plantis spontaneis in loco natali annis 2020 et 2019 lecta

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349. *Acer campestre* L. - Božakovo, 2020, J. B., B. R., SI-O-LJU-N-020-1274
350. *Achillea distans* Waldst. & Kitt ex Wild. - Stanov rob, 2020, L. & I. D., SI-O-LJU-N-020-1275
351. *Acinos alpinus* (L.) Moench - Kucelj, 2020, J. B., B. R., SI-O-LJU-N-020-1276
352. *Aconitum angustifolium* Bernh. ex Rchb. - Žabijški Kuk, 2020, L. & I. D., SI-O-LJU-N-020-1277
353. *Aconitum degenii* Gáyér subsp. *paniculatum* (Archang.) Mucher. - Ruša (Kaninsko pogorje), 2020, L. & I. D., SI-O-LJU-N-020-1278
354. *Aconitum lycoctonum* L. em Koelle subsp. *lycoctonum* - Bela krajina, Butoraj, 140 m nmv, 2020, A. P., SI-O-LJU-N-020-1280
355. *Aconitum lycoctonum* L. em Koelle subsp. *lycoctonum* - Bela krajina, Podlog, 160 m nmv, 2020, A. P., SI-O-LJU-N-020-1279
356. *Aconitum napellus* L. em Skalicky - Bloška planota: Ulaka - Vel. Bloke, 2019, A. P., SI-O-LJU-N-019-1024
357. *Aconitum ranunculifolium* Rchb. - Pl. Razor-Škrbina, 2020, L. & I. D., SI-O-LJU-N-020-1281
358. *Aconitum variegatum* L. - Kavčiče, 2020, J. B., B. R., SI-O-LJU-N-020-1282
359. *Aconitum variegatum* L. - Kucelj, 2020, J. B., B. R., SI-O-LJU-N-020-1283

360. *Aconitum variegatum* L. subsp. *nasutum* (Fischer ex Rchb. em. Rupr.)  
Gotz. L. (Fischer ex Rchb. em. Rupr.) Gotz. - Nanos, Pleša, 1240 m nmv,  
2020, A. P., SI-0-LJU-N-020-1284
361. *Aconitum vulparia* Rchb. - Porezen, 2020, J. B., B. R., SI-0-LJU-N-  
020-1285
362. *Adenostyles glabra* (Miller) DC. - Porezen, 2020, J. B., B. R., SI-0-  
LJU-N-020-1286
363. *Agrimonia procera* Wallr. - Žadovinek, 2020, J. B., SI-1-LJU-N-020-  
1287
364. *Agrostemma githago* L. - Struška dolina, Podtabor (Dobropolje), 2020,  
B. D., SI-1-LJU-N-020-1288
365. *Alisma plantago-aquatica* L. - Blate pri Ribnici, 500 m nmv, 2020, A. P.,  
SI-0-LJU-N-020-1289
366. *Allium carinatum* L. - Nanos, plato, 2020, J. B., B. R., E. Š., K. M., SI-  
0-LJU-N-020-1290
367. *Allium ericetorum* Thore - Čaven, 2020, J. B., B. R., SI-0-LJU-N-020-  
1291
368. *Allium ericetorum* Thore - Črna prst, 2020, L. & I. D., SI-0-LJU-N-  
020-1293
369. *Allium ericetorum* Thore - Daber (Šentviška planota), 2020, L. & I. D.,  
SI-0-LJU-N-020-1294
370. *Allium ericetorum* Thore - Nanos, 2020, J. B., B. R., E. Š., K. M., SI-0-  
LJU-N-020-1292
371. *Allium senescens* L. - Črna prst, 2020, L. & I. D., SI-0-LJU-N-020-  
1295
372. *Allium senescens* L. - Sočerga, 2019, J. B., B. R., SI-0-LJU-N-019-  
1031
373. *Allium victorialis* L. - Breginjski Stol, 2020, L. & I. D., SI-0-LJU-N-  
020-1297
374. *Allium victorialis* L. - Porezen, 2020, J. B., B. R., SI-0-LJU-N-020-  
1296
375. *Angelica sylvestris* L. - Porezen, 2020, J. B., B. R., SI-0-LJU-N-020-  
1298
376. *Angelica sylvestris* L. - Ruša (Kaninsko pogorje), 2020, L. & I. D., SI-  
0-LJU-N-020-1299

377. *Antennaria carpatica* (Wahlenb.) Bluff & Fingerh. - Mangart, 2020, L. & I. D., SI-0-LJU-N-020-1300
378. *Antennaria carpatica* (Wahlenb.) Bluff & Fingerh. - Mangart, 2019, I. D. & S. B, SI-0-LJU-N-019-1036
379. *Antennaria dioica* (L.) Gaertner - Mangart, 2020, L. & I. D., SI-0-LJU-N-020-1301
380. *Anthericum ramosum* L. - Breginjski Stol, 2020, L. & I. D., SI-0-LJU-N-020-1306
381. *Anthericum ramosum* L. - Daber (Šentviška planota), 2020, L. & I. D., SI-0-LJU-N-020-1305
382. *Anthericum ramosum* L. - Nanos, Rajske poljane, 2020, J. B., B. R., E. Š., K. M., SI-0-LJU-N-020-1304
383. *Anthericum ramosum* L. - Rakitovec, 2020, J. B., B. R., SI-0-LJU-N-020-1303
384. *Anthericum ramosum* L. - Roje, 2020, J. B., B. R., K. M., SI-0-LJU-N-020-1302
385. *Anthyllis jacquinii* Kern. - Kavčiče, 2020, J. B., B. R., SI-0-LJU-N-020-1307
386. *Anthyllis jacquinii* Kern. - Slavnik, 2020, L. & I. D., SI-0-LJU-N-020-1308
387. *Aquilegia nigricans* Baumg. - Čekovnik nad Idrijo, 600 m nmv, 2020, A. P., SI-0-LJU-N-020-1309
388. *Arabis bellidifolia* Crantz. subsp. *stellulata* (Bartol.) Greuter et Burdet - Ruša (Kaninsko pogorje), 2020, L. & I. D., SI-0-LJU-N-020-1310
389. *Arctium lappa* L. - Kucelj - Čaven, 2020, J. B., B. R., SI-0-LJU-N-020-1311
390. *Arnica montana* L. - Uskovnica, 1100 m nmv, 2020, J. M., SI-1-LJU-N-020-1312
391. *Artemisia alba* Turra - Otlica, 2020, J. B., B. R., SI-0-LJU-N-020-1313
392. *Artemisia alba* Turra - Sočerga, 2020, J. B., B. R., SI-0-LJU-N-020-1314
393. *Asphodelus albus* Mill. - Kavčiče, 2020, J. B., B. R., SI-1-LJU-N-020-1316

394. *Asphodelus albus* Mill. - Slivnica nad Cerknico, 2020, J. B., B. R., SI-1-LJU-N-020-1315
395. *Aster amellus* L. - Čaven, 2020, J. B., B. R., SI-0-LJU-N-020-1317
396. *Aster amellus* L. - Korada, 2020, L. & I. D., SI-0-LJU-N-020-1320
397. *Aster amellus* L. - Kucelj, 2020, J. B., B. R., SI-0-LJU-N-020-1318
398. *Aster amellus* L. - Sočerga, 2020, J. B., B. R., SI-0-LJU-N-020-1319
399. *Aster linosyris* (L.) Bernh. - Dragonja, 2020, J. B., SI-0-LJU-N-020-1321
400. *Aster tripolium* L. - Škocjanski zatok, 2020, J. B., SI-0-LJU-N-020-1322
401. *Astragalus australis* (L.) Lam. - Mangart, 2020, L. & I. D., SI-0-LJU-N-020-1323
402. *Astragalus carniolicus* Kern. - Kucelj, 2020, J. B., B. R., SI-0-LJU-N-020-1325
403. *Astragalus carniolicus* Kern. - Rakitovec, 2020, J. B., B. R., SI-0-LJU-N-020-1324
404. *Astrantia major* L. - Roje, 2020, J. B., E. Š., SI-0-LJU-N-020-1326
405. *Athamanta turbith* (L.) Brot. p.p., em. Karsten - Slavnik - Grmada, 2020, L. & I. D., SI-0-LJU-N-020-1327
406. *Betonica officinalis* L. - Gornji kraj, Zagorje - Pivka, 2020, J. B., B. R., SI-0-LJU-N-020-1330
407. *Betonica officinalis* L. - Nanos, Rajske poljane, 2020, J. B., B. R., E. Š., K. M., SI-0-LJU-N-020-1329
408. *Betonica officinalis* L. - Roje, 2020, J. B., B. R., K. M., SI-0-LJU-N-020-1328
409. *Briza media* L. - Roje-Šentvid, 2019, J. B., B. R., SI-0-LJU-N-019-1059
410. *Buglossoides arvensis* (L.) I. M. Johnst. - Žadovinec, 2020, J. B., SI-0-LJU-N-020-1331
411. *Bupthalmum salicifolium* L. - Kucelj, 2020, J. B., B. R., SI-0-LJU-N-020-1333
412. *Bupthalmum salicifolium* L. - Roje, 2020, J. B., B. R., K. M., SI-0-LJU-N-020-1332
413. *Bupleurum petraeum* L. - Porezen, 2020, J. B., B. R., SI-0-LJU-N-020-1334

414. *Campanula thyrsooides* L. - Rodica, 2020, L. & I. D., SI-0-LJU-N-020-1335
415. *Campanula zoysii* Wulf. - Črna prst, 2020, L. & I. D., SI-0-LJU-N-020-1336
416. *Campanula zoysii* Wulf. - Mali Babanjski Skedenj-Ruša, 2020, L. & I. D., SI-0-LJU-N-020-1337
417. *Carex pendula* Huds. - Čekovnik nad Idrijo, 600 m nmv, 2020, A. P., SI-0-LJU-N-020-1338
418. *Carlina acaulis* L. subsp. *caulescens* (Lam.) Schubler & Martens - Nanos, 2. plato, 2020, J. B., B. R., E. Š., K. M., SI-0-LJU-N-020-1339
419. *Carpinus orientalis* Mill. - Dragonja, 2020, J. B., B. R., SI-0-LJU-N-020-1340
420. *Centaurea haynaldii* Borb. ex Hayek subsp. *julica* (Hayek) E. Mayer - Žabijški Kuk, 2020, L. & I. D., SI-0-LJU-N-020-1342
421. *Centaurea scabiosa* L. - Roje, 2020, J. B., E. Š., SI-0-LJU-N-020-1343
422. *Centaurea scabiosa* L. subsp. *fritschii* - Zelena dolina pri Hoterdščici, 2020, A. P., SI-0-LJU-N-020-1344
423. *Centaureum erythraea* Rafn - Sleme (Banjšice), 2020, L. & I. D., SI-0-LJU-N-020-1345
424. *Cephalaria leucantha* (L.) Roemer & Schultes - Štivan in Devin-Sesljan, 2019, L. & I. D., SI-1-LJU-N-019-1069
425. *Chamaecytisus hirsutus* (L.) Briq. - Kucelj, 2020, J. B., B. R., SI-0-LJU-N-020-1346
426. *Cirsium eriophorum* (L.) Scop. - Porezen, 2020, J. B., B. R., SI-0-LJU-N-020-1347
427. *Cirsium pannonicum* (L.f.) Link - Žejna dolina pri Hoterdščici, 2020, A. P., SI-0-LJU-N-020-1350
428. *Cirsium pannonicum* (L.f.) Link - Roje, 2020, J. B., B. R., E. Š., SI-0-LJU-N-020-1348
429. *Cirsium pannonicum* (L.f.) Link - Slivnica nad Cerknico, 2020, J. B., B. R., SI-0-LJU-N-020-1349
430. *Clematis alpina* (L.) Mill. - Pl. Razor, 2020, L. & I. D., SI-0-LJU-N-020-1352
431. *Clematis alpina* (L.) Mill. - Stanov rob, 2020, L. & I. D., SI-0-LJU-N-020-1351



432. *Clematis flammula* - Štivan-Devin, 2019, L. & I. D., SI-0-LJU-N-019-1073
433. *Clematis recta* L. - Kavčiče, 2020, J. B., B. R., SI-0-LJU-N-020-1353
434. *Clematis vitalba* L. - Škocjanski zatok, 2020, J. B., SI-0-LJU-N-020-1354
435. *Clematis vitalba* L. - Gornji kraj, Zagorje - Pivka, 2020, J. B., B. R., SI-0-LJU-N-020-1355
436. *Cnidium silaifolium* Fiori.& Paol. - Slavnik, 2020, L. & I. D., SI-0-LJU-N-020-1356
437. *Colchicum autumnale* L. - Trnovska planota, 2020, J. B., SI-0-LJU-N-020-1358
438. *Colchicum autumnale* L. - Zrkovci, 2020, B. R., SI-0-LJU-N-020-1357
439. *Colutea arborescens* L. - Sočerga, 2020, J. B., B. R., SI-0-LJU-N-020-1359
440. *Cornus mas* L. - Rakitovec, 2020, J. B., B. R., SI-0-LJU-N-020-1360
441. *Cornus sanguinea* L. - Dragonja, 2019, J. B., B. R., SI-0-LJU-N-019-1076
442. *Coronilla emerus* L. subsp. *emeroides* - Dragonja, 2019, J. B., B. R., SI-0-LJU-N-019-1077
443. *Cotinus coggygria* Scop. - Sočerga, 2020, J. B., B. R., SI-0-LJU-N-020-1361
444. *Crataegus monogyna* Jacq. - Žadovinek, 2020, J. B., SI-0-LJU-N-020-1362
445. *Crataegus monogyna* Jacq. - Gorenja Trebuša, 2020, L. & I. D., SI-0-LJU-N-020-1366
446. *Crataegus monogyna* Jacq. - Gornji kraj, Zagorje - Pivka, 2020, J. B., B. R., SI-0-LJU-N-020-1364
447. *Crataegus monogyna* Jacq. - Kalec-Čadrg, 2020, L. & I. D., SI-0-LJU-N-020-1365
448. *Crataegus monogyna* Jacq. - Sočerga, 2020, J. B., B. R., SI-0-LJU-N-020-1363
449. *Crepis pyrenaica* (L.) W.Greuter - Lisec, 2020, L. & I. D., SI-0-LJU-N-020-1367
450. *Crithmum maritimum* L. - Izola, 2019, J. B., SI-0-LJU-N-019-1082

451. *Daucus carota* L. - Gornji kraj, Zagorje - Pivka, 2020, J. B., B. R., SI-0-LJU-N-020-1368
452. *Dianthus tergestinus* (Rchb.) Kerner - Sočerga, 2020, J. B., B. R., SI-1-LJU-N-020-1369
453. *Digitalis grandiflora* Miller - Breginjski Stol, 2020, L. & I. D., SI-0-LJU-N-020-1370
454. *Dorycnium germanicum* (Gremli) Rouy. - Žadovinek, 2020, J. B., SI-0-LJU-N-020-1372
455. *Dorycnium germanicum* (Gremli) Rouy. - Roje, 2020, J. B., B. R., K. M., SI-0-LJU-N-020-1371
456. *Echinops ritro* L. - Čaven, 2020, J. B., B. R., SI-0-LJU-N-020-1373
457. *Epipactis atrorubens* (Hoffm.) Besser - Kucelj - Čaven, 2020, J. B., B. R., SI-1-LJU-N-020-1374
458. *Epipactis palustris* (L.) Crantz - Gačnik, Vojsko, 2020, L. & I. D., SI-0-LJU-N-020-1376
459. *Epipactis palustris* (L.) Crantz - Roje, 2020, J. B., B. R., K. M., SI-0-LJU-N-020-1375
460. *Erigeron angulosus* Gaudin - Vrsno, 2020, L. & I. D., SI-0-LJU-N-020-1377
461. *Eryngium alpinum* L. - Lisec-Kozji rob, 2020, L. & I. D., SI-1-LJU-N-020-1379
462. *Eryngium alpinum* L. - Porezen, 2020, J. B., B. R., SI-1-LJU-N-020-1378
463. *Eryngium amethystinum* L. - Gornji kraj, Zagorje - Pivka, 2020, J. B., B. R., SI-0-LJU-N-020-1381
464. *Eryngium amethystinum* L. - Nanos, 2020, J. B., B. R., E. Š., K. M., SI-0-LJU-N-020-1380
465. *Erysimum sylvestre* Scop. - Kucelj, 2020, J. B., B. R., SI-0-LJU-N-020-1382
466. *Eupatorium cannabinum* L. - Kucelj - Čaven, 2020, J. B., B. R., SI-0-LJU-N-020-1383
467. *Euphorbia nicaeensis* All. - Sočerga, 2020, J. B., B. R., SI-0-LJU-N-020-1384
468. *Euphrasia rostkoviana* Heyne - Hrušica, 2020, J. B., B. R., E. Š., K. M., SI-0-LJU-N-020-1385

469. *Fagus sylvatica* L. - Čaven, 2020, J. B., B. R., SI-O-LJU-N-020-1386
470. *Fagus sylvatica* L. - Stanov rob, 2020, L. & I. D., SI-O-LJU-N-020-1387
471. *Fagus sylvatica* L. - Vas na Skali - Pl. v Plazeh (Soča), 2020, L. & I. D., SI-O-LJU-N-020-1388
472. *Ferulago galbanifera* (Mill.) W.D.J. Koch - Nanos, 2020, J. B., B. R., SI-O-LJU-N-020-1389
473. *Ferulago galbanifera* (Mill.) Koch - Slavnik, 2020, L. & I. D., SI-O-LJU-N-020-1390
474. *Filipendula ulmaria* (L.) Maxim. - Blate pri Ribnici, 500 m nmv, 2020, A. P., SI-O-LJU-N-020-1391
475. *Filipendula vulgaris* Moench. - Roje, 2020, B. R., SI-O-LJU-N-020-1392
476. *Filipendula vulgaris* Moench. - Slivnica nad Cerknico, 2020, J. B., B. R., SI-O-LJU-N-020-1393
477. *Filipendula vulgaris* Moench. - Velike Bloke, 730 m nmv, 2020, A. P., SI-O-LJU-N-020-1394
478. *Frangula alnus* Mill. - Cerkniško jezero, 2020, J. B., B. R., SI-O-LJU-N-020-1395
479. *Frangula rupestris* (Scop.) Schur - Kucelj, 2020, J. B., B. R., SI-O-LJU-N-020-1396
480. *Fraxinus ornus* L. - Sočerga, 2020, J. B., B. R., SI-O-LJU-N-020-1397
481. *Galanthus nivalis* L. - Senožeče, 2020, J. B., SI-O-LJU-N-020-1398
482. *Galium purpureum* L. - Sočerga, 2020, J. B., B. R., SI-O-LJU-N-020-1399
483. *Galium verum* L. - Žadovinek, 2020, J. B., SI-O-LJU-N-020-1401
484. *Galium verum* L. - Roje, 2020, J. B., B. R., K. M., SI-O-LJU-N-020-1400
485. *Genista tinctoria* L. - Roje, 2020, J. B., B. R., K. M., SI-O-LJU-N-020-1402
486. *Gentiana cruciata* L. - Kolovrat, 2020, L. & I. D., SI-O-LJU-N-020-1404
487. *Gentiana cruciata* L. - pl. Kuk, 2020, L. & I. D., SI-O-LJU-N-020-1403
488. *Gentiana lutea* L. - Kavčiče, 2020, J. B., B. R., SI-O-LJU-N-020-1405
489. *Gentiana lutea* L. - Nanos, Rajske poljane, 2020, J. B., B. R., E. Š., K. M., SI-O-LJU-N-020-1406

490. *Gentiana lutea* L. subsp. *symphyandra* Murb. - Žabijski Kuk, 2020, L. & I. D., SI-0-LJU-N-020-1407
491. *Gentiana lutea* L. subsp. *symphyandra* Murb. - Slavnik, 2020, L. & I. D., SI-0-LJU-N-020-1408
492. *Gentiana lutea* L. subsp. *symphyandra* Murb. - Nanos, 2019, J. B., B. R., SI-1-LJU-N-019-1102
493. *Gentiana pannonica* Scopoli - Črna prst, 2020, L. & I. D., SI-1-LJU-N-020-1410
494. *Gentiana pannonica* Scopoli - Porezen, 2020, J. B., B. R., SI-1-LJU-N-020-1409
495. *Gentianella germanica* - Porezen, 2020, J. B., B. R., SI-0-LJU-N-020-1411
496. *Geum montanum* L. - Mangart, 2019, I. D. & S. B., SI-0-LJU-N-019-1103
497. *Gladiolus illyricus* Koch - Kavčiče, 2020, J. B., B. R., SI-1-LJU-N-020-1413
498. *Gladiolus illyricus* Koch - Nanos, Rajske poljane, 2020, J. B., B. R., E. Š., K. M., SI-1-LJU-N-020-1414
499. *Gladiolus illyricus* Koch - Roje, 2020, J. B., B. R., E. Š., SI-1-LJU-N-020-1412
500. *Gladiolus palustris* Gaudin - Banjšice Sleme-Kuk, 2020, L. & I. D., SI-0-LJU-N-020-1417
501. *Gladiolus palustris* Gaudin - Cerknjiško jezero, 2020, J. B., B. R., SI-0-LJU-N-020-1415
502. *Gladiolus palustris* Gaudin - Planinsko polje, 2020, J. B., B. R., SI-0-LJU-N-020-1416
503. *Globularia cordifolia* L. - Čaven, 2020, J. B., B. R., SI-0-LJU-N-020-1419
504. *Globularia cordifolia* L. - Breginjki Stol, 2020, L. & I. D., SI-0-LJU-N-020-1420
505. *Globularia cordifolia* L. - Porezen, 2020, J. B., B. R., SI-0-LJU-N-020-1418
506. *Globularia punctata* Hegetschw. - Roje, 2020, J. B., B. R., K. M., SI-0-LJU-N-020-1421

507. *Gnaphalium sylvaticum* L. - Porezen, 2020, J. B., B. R., SI-0-LJU-N-020-1422
508. *Grafia golaka* (Hacq.) Rchb. - Breginjski Stol, 2020, L. & I. D., SI-0-LJU-N-020-1423
509. *Gymnadenia conopsea* (L.) R. Br. - Grantarski gozd-Rodica, 2020, L. & I. D., SI-1-LJU-N-020-1425
510. *Gymnadenia conopsea* (L.) R. Br. - Roje, 2020, J. B., B. R., K. M., SI-1-LJU-N-020-1424
511. *Hedera helix* L. - Dragonja, 2019, J. B., SI-0-LJU-N-019-1112
512. *Hedysarum hedysaroides* (L.) Schinz & Thell. subsp. *exaltatum* (Kerner) Žertová - Gozdec-Ruša, 2020, L. & I. D., SI-0-LJU-N-020-1426
513. *Helianthemum grandiflorum* (Scop.) Lam. & DC. - Porezen, 2020, J. B., B. R., SI-0-LJU-N-020-1427
514. *Heliosperma veselskyi* Janka subsp. *veselskyi* - Govci nad Gorenjo Trebušo, 2020, L. & I. D., SI-0-LJU-N-020-1428
515. *Helleborus niger* L. - Šebrel, 2020, J. B., SI-1-LJU-N-020-1429
516. *Hemerocallis lilioasphodelus* L. - Gorenja Trebuša, 2020, L. & I. D., SI-1-LJU-N-020-1430
517. *Heracleum sphondylium* L. subsp. *montanum* - Porezen, 2020, J. B., B. R., SI-0-LJU-N-020-1433
518. *Heracleum sphondylium* L. subsp. *pollinianum* - Črna prst - Štuke, 2020, L. & I. D., SI-0-LJU-N-020-1431
519. *Heracleum sphondylium* L. subsp. *pollinianum* - Rodica, 2020, L. & I. D., SI-0-LJU-N-020-1432
520. *Hladnikia pastinacifolia* Rchb. - Kucelj, 2020, J. B., B. R., SI-1-LJU-N-020-1434
521. *Hypericum perforatum* L. - Gornji kraj, Zagorje - Pivka, 2020, J. B., B. R., SI-0-LJU-N-020-1436
522. *Hypericum perforatum* L. - Porezen, 2020, J. B., B. R., SI-0-LJU-N-020-1435
523. *Hypochoeris maculata* L. - Slivnica nad Cerknico, 2020, J. B., B. R., SI-0-LJU-N-020-1437
524. *Inula ensifolia* L. - Kavčiče, 2020, J. B., B. R., SI-0-LJU-N-020-1438
525. *Inula ensifolia* L. - Kucelj, 2020, J. B., B. R., SI-0-LJU-N-020-1439

526. *Inula ensifolia* L. - Nanos, Rajske poljane, 2020, J. B., B. R., E. Š., K. M., SI-0-LJU-N-020-1440
527. *Inula hirta* L. - Čaven, 2020, J. B., B. R., SI-0-LJU-N-020-1441
528. *Inula hirta* L. - Nanos vrh, 2020, J. B., B. R., E. Š., K. M., SI-0-LJU-N-020-1443
529. *Inula hirta* L. - Nanos, Rajske poljane, 2020, J. B., B. R., E. Š., K. M., SI-0-LJU-N-020-1442
530. *Inula salicina* L. - Dragonja, 2020, J. B., SI-0-LJU-N-020-1445
531. *Inula salicina* L. - Sočerga, 2020, J. B., B. R., SI-0-LJU-N-020-1444
532. *Inula spiraeifolia* L. - Sočerga, 2019, J. B., B. R., SI-0-LJU-N-019-1123
533. *Iris graminea* L. - Jalovnik, 2020, L. & I. D., SI-1-LJU-N-020-1448
534. *Iris graminea* L. - Nanos, Rajske poljane, 2020, J. B., B. R., E. Š., K. M., SI-1-LJU-N-020-1446
535. *Iris graminea* L. - Slavnik, 2020, L. & I. D., SI-1-LJU-N-020-1447
536. *Iris pallida* Lam. subsp. *illyrica* - Kavčiče, 2020, J. B., B. R., SI-1-LJU-N-020-1449
537. *Iris sibirica* L. subsp. *erirrhiza* (Pospichal) T. Wraber L. (Pospichal) T. Wraber - Slavnik, 2020, L. & I. D., SI-0-LJU-N-020-1450
538. *Iris sibirica* L. subsp. *erirrhiza* (Pospichal) T. Wraber - Kavčiče, 2020, J. B., B. R., SI-1-LJU-N-020-1451
539. *Iris sibirica* L. subsp. *erirrhiza* (Pospichal) T. Wraber - Nanos, 2.plato, 2020, J. B., B. R., E. Š., K. M., SI-1-LJU-N-020-1452
540. *Juniperus communis* L. - Nanos, Rajske poljane, 2020, J. B., B. R., E. Š., K. M., SI-0-LJU-N-020-1453
541. *Juniperus communis* L. - Sočerga, 2020, J. B., B. R., SI-0-LJU-N-020-1454
542. *Laburnum alpinum* (Mill.) Presl. - Grantarski gozd pod Rodico, 2020, L. & I. D., SI-0-LJU-N-020-1456
543. *Laburnum alpinum* (Mill.) Presl. - Porezen, 2020, J. B., B. R., SI-0-LJU-N-020-1457
544. *Laburnum alpinum* (Mill.) Presl. - Stanov rob, 2020, L. & I. D., SI-0-LJU-N-020-1455
545. *Laserpitium latifolium* L. - Čaven, 2020, J. B., B. R., SI-0-LJU-N-020-1459

546. *Laserpitium latifolium* L. - Porezen, 2020, J. B., B. R., SI-0-LJU-N-020-1458
547. *Laserpitium latifolium* L. - Rodica, 2020, L. & I. D., SI-0-LJU-N-020-1461
548. *Laserpitium latifolium* L. - Slavnik, 2020, L. & I. D., SI-0-LJU-N-020-1460
549. *Laserpitium siler* L. - Kavčiče, 2020, J. B., B. R., SI-0-LJU-N-020-1463
550. *Laserpitium siler* L. - Kucelj - Čaven, 2020, J. B., B. R., SI-0-LJU-N-020-1464
551. *Laserpitium siler* L. - Rodica, 2020, L. & I. D., SI-0-LJU-N-020-1465
552. *Laserpitium siler* L. - Slivnica nad Cerknico, 2020, J. B., B. R., SI-0-LJU-N-020-1462
553. *Leontodon hispidus* L. subsp. *danubialis* - Porezen, 2020, J. B., B. R., SI-0-LJU-N-020-1466
554. *Leontopodium alpinum* Cass. - Mali Babanjski Skedenj, 2020, L. & I. D., SI-1-LJU-N-020-1467
555. *Leucojum aestivum* L. - Cerkniško jezero, Suhadolica, 2020, M. Š., SI-1-LJU-N-020-1468
556. *Leucojum vernum* L. - Šmartinsko jezero, 2020, B. R., SI-1-LJU-N-020-1469
557. *Libanotis daucifolia* (Scop.) Rchb. - Slavnik, 2020, L. & I. D., SI-0-LJU-N-020-1470
558. *Libanotis sibirica* (L.) C. A. Mey - Lipnik - Kavčiče, 2019, J. B., SI-0-LJU-N-019-1138
559. *Ligusticum seguieri* (Jacq.) Koch - Porezen, 2020, J. B., B. R., SI-0-LJU-N-020-1471
560. *Ligusticum seguieri* (Jacq.) Koch - Ruša-Mali Babanjski Skedenj, 2020, L. & I. D., SI-0-LJU-N-020-1472
561. *Ligustrum vulgare* L. - Lipoglav, 2020, J. B., SI-0-LJU-N-020-1474
562. *Ligustrum vulgare* L. - Sočerga, 2020, J. B., B. R., SI-0-LJU-N-020-1473
563. *Lilium bulbiferum* L. - Nanos, plato, 2020, J. B., B. R., E. Š., K. M., SI-0-LJU-N-020-1475

564. *Lilium carnioolicum* Bernh. - Jalovnik, 2020, L. & I. D., SI-1-LJU-N-020-1479
565. *Lilium carnioolicum* Bernh. - Nanos, plato, 2020, J. B., B. R., E. Š., K. M., SI-1-LJU-N-020-1477
566. *Lilium carnioolicum* Bernh. - Nanos, rajske poljane, 2020, J. B., B. R., E. Š., K. M., SI-1-LJU-N-020-1478
567. *Lilium carnioolicum* Bernh. - Porezen, 2020, J. B., B. R., SI-1-LJU-N-020-1476
568. *Lilium martagon* L. - Porezen, 2020, J. B., B. R., SI-1-LJU-N-020-1480
569. *Linum julicum* Hayek - Lisec-Kozji rob, 2020, L. & I. D., SI-0-LJU-N-020-1481
570. *Linum narbonense* L. - Nanos, plato, 2020, J. B., B. R., E. Š., K. M., SI-0-LJU-N-020-1482
571. *Linum viscosum* L. - Žadovinek, 2020, J. B., SI-0-LJU-N-020-1484
572. *Linum viscosum* L. - Roje, 2020, J. B., B. R., K. M., SI-0-LJU-N-020-1483
573. *Lithospermum officinale* L. - Žadovinek, 2020, J. B., SI-0-LJU-N-020-1485
574. *Lonicera alpigena* L. - Gozdec-Ruša, 2020, L. & I. D., SI-0-LJU-N-020-1486
575. *Lunaria rediviva* L. - Čaven, 2019, J. B., B. R., SI-0-LJU-N-019-1143
576. *Marrubium incanum* Desr. - Sočerga, 2020, J. B., B. R., SI-0-LJU-N-020-1487
577. *Micromeria thymifolia* (Scop.) Fritsch - Otlica, 2020, J. B., B. R., SI-0-LJU-N-020-1488
578. *Moehringia villosa* (Wulfen) Fenzl - Porezen, 2020, J. B., B. R., SI-1-LJU-N-020-1489
579. *Molinia caerulea* (L.) Moench subsp. *arundinacea* (Schrank) K. Richt. - Lipoglav, 2020, J. B., SI-0-LJU-N-020-1490
580. *Molopospermum peloponnesiacum* (L.) Koch - Nanos, 2020, J. B., B. R., E. Š., K. M., SI-0-LJU-N-020-1492
581. *Molopospermum peloponnesiacum* (L.) Koch - Ruša (Kaninsko pogorje), 2020, L. & I. D., SI-0-LJU-N-020-1491
582. *Origanum vulgare* L. - Kal pod Črno prstjo, 2020, L. & I. D., SI-0-LJU-N-020-1493



583. *Ornithogalum pyrenaicum* L. - Roje, 2020, J. B., B. R., K. M., SI-O-LJU-N-020-1494
584. *Ostrya carpinifolia* Scop. - Stanov rob, 2020, L. & I. D., SI-O-LJU-N-020-1495
585. *Paederota lutea* Scop. - Črna prst, 2020, L. & I. D., SI-O-LJU-N-020-1496
586. *Paederota lutea* Scop. - Gozdec-Ruša, 2020, L. & I. D., SI-O-LJU-N-020-1497
587. *Paederota lutea* Scop. - Ravni dol (Čisti vrh), 2020, L. & I. D., SI-O-LJU-N-020-1498
588. *Paeonia mascula* (L.) Mill. - Col, 2020, J. T., SI-O-LJU-N-020-1499
589. *Paeonia officinalis* L. - Kavčiče, 2020, J. B., B. R., SI-O-LJU-N-020-1500
590. *Paeonia officinalis* L. - Nanos, Rajske poljane, 2020, J. B., B. R., E. Š., K. M., SI-O-LJU-N-020-1501
591. *Paeonia officinalis* L. - Slavnik, 2020, L. & I. D., SI-O-LJU-N-020-1502
592. *Paliurus spina-christi* Mill. - Dragonja, 2019, J. B., B. R., SI-O-LJU-N-019-1160
593. *Parnassia palustris* L. - Porezen, 2020, J. B., B. R., SI-O-LJU-N-020-1503
594. *Pastinaca sativa* L. - Hoba (Podbrdo), 2020, L. & I. D., SI-O-LJU-N-020-1504
595. *Pedicularis verticillata* L. - Porezen, 2020, J. B., B. R., SI-O-LJU-N-020-1505
596. *Peucedanum austriacum* (Jacq.) Koch - Vintgar pri Podhomu, 2020, L. & I. D., SI-O-LJU-N-020-1506
597. *Peucedanum austriacum* (Jacq.) Koch subsp. *rablense* (Wulf.) Koch - Ruša, Kaninsko pogorje, 2020, L. & I. D., SI-O-LJU-N-020-1511
598. *Peucedanum coriaceum* Rchb. - Cerknliško jezero, 2020, J. B., B. R., SI-O-LJU-N-020-1507
599. *Peucedanum oreoselinum* (L.) Moench - Žadovinek, 2020, J. B., SI-O-LJU-N-020-1509
600. *Peucedanum oreoselinum* (L.) Moench - Roje, 2020, J. B., B. R., K. M., SI-O-LJU-N-020-1508

601. *Peucedanum ostruthium* (L.) Koch - Mali Babanjski Skedenj, 2020, L. & I. D., SI-0-LJU-N-020-1510
602. *Peucedanum schottii* Besser ex DC. - Gorski Vrh, 2019, L. & I. D., SI-0-LJU-N-019-1163
603. *Peucedanum venetum* (Spr.) Koch - Ljubinj, 2019, L. & I. D., SI-0-LJU-N-019-1164
604. *Peucedanum verticillare* (L.) Koch - Gačnik, 2020, L. & I. D., SI-0-LJU-N-020-1512
605. *Phillyrea latifolia* L. - Dragonja, 2019, J. B., B. R., SI-1-LJU-N-019-1165
606. *Physospermum verticillatum* (Waldst. & Kit.) Vis. - Slavnik, 2020, L. & I. D., SI-0-LJU-N-020-1513
607. *Phyteuma orbiculare* L. - Breginjski Stol, 2020, L. & I. D., SI-0-LJU-N-020-1514
608. *Picea abies* L. var. *virgata* - Godovič, 2020, P. G., SI-0-LJU-N-020-1515
609. *Pinus nigra* Arnold - Godovič, 2020, P. G., SI-0-LJU-N-020-1516
610. *Pistacia terebinthus* L. - Dragonja, 2020, J. B., B. R., SI-1-LJU-N-020-1517
611. *Plantago altissima* L. - Cerknjiško jezero, 2019, J. B., B. R., SI-0-LJU-N-019-1170
612. *Pleurospermum austriacum* (L.) Hoffm. - Porezen, 2020, J. B., B. R., SI-0-LJU-N-020-1518
613. *Pleurospermum austriacum* (L.) Hoffm. - Rodica, 2020, L. & I. D., SI-0-LJU-N-020-1519
614. *Polygonatum multiflorum* (L.) All. - Nanos, Rajske poljane, 2020, J. B., B. R., E. Š., K. M., SI-0-LJU-N-020-1520
615. *Polygonatum odoratum* (Mill.) Druce - Nanos, plato, 2020, J. B., B. R., E. Š., K. M., SI-0-LJU-N-020-1521
616. *Polygonatum odoratum* (Mill.) Druce - Nanos, Rajske poljane, 2020, J. B., B. R., E. Š., K. M., SI-0-LJU-N-020-1522
617. *Polygonatum verticillatum* All. - Nanos, 2019, J. B., B. R., SI-0-LJU-N-019-1172
618. *Potentilla caulescens* Torn. - Stanov rob, 2020, L. & I. D., SI-0-LJU-N-020-1523

619. *Primula auricula* L. - Čaven-Veliki rob, 2020, L. & I. D., SI-1-LJU-N-020-1525
620. *Primula auricula* L. - Porezen, 2020, J. B., B. R., SI-1-LJU-N-020-1524
621. *Primula auricula* L. - Veliki Češevik, 2020, L. & I. D., SI-1-LJU-N-020-1526
622. *Primula carniolica* Jacq. - Govci-Stanov rob, 2020, L. & I. D., SI-1-LJU-N-020-1527
623. *Prunella grandiflora* (L.) Scholler - Kavčiče, 2020, J. B., B. R., SI-0-LJU-N-020-1528
624. *Prunus spinosa* L. - Gornji kraj, Zagorje - Pivka, 2020, J. B., B. R., SI-0-LJU-N-020-1529
625. *Pulsatilla montana* (Hoppe) Rchb. - Kavčiče, 2020, J. B., SI-1-LJU-N-020-1532
626. *Pulsatilla montana* (Hoppe) Rchb. - Senadole, 2020, J. B., SI-1-LJU-N-020-1531
627. *Pulsatilla montana* (Hoppe) Rchb. - Nanos, 2019, J. B., B. R., SI-1-LJU-N-019-1174
628. *Quercus pubescens* Willd. - Sočerga, 2020, J. B., B. R., SI-0-LJU-N-020-1533
629. *Rhamnus cathartica* L. - Čaven, 2020, J. B., B. R., SI-0-LJU-N-020-1534
630. *Rhamnus cathartica* L. - Nanos, Rajske poljane, 2020, J. B., B. R., E. Š., K. M., SI-0-LJU-N-020-1535
631. *Rhinanthus aristatus* Čelak. - Zrkovci, 2020, B. R., SI-0-LJU-N-020-1536
632. *Rhododendron hirsutum* L. - Stanov rob, 2020, L. & I. D., SI-1-LJU-N-020-1537
633. *Rosa pendulina* L. - Lisec-Kozji rob, 2020, L. & I. D., SI-0-LJU-N-020-1540
634. *Rosa pendulina* L. - Porezen, 2020, J. B., B. R., SI-0-LJU-N-020-1538
635. *Rosa pendulina* L. - Ravni dol pod Čistim vrhom, 2020, L. & I. D., SI-0-LJU-N-020-1539
636. *Rosa rubiginosa* L. - Porezen, 2020, J. B., B. R., SI-0-LJU-N-020-1541
637. *Rubia tinctorum* L. - Dragonja, 2020, J. B., SI-0-LJU-N-020-1542
638. *Ruscus aculeatus* L. - Col, 2020, J. T., SI-1-LJU-N-020-1543

639. *Ruscus aculeatus* L. - Dragonja, 2020, J. B., SI-1-LJU-N-020-1544
640. *Ruscus hypoglossum* L. - Podsreda, 2020, J. B., B. R., SI-1-LJU-N-020-1545
641. *Ruta divaricata* Ten. - Kucelj-Čaven, 2020, J. B., B. R., SI-0-LJU-N-020-1547
642. *Ruta divaricata* Ten. - Otlica, 2020, J. B., B. R., SI-0-LJU-N-020-1546
643. *Ruta divaricata* Ten. - Sočerga, 2020, J. B., B. R., SI-0-LJU-N-020-1548
644. *Salvia glutinosa* L. - Žale nad Kamnikom, 458 m nmv., 2020, J. K., SI-0-LJU-N-020-1549
645. *Satureja liburnica* - Nanos, Rajske poljane, 2020, J. B., B. R., E. Š., K. M., SI-0-LJU-N-020-1550
646. *Satureja montana* L. - Dragonja, 2020, J. B., SI-0-LJU-N-020-1552
647. *Satureja montana* L. - Sočerga, 2020, J. B., B. R., SI-0-LJU-N-020-1551
648. *Satureja subspicata* Bartl. ex Vis. - Volovja reber, 2020, J. B., B. R., SI-0-LJU-N-020-1553
649. *Satureja subspicata* Bartl. ex Vis. subsp. *liburnica* Šilić - Nanos, Rajske poljane, 2020, J. B., B. R., E. Š., K. M., SI-0-LJU-N-020-1554
650. *Saussurea discolor* (Willd.) DC. - Črna prst, 2020, L. & I. D., SI-0-LJU-N-020-1555
651. *Saxifraga aizoides* L. - Črna prst, 2020, L. & I. D., SI-0-LJU-N-020-1556
652. *Saxifraga crustata* Vest - Črna prst, 2020, L. & I. D., SI-0-LJU-N-020-1557
653. *Saxifraga hostii* Tausch - Lisec-Kozji rob, 2020, L. & I. D., SI-0-LJU-N-020-1558
654. *Scabiosa graminifolia* L. - Čaven, 2020, J. B., B. R., SI-0-LJU-N-020-1559
655. *Scabiosa hladnikiana* Host. - Lomar (Razpotje) in Kobalove planine, 2020, L. & I. D., SI-0-LJU-N-020-1560
656. *Scabiosa triandra* L. - Sočerga, 2019, J. B., B. R., SI-0-LJU-N-019-1192
657. *Scorzonera austriaca* Wild. - Senadole, 2020, J. B., SI-0-LJU-N-020-1561

658. *Scrophularia juratensis* Schleicher - Sočerga, 2020, J. B., B. R., SI-0-LJU-N-020-1562
659. *Sedum maximum* Suter - Dragonja, 2020, J. B., SI-1-LJU-N-020-1563
660. *Sedum maximum* Suter - Tolmin, 2020, L. & I. D., SI-1-LJU-N-020-1564
661. *Sempervivum tectorum* L. - Kucelj, 2020, J. B., B. R., SI-1-LJU-N-020-1565
662. *Sempervivum tectorum* L. - Slavnik - Grmada, 2020, L. & I. D., SI-1-LJU-N-020-1566
663. *Serratula lycopifolia* (Vill.) A.Kern. - Kavčiče, 2020, J. B., B. R., SI-1-LJU-N-020-1567
664. *Serratula lycopifolia* (Vill.) A.Kern. - Slavnik, 2020, L. & I. D., SI-1-LJU-N-020-1568
665. *Serratula tinctoria* L. - Nanos, Rajske poljane, 2020, J. B., B. R., E. Š., K. M., SI-0-LJU-N-020-1571
666. *Serratula tinctoria* L. - Porezen, 2020, J. B., B. R., SI-0-LJU-N-020-1570
667. *Serratula tinctoria* L. subsp. *macrocephala* Bertol. - Lisec-Kozji rob, 2020, L. & I. D., SI-0-LJU-N-020-1569
668. *Sesleria autumnalis* F. W. Schultz - Sočerga, 2020, J. B., B. R., SI-0-LJU-N-020-1572
669. *Smilax aspera* L. - Devin - Trst, 2019, J. B., SI-1-LJU-N-019-1199
670. *Solidago virgaurea* L. - Lipoglav, 2020, J. B., SI-0-LJU-N-020-1575
671. *Solidago virgaurea* L. - Logatec, 2020, J. B., B. R., E. Š., K. M., SI-0-LJU-N-020-1573
672. *Solidago virgaurea* L. - Prežganje, 2020, J. B., SI-0-LJU-N-020-1576
673. *Solidago virgaurea* L. - Resevna, 2020, B. R., SI-0-LJU-N-020-1574
674. *Sorbus aria* (L.) Crantz. - Cerkovni vrh, 2020, L. & I. D., SI-0-LJU-N-020-1581
675. *Sorbus aria* (L.) Crantz. - Korada, 2020, L. & I. D., SI-0-LJU-N-020-1582
676. *Sorbus aria* (L.) Crantz. - Nanos, plato, 2020, J. B., B. R., E. Š., K. M., SI-0-LJU-N-020-1579
677. *Sorbus aria* (L.) Crantz. - Nanos, Rajske poljane, 2020, J. B., B. R., E. Š., K. M., SI-0-LJU-N-020-1578

678. *Sorbus aria* (L.) Crantz. - Otlica, 2020, J. B., B. R., SI-O-LJU-N-020-1577
679. *Sorbus aria* (L.) Crantz. - pod Volovjo rebro, 2020, J. B., B. R., SI-O-LJU-N-020-1580
680. *Sorbus aucuparia* L. - Kucelj - Čaven, 2020, J. B., B. R., SI-O-LJU-N-020-1584
681. *Sorbus aucuparia* L. - Otlica, 2020, J. B., B. R., SI-O-LJU-N-020-1583
682. *Sorbus aucuparia* L. subsp. *aucuparia* - Stanov rob, 2020, L. & I. D., SI-O-LJU-N-020-1585
683. *Sorbus austriaca* (G.Beck) Hedl. - Slavnik, 2020, L. & I. D., SI-O-LJU-N-020-1586
684. *Sorbus chamaespilus* (L.) Crantz - Lisec-Kozji rob, 2020, L. & I. D., SI-O-LJU-N-020-1587
685. *Spiraea chamaedryfolia* L. em. Jacq. - Stanov rob, 2020, L. & I. D., SI-O-LJU-N-020-1588
686. *Stachys recta* L. - Kavčiče, 2020, J. B., B. R., SI-O-LJU-N-020-1589
687. *Staphylea pinnata* L. - Podčetrtek, 2020, J. B., B. R., SI-O-LJU-N-020-1590
688. *Stemmacantha rhapontica* (L.) Dittrich - Ruša-Mali Babanjski Skedenj, 2020, L. & I. D., SI-O-LJU-N-020-1591
689. *Stipa eriocalis* Borb. - Podgorje, 2020, J. B., SI-O-LJU-N-020-1592
690. *Streptopus amplexifolius* (L.) DC. - Lisec-Kozji rob, 2020, L. & I. D., SI-O-LJU-N-020-1593
691. *Succisa pratensis* Moench - Cerkno, 2019, J. B., SI-O-LJU-N-019-1205
692. *Tamus communis* L. - Logatec, 2020, J. B., B. R., E. Š., K. M., SI-O-LJU-N-020-1594
693. *Tanacetum vulgare* L. - Porezen, 2020, J. B., B. R., SI-O-LJU-N-020-1595
694. *Teucrium botrys* L. - Sedovec (Trnovo pri Gorici), 2020, L. & I. D., SI-O-LJU-N-020-1596
695. *Teucrium montanum* L. - Kucelj, 2020, J. B., B. R., SI-O-LJU-N-020-1597
696. *Thalictrum minus* L. - Kavčiče, 2020, J. B., B. R., SI-O-LJU-N-020-1600
697. *Thalictrum minus* L. - Kucelj, 2020, J. B., B. R., SI-O-LJU-N-020-1601

698. *Thalictrum minus* L. - Nanos, 2020, J. B., B. R., E. Š., K. M., SI-O-LJU-N-020-1602
699. *Thalictrum minus* L. - Porezen, 2020, J. B., B. R., SI-O-LJU-N-020-1599
700. *Thalictrum minus* L. - Roje, 2020, J. B., B. R., K. M., SI-O-LJU-N-020-1598
701. *Thalictrum minus* L. - Sočerga, 2020, J. B., B. R., SI-O-LJU-N-020-1603
702. *Tragopogon pratensis* subsp. *orientalis* (L.) Čelak - Senica, nad Ljubinjema, 2020, L. & I. D., SI-O-LJU-N-020-1604
703. *Trifolium montanum* L. - Kavčiče, 2020, J. B., B. R., SI-O-LJU-N-020-1605
704. *Trifolium rubens* L. - Rakitovec, 2020, J. B., B. R., SI-O-LJU-N-020-1606
705. *Trollius europaeus* L. - Porezen, 2020, J. B., B. R., SI-O-LJU-N-020-1607
706. *Veratrum album* L. subsp. *lobelianum* (Bernh.) Arcang. - pl. Razor - Na polju, 2020, L. & I. D., SI-O-LJU-N-020-1608
707. *Veronica barrelieri* Schott ex Roem. & Schult. - Čaven, 2020, J. B., B. R., SI-O-LJU-N-020-1610
708. *Veronica barrelieri* Schott ex Roem. & Schult. - Gornji kraj, Zagorje - Pivka, 2020, J. B., B. R., SI-O-LJU-N-020-1611
709. *Veronica barrelieri* Schott ex Roem. & Schult. - Kavčiče, 2020, J. B., B. R., SI-O-LJU-N-020-1609
710. *Veronica barrelieri* Schott ex Roem. & Schult. - Nanos, plato, 2020, J. B., B. R., E. Š., K. M., SI-O-LJU-N-020-1530
711. *Viburnum lantana* L. - Roje - Šentvid, 2019, J. B., B. R., SI-O-LJU-N-019-1221
712. *Vincetoxicum hirundinaria* Medik. - Žadovinec, 2020, J. B., SI-O-LJU-N-020-1612
713. *Vincetoxicum hirundinaria* Medik. - Nanos, Rajske poljane, 2020, J. B., B. R., E. Š., K. M., SI-O-LJU-N-020-1613

**Collectors of the wild seeds:**

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dr. Igor Dakskobler (I. D.)

Ljudmila Dakskobler (L. D.)

Janja Makše (J. M.)

Andrej Podobnik (A. P.)

dr. Blanka Ravnjak (B. R.)

A few seed species are collected by:

Branko Dolinar (B. D.)

Peter Grošelj (P. G.)

Sanja Behrič (S. B.)

Katja Malovrh (K. M.)

Julija Toplak (J. T.)

Jure Kališnik (J. K.)

Eva Šajn (E. Š.)

Martina Škrabec (M. Š.)



# The Alpine Botanical Garden Juliana

Juliana is the oldest Alpine Botanical Garden in Slovenia. It was founded in 1926 by Albert Bois de Chesne, a landowner from Trieste. His major adviser was his friend dr. Julius Kugy, a legendary mountaineer, botanist and writer, focusing on the Alps.

The garden is situated in Trenta Valley (NW Slovenia), it covers 2.572 m<sup>2</sup> on the slope of Kukla, at an altitude of 800 m a.s.l., near the Church of St. Mary, with the Soča River flowing few tens of metres below.

Today, about **600 different plant species** prosper in the garden. It is special by its mixture of alpine and thermophilous karst species. The garden shelters **more than 100** protected, rare, endangered and endemic species. Juliana has been officially protected since 1951 and managed by The Slovenian Museum of Natural History since 1962.

The garden is opened every day from May 1 to September 30.

# Semina in horto alpino Juliana Museum historiae naturalis Sloveniae anno 2020 lecta

Špela Pungaršek, Klemen Završnik

- 714. *Adenophora liliifolia* (L.) A. DC.
- 715. *Alchemilla vulgaris* L.
- 716. *Allium senescens* L.
- 717. *Allium victorialis* L.
- 718. *Angelica sylvestris* L.
- 719. *Anthericum ramosum* L.
- 720. *Aposeris foetida* (L.) Cass. ex Less.
- 721. *Aquilegia nigricans* Baumg.
- 722. *Arabis alpina* subsp. *alpina*
- 723. *Aruncus dioicus* (Walter) Fernald
- 724. *Asparagus tenuifolius* Lam.
- 725. *Aster amellus* L.
- 726. *Astrantia carniolica* Jacq.
- 727. *Astrantia major* L. subsp. *major*
- 728. *Athamanta turbith* (L.) Brot.
- 729. *Bupthalmum salicifolium* L.
- 730. *Caltha palustris* L. subsp. *palustris*
- 731. *Carex flacca* Schreb.
- 732. *Centaurea carniolica* Host
- 733. *Centaurea dichroantha* A. Kern.

734. *Centaurea jacea* L.  
735. *Centaurea scabiosa* L. subsp. *scabiosa*  
736. *Cirsium erisithales* (Jacq.) Scop.  
737. *Cirsium oleraceum* (L.) Scop.  
738. *Clematis recta* L.  
739. *Convallaria majalis* L.  
740. *Coronilla emerus* L. subsp. *emerus*  
741. *Crepis slovenica* Holub  
742. *Crocus vernus* (L.) Hill subsp. *vernus*  
743. *Dianthus sternbergii* Sieber  
744. *Digitalis grandiflora* Miller  
745. *Dorycnium germanicum* (Gremli) Rikli  
746. *Dryas octopetala* L.  
747. *Echinops ritro* L. subsp. *ruthenicus* (Bieb.) Nyman.  
748. *Erinus alpinus* L.  
749. *Euonymus latifolius* (L.) Mill  
750. *Eupatorium cannabinum* L.  
751. *Fragaria vesca* L.  
752. *Galium sylvaticum* L.  
753. *Gentiana asclepiadea* L.  
754. *Gentiana cruciata* L.  
755. *Geranium pratense* L.  
756. *Geranium sanguineum* L.  
757. *Geum rivale* L.  
758. *Geum speciosum* Albov  
759. *Grafia golaka* (Hacq.) Rchb.  
760. *Heliosperma alpestre* (Jacq.) Griseb.  
761. *Helleborus niger* L.  
762. *Helleborus odoratus* Waldst. & Kit. ex Willd.  
763. *Hemerocallis lilioasphodelus* L.  
764. *Hieracium pilosella* L.  
765. *Hieracium piloselloides* Vill.  
766. *Hieracium pilosum* Willd. ex Steud.  
767. *Hladnikia pastinacifolia* Rchb.  
768. *Horminum pyrenaicum* L.

769. *Hypericum montanum* L.  
770. *Hypericum perforatum* L.  
771. *Iris pseudacorus* L.  
772. *Iris sibirica* L. subsp. *sibirica*  
773. *Laserpitium archangelica* Wulfen  
774. *Laserpitium latifolium* L.  
775. *Laserpitium siler* L.  
776. *Lathyrus vernus* (L.) Bernh. subsp. *vernus*  
777. *Leontodon hispidus* L.  
778. *Leucojum vernum* L.  
779. *Libanotis sibirica* (L.) C. A. Mey. subsp. *montana* (Crantz) P. W. Ball  
780. *Ligusticum seguieri* (Jacq.) Koch  
781. *Lythrum salicaria* L.  
782. *Mentha longifolia* (L.) Huds. subsp. *longifolia*  
783. *Myrrhis odorata* (L.) Scop.  
784. *Paeonia officinalis* L.  
785. *Paris quadrifolia* L.  
786. *Petasites paradoxus* Baumg.  
787. *Peucedanum cervaria* (L.) Lapeyr.  
788. *Peucedanum oreoselinum* (L.) Moench  
789. *Peucedanum schottii* Besser.  
790. *Peucedanum verticillare* (L.) Koch  
791. *Prenanthes purpurea* L.  
792. *Primula elatior* (L.) Hill  
793. *Rhododendron hirsutum* L.  
794. *Rhodothamnus chamaecistus* (L.) Reichenb.  
795. *Ruta divaricata* Ten.  
796. *Saponaria officinalis* L.  
797. *Satureja subspicata* Bartl. ex Vis. subsp. *liburnica* Šilić  
798. *Saxifraga hostii* Tausch  
799. *Seseli gouanii* Koch  
800. *Sibirea croatica* Degen  
801. *Silene nutans* L.  
802. *Taxus baccata* L.  
803. *Telekia speciosa* (Schreber) Baumg.

804. *Tephrosia pseudocrispa* (Fiori) Holub  
805. *Thalictrum minus* L.  
806. *Trifolium pratense* L. subsp. *pratense*  
807. *Trifolium rubens* L.  
808. *Trollius europaeus* L.  
809. *Tussilago farfara* L.  
810. *Veratrum nigrum* L.  
811. *Veronica aphylla* L.  
812. *Veronica maritima* L.  
813. *Veronica urticifolia* Jacq.  
814. *Viburnum opulus* L.  
815. *Vicia oroboides* Wulfen

**Curator:** Špela Pungaršek

**Hortulani:** Klemen Završnik, dipl. inž. agr. in h.

## **Literatura / Literature**

Martinčič, A. & T. Wraber, N. Jogan, A. Podobnik, B. Turk, B. Vreš, V. Ravnik, B. Frajman, S. Strgulc Krajšek, B. Trčak, T. Bačič, M. A. Fischer, K. Eler, B. Surina, 2007: Mala flora Slovenije. Ključ za določanje praprotnic in semenk. Tehniška založba Slovenije. Ljubljana. 967 pp.

Praprotnik, N., 2011: Alpski botanični vrt Juliana. Prirodoslovni muzej Slovenije. 133 pp.

The International Plant Names Index. [www.ipni.org](http://www.ipni.org) (30. 11. 2018)

<http://meteo.arso.gov.si>

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