



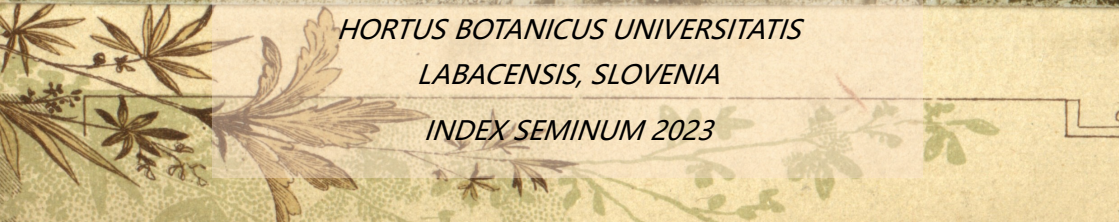
170-LETNICA ROJSTVA ALFONZA PAULINA



170TH ANNIVERSARY OF ALFONZ PAULIN BIRTH

*HORTUS BOTANICUS UNIVERSITATIS
LABACENSIS, SLOVENIA*

INDEX SEMINUM 2023



170-LETNICA ROJSTVA ALFONZA PAULINA

170TH ANNIVERSARY OF ALFONZ PAULIN BIRTH

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Naslovnica / Front cover: Najstarejši ohranjen posnetek Botaničnega vrta
Arhiv Botaničnega vrta

Urednika / Editors: Jože Bavcon, Blanka Ravnjak

Tehnični urednik / Technical editor: **David Bavcon**

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Lektor Celostni razstavno-raziskovalni projekt: Simona Škul

Prevod / Translation: GRENS-TIM d.o.o.

Elektronska izdaja / E-version

Leto izdaje / Year of publication: 2023

Kraj izdaje / Place of publication: Ljubljana

Izdal / Published by:

Botanični vrt Univerze v Ljubljani, Biotehniška fakulteta

Ižanska cesta 15, SI-1000 Ljubljana, Slovenija

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Zanj: znan. svet. dr. Jože Bavcon

Botanični vrt je del mreže raziskovalnih infrastrukturnih centrov

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Gardens Ljubljana

Kataložni zapis o publikaciji (CIP) pripravili v

Narodni in univerzitetni knjižnici v Ljubljani

COBISS.SI-ID 185660675

ISBN 978-961-7215-02-1 (PDF)



Botanični University
vrt Botanic
Univerze v gardens
Ljubljani Ljubljana



UNIVERZA V LJUBLJANI
Universitas Labacensis



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Paulinovi dnevi, 14. september 2023

Janez Kerin, župan Mestne občine Krško

Spoštovani zbrani, dobrodošli v Krškem.

Danes obeležujemo 170-letnico rojstva človeka, ki je pustil neizbrisljivo sled v razvoju botanične znanosti.

Naš rojak Alfonz Paulin, rojen v Leskovcu pri Krškem, je bil resen in natančen znanstvenik. Bil je razgledan, učen mož, učitelj in raziskovalec. Kot je o njem leta 1933 v prvi številki revije *Proteus* zapisal Viktor Petkovšek, pa ni bil znan le kot učenjak, ampak kot mož neupogljivega značaja, nedostopen vsakemu nepoštenemu prizadevanju in zvest svojemu prepričanju.

Del svojega življenja je, kot sem že omenil, preživel na območju mestne občine Krško, natančneje na graščini Turn v Leskovcu pri Krškem. Splet okoliščin je danes tak, da ko obeležujemo njegovo 170. obletnico rojstva, se veselimo tudi premikov na projektu prenove Šrajbarskega turna. Z deli bodo začeli že v teh dneh. Na projekt, na obnovo, čeprav se o njej govori že dolga leta, bi bil –

v to sem prepričan – ponosen in vesel tudi naš sorojak in moj sokrajan Alfonz Paulin.

Spoštovani.

Pozdravljam organizacijo dogodkov, ki dokazujejo, da se v mestni občini Krško še kako zavedamo pomena njegovega dela. Zahvala gre predvsem strokovnjakinjam Kulturnega doma Krško, enoti Mestnega muzeja Krško, in tudi članom Kulturnega društva Leskovec pri Krškem. Čestitke za opravljeno delo. Le na ta način bomo lahko ime našega rojaka ohranjali tudi naslednjim generacijam.

Prijeten in uspešen dan želim.

Paulin's Days, 14 September 2023

Janez Kerin, mayor of the Municipality of Krško

Dear gathered guests, welcome to Krško.

Today we celebrate the 170th anniversary of the birth of a man who left an indelible mark on the development of botanical science.

Our compatriot Alfonz Paulin, born in Leskovec pri Krškem, was a serious and meticulous scientist. He was a knowledgeable, learned man, teacher and researcher. As Viktor Petkovšek wrote about him in the first issue of the *Proteus* journal in 1933, he was known not only as a scholar, but as a man of unyielding character, resistant to any dishonest effort and loyal to his convictions.

As I have already mentioned, he spent part of his life in the area of the municipality of Krško, more precisely at the Turn Castle in Leskovec pri Krškem. Because of the circumstances today, when celebrating the 170th anniversary of his birth, we are also looking forward to new development in the renovation project of Šrajbarski Turn. Work will begin within days. Our compatriot and

fellow resident of Krško, Alfonz Paulin, would also be proud and happy about the project, about the renovation, even though it has been talked about for many years.

Dear guests!

I welcome the organisation of events that prove that in the municipality of Krško we are still well aware of the importance of his work. I would especially like to thank the experts of the Krško Cultural Centre, the unit of the Krško City Museum, and also the members of the Leskovec pri Krškem Cultural Society. I congratulate you for your work. Thanks to your work, we will be able to preserve the name of our countryman for future generations.

Have a pleasant and successful day.

Tri obletnice

Dr. Jože Bavcon in dr. Blanka Ravnjak, Botanični vrt
Univerze v Ljubljani, Biotehniška fakulteta

V letu 2023 so bile v Sloveniji kar tri pomembne obletnice naših raziskovalce botanikov, ki so zaznamovali naš prostor. Vsi so delovali širše in so imeli stike z bolj ali manj pomembnimi botaniki tistega časa. Veseli smo bili, ker smo vse tri obletnice lahko praznovali tudi v okolju kjer so delovali.

18. stoletje je pri nas vsekakor zaznamoval Ioanes Antonius Scopoli rojen 3. ali 13. junija leta 1723 v Cavaleseju na Tirolskem. V letu 2023 smo praznovali 300 letnico njegovega rojstva. Bil je polihistor, ki je prišel v Idrijo leta 1754 kot prvi nastavljeni zdravnik idrijskih rudarjev in tam deloval vse do leta 1769. V letu izida, torej 2024 bo tako že 270 letnica njegovega prihoda v Idrijo. To je bilo eno njegovih najplodnejših obdobj, saj se je takrat ukvarjal z različnimi področji naravoslovja. Že leta 1760 je izšlo njegovo prvo botanično delo *Flora Carniolica*, kjer je poleg latinskih opisov, ki še ne sledijo dosledno dvojnemu poimenovanju zapisal tudi domača slovenska imena *Nomina carniolica*. V drugi izdaji leta 1772 v dveh knjigah, pa že striktno uporablja Linnejevo dvojno poimenovanje. Med leti 1761 do 1775 si je dopisoval s slavnim Linnejem v Upsali, mu pošiljal opise rastlin, živali in še česa. Med Idrijo in Upsalo so tako

romala semena in knjige. Scopoli je sodeloval s številnimi tedanjimi raziskovalci po Evropi, na Krajskem pa z jezuitom Francem Xaverjem Wulfenom tudi botanikom, ki je bil kasnejši mentor ustanovitelju botaničnega vrta Francu Hladniku. Hladnik se je rodil v Idriji (29. 3. 1773) in v letu 2023 smo praznovali njegovo 250 letnico rojstva. Wulfen je tako predstavlja živi vezni člen Scopolijevega znanja na ustanovitelja botaničnega vrta. Hladnik je Scopolijeve dela spoznaval tudi v bogati knjižnici barona Žige Zoisa. Za časa ilirskih provinc je leta 1810 zasnoval botanični vrt, ki je ostal vse do današnjih dni. Bil je pomemben raziskovalec flore naše dežele. Prav tako je sodeloval tudi s številnimi botaniki po Evropi, še posebej s Hostom na Dunaju.

Jesen se je tem dvema slavljenčema pridružil še Alfonz Paulin rojen 14. septembra v Leskovcu pri Krškem. Tudi Paulin je sodeloval z različnimi botaniki v Evropi. Bil je zelo kritičen raziskovalec dežele kranjske, današnje ožje Slovenije. Med leti 1901 do 1936 je izdajal posušeno herbarijsko zbirko *Flora Exiccata carniolica* in bil med drugim vse od leta 1886 do leta 1931 vodja botaničnega vrta. Že kmalu po prevzemu vodenje vrta (1889) je izdal prvi natisnjen seznam semen *Index seminum*.

Zakaj sploh praznovati za nekatere tako oddaljene obletnice, zakaj sploh pogledati toliko nazaj? Zato, da spoznamo svojo zgodovino in zato, da vsaka generacija spozna svoje raziskovalce. Pokojni botanik prof. dr. Tone Wraber je večkrat poudaril: »Vsaka generacija mora na novo spoznati svoje raziskovalce«. Prav je

imel in pri vseh teh obletnicah so sodelovale mlade generacije. Scopoliju in Hladniku smo posvetili kar tri dni. Prvi dan v Prirodoslovnem muzeju Slovenije z odkritjem doprsnega kipa v marmorju, drugi dan s celodnevni simpozijem v Idriji, kjer smo ob tem počastili še Hladnika in zadnji dan, 3. junija še s slovesnostjo v Botaničnem vrtu Univerze v Ljubljani, kjer smo mu odkrili doprsni kip v Bronu. Njegov doprsni kip stoji ob istem zidu, kjer smo ob 210 letnici botaničnega vrta odkrili tudi kip ustanovitelju vrta Francu Hladniku. Sedaj oba skupaj gledata svojo lipo. Scopoli je namreč prvi podal njen znanstveni opis, leta 1760 jo je celo poimenoval s slovenskim imenom "lipa, lipau drevu". Hladnik pa je bil udeležen ob zasaditvi lipe ob otvoritvi vrta 11. julija 1810.

Tako kot Scopolija in Hladnika smo tudi Paulina počastili s simpozijem v njegovem domačem okolju v Krškem 14. 9 2013. V njegovo čast je bila postavljena priložnostna razstava v muzeju v Krškem in prav zanj je bil odigran in napisan tudi prizor o Paulinu na Šrajbarskem Turnu, ki ga je pripravilo Kulturno društvo Leskovec pri Krškem. Paulin je izmed vseh treh prvi v vrtu dobil obeležje že leta 1953 in to vrtu pod svojimi iglavci, ki jih je oboževal. Torej vsi so združeni v enem Botaničnem vrtu Univerze v Ljubljani. Njihovo delo in življenje pa je pri vseh obeleženo tudi z dvojezičnimi monografijami, ki smo jih v vrtu izdali v zadnjih letih. Zadnja je posvečena prav najstarejšemu med njimi - Scopoliju. Naj njih dela ostajajo še dolgo v naši zavesti!

Three anniversaries

Dr. Jože Bavcon in dr. Blanka Ravnjak, University Botanic Gardens Ljubljana

In 2023 in Slovenia, there were three important anniversaries related to our botanic researchers who left their mark on our territory. All of them worked in a wider region and had contacts with more or less important botanists of their times. We were overjoyed because we could celebrate all three anniversaries in the environment where they worked.

The 18th century in Slovenia was definitely marked by Giovanni Antonio Scopoli, born on 3 or 13 June 1723 in Cavalese in Tyrol. In 2023, we celebrated the 300th anniversary of his birth. He was a polymath who came to Idrija in 1754 as the first appointed doctor of Idrija miners and worked there until 1769. In the year of publication, i.e. 2024, it will be the 270th anniversary of his arrival in Idrija. These were some of his most productive years, as he worked in various fields of natural science during this time. In 1760, his first botanical work was published, *Flora Carniolica*, where in addition to the Latin descriptions, which do not yet consistently follow the rules of binomial nomenclature, he also wrote down the native Slovenian names *Nomina carniolica*. In

the second edition, published in 1772 in two books, he already strictly uses Linnaeus' binomial nomenclature. Between 1761 and 1775, he corresponded with the famous Linnaeus in Uppsala, sending him descriptions of plants, animals and more. Thus, seeds and books travelled between Idrija and Uppsala. Scopoli collaborated with many researchers of the time in Europe, and in Carniola with the Jesuit Franz Xaver Wulfen, also a botanist who later mentored the founder of the Botanic Gardens, Fran Hladnik. Hladnik was born in Idrija (29 March 1773), and in 2023 we celebrated the 250th anniversary of his birth. Wulfen is thus a living link between Scopoli's knowledge and the founder of the Botanic Gardens. Hladnik also learned about Scopoli's works in the rich library of Baron Žiga Zois. During the time of the Illyrian Provinces, he designed a botanical garden in 1810, which has remained until today. He was an important researcher of Carniolan flora. He also collaborated with many botanists across Europe, especially with Host in Vienna.

In autumn, the two renowned scientists were joined by Alfonz Paulin, born on 14 September Leskovec pri Krškem. Paulin also collaborated with various botanists in Europe. He was a very critical researcher of Carniola, today a part of Slovenia. Between 1901 and 1936, he published the dried herbarium collection *Flora exsiccata Carniolica* and was, among other positions, also the head of the Botanic Gardens from 1886 to 1931. Shortly after taking over the management of the Botanic Gardens (1889), he published the first printed list of seeds, *Index seminum*.

Why do we even celebrate such distant anniversaries, why do we even look back so far into the past? So that we learn about our history and so that each generation can learn about their own researchers. The late botanist Prof Dr Tone Wraber repeatedly emphasised: "Each generation must discover their own researchers anew." He was right, and all these anniversaries involved young generations. We dedicated three days to Scopoli and Hladnik. On the first day in the Slovenian Museum of Natural History, we unveiled a marble bust, on the second day, we held a day-long symposium in Idrija, where we also honoured Hladnik, and on the last day, 3 June, we held a ceremony in the University Botanic Gardens Ljubljana, where we unveiled his bronze bust. His bust stands next to the same wall where we unveiled a statue of the Gardens' founder, Franc Hladnik, on the 210th anniversary of the Botanic Gardens. Now they are both looking at their linden tree together. Scopoli was actually the first to provide its scientific description, and in 1760 even named it with the Slovenian name *lipa*, *lipau drevu*. Hladnik attended the planting of the linden tree at the opening of the Gardens on 11 July 1810.

Like Scopoli and Hladnik, we honoured Paulin with a symposium in his home environment in Krško on 14 September 2023. In his honour, a special exhibition was set up in the museum in Krško, and a scene about Paulin at the Šrajbarski Turn, prepared by the Leskovec pri Krškem Cultural Society, was written and performed. Paulin was the first of the three to receive a memorial in the garden in 1953, under his conifers, which he adored. So

now they are all united in the University Botanic Gardens Ljubljana. Their works and lives are also commemorated with bilingual monographs that we have published in the Botanic Gardens in recent years. The last is dedicated to the oldest of them, Scopoli. May their works remain with us for a long time!

Botanik Alfonz Paulin ob 170 letnici rojstva (14. 9. 1853 – 1. 12. 1942)

Dr. Blanka Ravnjak, †dr. Nada Praprotnik in dr. Jože Bavcon, Botanični vrt Univerze v Ljubljani, Biotehniška fakulteta

Uvod

Botanik Alfonz Paulin je bil vodilni znanstvenik na področju rastlinoslovja na prelomu od 19. do 20. Stoletja. V letu 2023 smo praznovali njegovo 170 letnico rojstva. Če govorimo o klasičnem Scopolijevem obdobju slovenske botanike (v letu 2023 smo prav tako praznovali 300 letnico Scopolijevega rojstva) in o Hladnikovem obdobju (v istem letu je bila tudi 250 letnica njegovega rojstva), potem lahko tudi Paulinov čas imenujemo po njem kot Paulinovo obdobje. O njem smo že leta 2021 izdali monografijo. Spodobi se, da so naši pomembni naravoslovci s pomočjo slovensko angleških monografij predstavljeni tako svetu kot domači javnosti in je s tem njihovo delo ter prispevek k

znanosti dosegljiv tudi tujim raziskovalcem. Prav je, da se znamo s svojimi dosežki, predstaviti tudi svetu. V vseh omenjenih obdobjih smo bili v naravoslovju enakovredni vsem tedanjim vodilnim raziskovalcem.

Alfonz Paulin ima s svojim znanstvenim delom na področju floristike, rastlinske sistematike in fitogeografije trajno in vidno mesto v zgodovini slovenske botanike. Svoje delo je gradil na recenziji in kritični presoji vsega dotedanjega botaničnega znanja, za katerega se je izkazalo, da je nepopolno in polno vrzeli. Dopolnjeval ga je s terenskimi raziskavami. Prehodel je Kranjsko po dolgem in počez in rezultate objavljaj v strokovnem tisku od leta 1895 do leta 1917, ko se je končala njegova publicistična dejavnost. Po prvi svetovni vojni iz nepojasnjenih vzrokov ni objavil ničesar več.

Zbral je mnogo gradiva za kritično Floro Kranjske, ki pa je žal ni napisal. V kolikor bi jo napisal, bi se z njo časovno in strokovno enakovredno uvrstil med tuje sodobnike, ki so konec 19. in v začetku 20. stoletja napisali preglede rastlinstva posameznih območij. Lahko bi rekli, da je imel nesrečno ali vsaj neprijazno usodo številnih slovenskih (kranjskih) botanikov, ki jim ni uspelo objaviti vseh svojih spoznanj in rezultatov raziskovalnega oziroma znanstvenega dela. Zakaj do tega dela ni prišlo je morda povezano tudi z finančno situacijo. Paulin je bil namreč zelo natančen. V enem izmed svojih zapisov ob 100 letnici

Botaničnega vrta navaja, da je imel za 100 let v načrtu obsežno knjigo kjer bi popisal vse vrste v vrtu (omenja jih preko 6000), vendar ker mu za to niso zagotovili sredstev, tega ni naredil. Zato lahko sklepamo, da se je podobno zgodilo s Flora Kranjske. Posušeno herbarijsko zbirko - *Flora exsiccata Carniolica*, temeljni kamen novejšje slovenske floristike pa je začel izdajati že prej. Izhajala je v dolgem obdobju 35 let (1901–1936) in ni povsem dokončana. Izšlo je 20 centurij (2000 pol), 10 pred prvo svetovno vojno in 10 po njej. Herbarijski listki so bili za prvih 1000 primerkov tiskani in so izšli v petih posebnih zvezkih, katerih avtor je bil Paulin. Zadnjih tisoč etiket je bilo napisanih z roko. V prvem obdobju so to njegovo delo dobile vse pomembne ustanove v Evropi.

Paulin je bil resen in natančen znanstvenik. Cenjen je bil tako doma kot v tujini. Poleg izdaje posušene zbirke rastlin Kranjske je sodeloval pri herbarijskih zbirkah *Flora exsiccata Austro-Hungarica* in *Flora Stiriaca*. Gustavu Hegiju je pošiljal podatke za delo *Illustrierte Flora von Mitteleuropa* in Carlu Fritschu za delo *Exkursionsflora*. To sta prav tako še danes temeljni deli. Bil je tudi srednješolski profesor naravoslovja (1880–1910). Kot vzoren učitelj je poskušal naučiti dijake, da bi čim bolj natančno in podrobneje opazovali naravo. Napisal je prvi izvirni srednješolski botanični učbenik v slovenskem jeziku (1898). Uredil je botanično terminologijo, ki je bila osnova naslednjim piscem botaničnih učbenikov. Z ustanovitvijo Univerze mu je

profesorski zbor Filozofske fakultete ponudil redno profesuro za botaniko. Kot je zapisal sam, jo je zaradi razmer zavrnil. Kljub temu pa je honorarno v štirih semestrih vseeno predaval sistematsko botaniko in vodil vaje iz določevanja rastlin. Interes študentov za njegova predavanja je bil takrat zelo velik.

Od leta 1886 do leta 1931 je vodil Vrt domovinske flore – Botanični vrt Univerze v Ljubljani. Njegovo obdobje je bilo v vsej zgodovini Botaničnega vrta najdaljše. V njem je deloval 45 let in v tem času je botanični vrt dvignil na evropsko raven. Zapustil ga je z največjo zbirko rastlin v vsej zgodovini in začel z izdajanjem znanstvene publikacije *Index seminum* - seznam rastlin za izmenjavo. Na osnovi te publikacije je vrt tako dosegel visoko strokovno raven. Petkovšek (1933) je v prvi številki revije *Proteusa* o Paulinu sicer pisal kot o znanstveniku, poudaril pa je tudi: »Prof. Paulin ni znan samo kot učenjak, temveč tudi kot mož neupogljivega značaja. Mnogi so mu večkrat ponujali višja delovna mesta, da bi trobil v njihov rog. Toda on je ostal nedostopen vsakemu nepoštenemu prizadevanju, zvest svojemu narodu, prepričanju in svoji »*scientia amabilis*«. Univerzitetni profesor botanike dr. Ernest Mayer (1963) je Paulinovo obdobje označil kot »ero Alfonza Paulina«, saj si je pridobil »s svojim obsežnim in temeljitim delovanjem trajne zasluge in častno mesto v našem naravoslovju«.

Njegov življenjepis

Alfonz Paulin se je rodil 14. septembra 1853 v Turnski graščini v Leskovcu pri Krškem materi Mariji roj. Blažič in očetu Avguštinu (Avgustu), ki je bil med letoma 1850 in 1880 oskrbnik graščine oziroma veleposestva Šrajbarski turn. Lastnik graščine je bil grof Anton Aleksander Auersperg (1806–1876), kot pesnik znan pod imenom Anastasius Grün (Anastazij Zelenski). Ko je Auersperg umrl, je njegova žena Marija Attems dala postaviti mavzolej in okoli njega so na novo uredili rastlinski park, ki naj bi ga po ohranjenem ljudskem izročilu leta 1877 pomagal zasaditi Alfonz Paulin (<http://www.posavci.si/osebe/paulin-alfonz/211/>). Na spletni strani lahko še preberemo manj znano izročilo, »da je poslikavo cvetličnih motivov na stropnih poljih (med rebri) cerkvene ladje financiral nekdanji grajski oskrbnik (zdaj so prebeljena in čakajo restavriranja). Freske naj bi prikazovale cvetlice grajskega parka in okolice.

Alfonz Paulin je ljudsko šolo oziroma osnovno šolo (pripravnico za gimnazijo) in nižjo gimnazijo obiskoval v Ljubljani od leta 1861 do leta 1869, višjo gimnazijo pa v Novem mestu. Pred božičem leta 1871 je s sedmimi sošolci (od trinajstih) zapustil 7. razred novomeške gimnazije in odšel na Reko, razred pa je končal v Celju. Kljub tej malo najstniški upornosti in prehajanju med šolami pa se je vrnil v Novo Mesto, kjer je leta 1873 naredil maturo.



Slika / Figure 1 Turnski grad v Leskovcu pri Krškem (Šrajbarski turn) Foto: J. Bavcon / Turn Castle in Leskovec pri Krškem (Šrajbarski turn) Photo: J. Bavcon

Na Paulinovo naravoslovno usmeritev sta vplivala Valentin Konšek in Karel Dežman (Anonym 1933a). Valentin Konšek (Konschegg) (1816–1899) je bil profesor in je poučeval naravoslovje na ljubljanski gimnaziji in bil od leta 1867 do leta 1886 vodja Botaničnega vrta v Ljubljani (Pirjevec 2013). Karel Dežman (1821–1889) pa je bil kustos Kranjskega deželnega muzeja. Prav tako se je ukvarjal z botaniko in zbral herbarij, ki ga

hrani Prirodoslovni muzej Slovenije (LJM). Pisal je o pojavljanju alpske flore v nižini, o adventivnih rastlinah in o naših barjih.

Na univerzi v Gradcu je Paulin nato od leta 1873 do leta 1877 kot glavni predmet študiral prirodopis (naravoslovje), matematiko in fiziko pa kot stranska predmeta. Julija leta 1878 je opravil državni izpit iz prirodopisa. V času študija je v letih 1873/1874 odslužil vojaški rok in v oktobru leta 1874 napravil častniški izpit. Dobil je državno štipendijo in odšel v Trst, da bi na tamkajšnji zoološki opazovalni postaji izpopolnil zoološko in botanično znanje z opazovanjem morskih rastlin in živali. Nekaj časa je bil tudi pomožni asistent univ. prof. Rudolfa Hörnesa (1850–1912) pri raziskovanju devonskih skladov na srednjem Štajerskem. 4. julija 1878 je nato opravil izpit za profesorja naravoslovja na višji gimnaziji. Še istega leta (1878) je bil ob avstrijski okupaciji (zasedbi) Bosne in Hercegovine vpoklican kot rezervni oficir v vojaško službo. Sodeloval je v bojih pri Bihaću in okusil trdoto vojaškega življenja. V Bosanskem Petrovcu si je nakopal pljučno in želodčno bolezen. Decembra leta 1878 se je hudo bolan vrnil domov. Leto in pol je bolehal in je šele leta 1880 dokončal študij in naredil izpite še iz matematike in fizike. 6. julija 1880 je opravil še izpit za poučevanje matematike in fizike v nemškem jeziku na nižji gimnaziji.

Vse svoje življenje je služboval v Ljubljani. V šolskem letu 1880/81 je bil suplent (poskusni kandidat) na ljubljanski višji

reakti, od leta 1881 do leta 1886 pa suplent na ljubljanski višji, pozneje I. državni gimnaziji. 16. marca 1884 je opravil še izpit za poučevanje v slovenščini. Od leta 1886 je bil profesor na isti gimnaziji in tega leta je postal tudi vodja Botaničnega vrta v Ljubljani. Leta 1907 je postal šolski svetnik. 15. novembra 1907 je zaradi bolezni prekinil svoje učno delovanje in 30. januarja 1908 uradno nastopil bolezenski dopust do konca šolskega leta. 5. septembra 1908 je bil dodeljen II. državni gimnaziji z nemškim učnim jezikom, na kateri pa zaradi živčne bolezni do upokojitve sploh ni učil. Na lastno prošnjo je bil upokojen 1. januarja 1910. Deželni šolski svet mu je izrazil priznanje za dolgoletno požrtvovalno, vestno in uspešno delovanje. Odlikovan je bil z viteškim križcem. Ko se je upokojil kot profesor, je vodil vrt na posebno željo deželne vlade do leta 1920. Ko je bila ustanovljena Univerza v Ljubljani, je univerzitetni svet na predlog profesorjev Rajka Nahtigala s Filozofske fakultete in Karla Hinterlechnerja s Tehniške fakultete prosil Deželno vlado, da Botanični vrt odstopi Univerzi, kar se je leta 1920 tudi zgodilo (Wraber 2000, Bavcon 2010). Paulin je bil reaktiviran kot direktor in je vrt vodil do končne upokojitve leta 1931.

Potrebno pa je dodati, da je kasneje Paulin zelo kritiziral delo Konška svojega učitelja in kasneje tudi svojega predhodnika v Botaničnem vrtu, prav tako njegovega vrtnarja Rulitza. Ob prevzemu vrta je zapisal, da je v vrtu ostalo zelo malo naših avtohtonih rastlinskih vrst. Kritiziral je tudi sadno drevesnico, ob

tem pa ni zapisal, da je tudi sam zanjo še kar osem let do leta 1894 dobival denarna sredstva. Prav tako je vrtnar Rulitz z njim delal še vse do upokojitve leta 1907. V nekaterih poznejših spisih iz leta 1993 navaja ekskurzijo na Velebit, kamor sta šla skupaj z Rulitzom in tokrat ga omenja v pozitivnem smislu (Bavcon 2010). Do mnogih je bil Paulin na sploh zelo kritičen tudi do svojih predhodnikov, razen do prvega vodje vrta Franca Hladnika (Bavcon 2010). Tak kritičen odnos je imel tudi do prispevkov, ki so jih pisali drugi avtorji. Res pa je, da je bil Paulin zelo strog in kritičen tudi do sebe. Ko je leta 1897 zgradil novo upravno stavbo, je takoj dodal, da je premajhna in neuporabna. Glede na to, da je v svoji mladosti živel na posestvu graščine je bil vseeno vaje malce večjega razkošja in se mu je na novo zgrajena stavba zagotovo zdela premajhna. Bil je tudi častnik v avstroogrski vojski (Bavcon 2010), kar je verjetno še dodatno prispevalo k njegovemu značaju. Na znanstvenem področju in je imel dobre osnove iz šolanja v Gradcu ter mnogo povezav z različnimi raziskovalci še iz časov opravljanja svoje prakse.

Paulin uvaja slovensko imenoslovje

Paulin je bil je vzoren profesor in je poskušal naučiti dijake, da bi čim bolj natančno in podrobneje opazovali naravo. Prav v ta namen je napisal prvi slovenski izvirni učbenik za poučevanje botanike v nižjih razredih gimnazije, ki je izšel leta 1898. Leta 1901 pa je prevedel atlas o živalih – Zoologijski atlant (Pucsko

1910). Paulin je zbiral tudi slovenska imena rastlin. V letih od 1887 do 1893 je sodeloval pri nastajanju Slovensko-nemškega slovarja (Pleteršnik 1894–1895). Uredil je tudi vse gradivo, ki se nanaša na naravoslovje (Pleteršnik 1894). Pleteršnik (1894) je zapisal: »Mnogo gradiva sem tudi nabral po ustnem občevanju. Nekoliko gospodov je bilo celo toliko požrtvovalnih, da so se redoma ob določenih večerih z menoj shajali na razgovor in posvetovanje o slovarskih stvareh.« Pod črto pa je zapisal: »Bodi v tem oziru iskrena zahvala izrečena g. kolegom A. Paulinu ...«

Sodelovanje s tujimi botaniki

Paulin je bil botanik z mednarodnim slovesom, bil je specialist za rastlinstvo na Kranjskem, njegovo delo je bilo na visoki znanstveni ravni in zaradi vsega naštetega je imel živahne stike z vsemi pomembnejšimi evropskimi botaniki, ki so ga prosili za podatke o vrstah iz naših krajev, za pojasnila in za sodelovanje pri njihovih delih. Paulin je od leta 1906 do leta 1925 sodeloval pri največjem delu o flori Srednje Evrope (Hegi 1906–1925). Hegiju je pošiljal pisna poročila in pojasnila o florističnih razmerah v naših krajih (*Illustrierte Flora von Mitteleuropa*). V rokopisni zbirki biblioteke SAZU se je ohranila bogata Paulinova korespondenca z drugimi strokovnjaki (Wraber 2008). Vse seveda ni ohranjeno, osvetljuje pa predvsem Paulinove strokovne stike. Dopisoval si je z več kot 80 botaniki iz vseh dežel Evrope.

Paulin (1901b) je kranjsko rastlinstvo razdelil na alpsko, ilirsko, panonsko in sredozemsko cvetano. Omenja tudi endemite. Svoj rokopis o rastlinstvu in živalstvu je dal na uporabo avtorju dela Vojvodina kranjska F. Orožnu. Prispeval je besedilo o rastlinstvu za Melikovo knjigo Jugoslavija (Melik 1921), ki je bilo razširjeno uporabljeno tudi v drugi izdaji leta 1924.

Svojemu učencu Debevcu (1937/38) je povedal, kako mu potekajo dnevi v pokoju: »Ko zjutraj ob šestih vstanem ter pri zajtrku pokadim smotko ter preberem Slovenca, se takoj lotim dela in delam ves dan in tako dan za dnevom.« Bil je tudi v stalni zvezi z vsem znanstvenim svetom, obiskovali so ga razni svetovni učenjaki, v njegovo tiho stanovanje so prihajala pisma iz raznih znanstvenih središč, v katerih ko so ga tujerodni botaničarji spraševali o podrobnostih flore v Sloveniji. Vedno je užival na ekskurzijah, vendar se jim je moral odpovedati. Njegov zadnji botanični izlet je bil v dolino Vrat pod Triglavom. Umrli je 1. decembra 1942 v Ljubljani.

Znanstveni prispevki

Paulinovi znanstveni prispevki so bili zelo tehtni in kritični, še bolj pa je bil kritičen do avtorjev, ki so v njegovem času objavljali prispevke, ne le domačih tudi do tujih avtorjev in je tako pogosto objavljaj kritične prispevke na njihovo tematiko. Bibliografija

Paulina je dokaj obsežna a se z letom 1917 konča. Omenimo samo nekatere prispevke:

Prva tiskana znanstvena Paulinova objava je bil monografski prispevek o kranjskih lisičjakovcih in drežičevkah (Paulin 1895, Praprotnik et al. 2021). V njem prikaže vse naše (kranjske) lisičjakovce in drežice in opiše njihova nahajališča.

Shede od prve do šeste centurije zbirke *Flora exsiccata Carniolica* (Paulin 1901a, 1902a, c) niso vsebovale samo najbolj osnovnih podatkov o taksonu, ampak zgodovino njegovega odkritja, znana nahajališča na Kranjskem in še marsikaj zanimivega.

Paulin (1906) je objavil monografski prispevek o kranjskih praprotnicah. Že naslednje leto je objavil prispevek o platicah. Paulin (1907) je bil strokovnjak za rod *Alchemilla* in objavil monografski prispevek o tem težavem rodu, ki tudi v današnjem času še povzroča težave sistematikom, ki se z njim ukvarjajo.

Paulin (1911) je objavil monografski prispevek o kranjskih preslicah, kjer je popisal vsa do tedaj znana nahajališča na Kranjskem.

Paulin (1915a, 1915b, 1916a, 1916b) je izčrpno pisal o posameznih novih ali redkih vrstah kranjskega rastlinstva in objavil popravek prispevka o nekaterih novih ali redkih vrstah kranjskega rastlinstva (Paulin 1916c).

Paulin (1917a) je pisal o dveh novih vrstah, ki jih je našel v Bohinjskih Alpah (*Iris cengialti* in *Centaurea alpigena*). Članek je bil prekinjen z besedama »*Schluß folgt*«, kar pa se ni zgodilo. Wraber (1978, 2008) je menil, da zaradi tega, ker je bil napisan v nemškem jeziku, ki tedaj že ni bil več sprejemljiv. Njegov zadnji prispevek (Paulin 1917b) pa je monografska obdelava adventivnih mlečkov.

Paulin svetovalec pri načrtovanju vrtov

Paulin je sodeloval pri oblikovanju več zasebnih in šolskih vrtov. Nepodpisani pisec (Anonym. 1933b) je v časopisu Jutro zapisal, da so si začeli »po Paulinovem zgledu mnogi ljubitelji cvetlic sami napravljati botanične vrtičke. Tako imamo danes po vsej Sloveniji in tudi onkraj njenih meja mnogo vrtov, kjer so najlepši kotički posvečeni naši planinski flori.« V Paulinovi pisni zapuščini (Wraber 2008) se je ohranilo nekaj pisem, ki to dokazujejo. Nekatere vrtove je podprl tudi denarno. Paulin je tako že tedaj ustvarjal tudi izven matičnega vrta (Bavcon in Ravnjak 2015), kar je prav tako zelo sodoben pristop, ki je danes vključen

v strategijo najboljših botaničnih vrtov v Evropi. To njegovo tradicijo v vrtu nadaljujemo tudi v današnjem času.

Paulin naravovarstvenik

Alfonz Paulin je bil zelo dejaven pri prizadevanjih za ohranitev narave, še posebej za ohranitev rastlinstva. O tem njegovem prizadevanju ni bilo veliko znanega. Osvetlila ga je šele najdba rokopisa *Über botanische Naturdenkmäler in Krain* (Paulin 1906, Mayer 1988). Pomembna je njegova vloga pri nastajanju znamenite Spomenice iz leta 1920 (Beuk 1920). Prav rokopis in tudi njegova zanimiva usoda nam pomagata razumeti vzdušje tedanjega časa. Potrjuje namreč, da je bilo v začetku 20. stoletja varstvo narave na območju Slovenije zelo dobro zasnovano in organizirano na društveni ravni.

Botanist Alfonz Paulin on the 170th anniversary of his birth (14 September 1853 – 1 December 1942)

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Introduction

Botanist Alfonz Paulin was a leading botanical scientist at the turn of the 19th century. In 2023, we celebrated the 170th anniversary of his birth. If discussing the classic Scopoli era of Slovenian botany (in 2023 we also celebrated the 300th anniversary of Scopoli's birth) and Hladnik era (the same year was also the 250th anniversary of his birth), then Paulin's time can also be named after him as the Paulin era. We had already published a monograph about Paulin in 2021. It is appropriate that important Slovenian natural scientists are presented to the world

and the domestic public with monographs in Slovenian and English, making their work and contribution to science available also to foreign researchers. We should know how to present our achievement to the world. In all these eras, we were equal to all leading researchers of the time in natural sciences.

With his scientific work in the field of floristics, plant taxonomy and phytogeography, Alfonz Paulin holds a permanent and prominent position in the history of Slovenian botany. He built his work on reviews and critical appraisals of all previous botanical knowledge, which turned out to be incomplete and full of gaps. He complemented this work with field studies. He travelled throughout Carniola and published his results in professional journals from 1895 to 1917, when he stopped publishing. For unknown reasons, he did not publish anything after the First World War.

He collected a lot of material for the critical Flora of Carniola, but unfortunately never wrote it. If he had written it, it would have placed him among his foreign contemporaries in terms of time and expertise, who wrote overviews of vegetation for individual regions at the end of the 19th and the beginning of the 20th century. We could say that he had the unfortunate or at least unkind fate of many Slovenian (Carniolan) botanists who failed to publish all their research or scientific findings and results. Why this work was not made may also be related to his financial

situation. Paulin was very precise. In one of his notes on the 100th anniversary of the Botanic Gardens, he states that he had planned a comprehensive book for the 100th anniversary, listing all the species in the garden (he mentions over 6,000), but because funds for this purpose were not provided, he did not write it. We can conclude that a similar thing happened with the Flora of Carniola. But he had begun publishing his dried herbarium collection *Flora exsiccata Carniolica*, the cornerstone of modern Slovenian floristics, even before that. It was published over a long period of 35 years (1901–1936), but is not completed. It included 20 *centuriae* (2,000 sheets), 10 before the First World War and 10 after. Herbarium labels were printed for the first 1,000 specimens, published in five special notebooks, authored by Paulin. The last thousand labels were written by hand. Initially, his work was sent to all important institutions in Europe.

Paulin was a serious and meticulous scientist. He was held in high regard both at home and abroad. In addition to the publication of the dried collection of Carniolan plants, he collaborated on the herbarium collections *Flora exsiccata Austro-Hungarica* and *Flora Stiriaca*. He sent data to Gustav Hegi for his work *Illustrierte Flora von Mitteleuropa* and to Carl Fritsch for his work *Exkursionsflora*. These are still fundamental works today. He was also a secondary school professor of natural sciences (1880–1910). As an exemplary teacher, he tried to teach students to observe nature as accurately and in as much detail as possible.

He wrote the first original botanical textbook for secondary schools in Slovenian (1898). He organised the botanical terminology that was the basis for future authors of botanical textbooks. When the University was founded, the faculty of the Faculty of Arts offered him a full professorship for the subject of botany. As he himself wrote, he rejected the positions due to his circumstances. Nevertheless, he still taught systematic botany part-time for four semesters and conducted practical exercises in plant identification. The students' interest in his lectures was very high at that time.

From 1886 to 1931, he managed the Garden of Domestic Flora – the University Botanic Gardens Ljubljana. His era in the history of the Botanic Gardens was the longest. He worked in the Botanic Gardens for 45 years and elevated the gardens to the European level during this time. He left the gardens with the largest collection of plants in all their history and began publishing the journal *Index seminum* – list of plants available for exchange. Based on this publications, the gardens reached such a high level of professionalism. In the first issue of the *Proteus* magazine, Petkovšek (1933) described Paulin as a scientist, but he also emphasised: "Prof Paulin is known not only as a scholar, but also as a man of unyielding character. Many have repeatedly offered him higher positions, so he would tow their line. But he remained above any dishonest endeavours, staying faithful to his nation, to his beliefs, and to his *scientia amabilis*." University professor of

botany Dr Ernest Mayer (1963) described the Paulin era as the "era of Alfonz Paulin", as he gained "with his extensive and thorough work a lasting merit and place of honour in our natural sciences".

Paulin's biography

Alfonz Paulin was born on 14 September 1853 in the Turn Castle in Leskovec pri Krškem to mother Marija (née Blažič) and father Avguštin (Avgust), who worked as the caretaker of the castle or large estate Štrajbarski Turn between 1850 and 1880. The owner of the castle was Count Anton Aleksander Auersperg (1806–1876), known as a poet under the name Anastasius Grün (Anastazij Zelenski). When Auersperg died, his wife Maria Attems erected a mausoleum and built around it a new botanical park, which, according to folklore preserved to this day, was planted in 1877 by Alfonz Paulin (<http://www.posavci.si/osebe/paulin-alfonz/211/>). On the website, you can also read a lesser-known folklore, which states that "the painting of floral motifs on the ceiling (between the ribs) of the church nave was financed by a former castle caretaker (they are now whitewashed and awaiting restoration). The frescoes are said to depict flowers of the castle garden and its surroundings.



Slika / Figure 2 Mavzolej družine Auersperg Foto: J. Bavcon / Mausoleum of Auersperg family. Photo: J. Bavcon

Alfonz Paulin attended the elementary or primary school (preparatory school for gymnasium) and the lower gymnasium in Ljubljana from 1861 to 1869, and the upper gymnasium in Novo mesto. Before Christmas in 1871, he left the 7th grade of the Novo mesto gymnasium with seven classmates (out of thirteen) and headed to Rijeka, but finished his year in Celje. Despite this

slightly teenage rebellion and changing schools, he returned to Novo mesto, where he graduated in 1873.

Valentin Konšek and Karel Dežman (Anon. 1933a) influenced Paulin's natural science orientation. Valentin Konšek (Konschegg) (1816–1899) was a professor and taught natural science at the Ljubljana Gymnasium, and was the head of the Botanic Gardens in Ljubljana from 1867 to 1886 (Pirjevec 2013). Karel Dežman (1821–1889) was the curator of the Estate Museum of Carniola. He also worked in the field of botany and he collected a herbarium, which is kept by the Slovenian Museum of Natural History (LJM). He wrote about the occurrence of alpine flora in lowlands, about adventitious plants and about Slovenian marshes.

At the University of Graz from 1873 to 1877, Paulin then studied natural history (natural sciences), as well as mathematics and physics as minor subjects. In July 1878 he passed the state exam in natural history. During his studies, he completed his military service in 1873/1874, and in October 1874 passed the officer's exam. He received a state scholarship and left for Trieste to perfect his zoological and botanical knowledge at the Trieste zoological observation station by observing marine plants and animals. For some time, he was also an auxiliary assistant professor to the university professor Rudolf Hörnes (1850–1912), for his study of Devonian deposits in central Styria. On 4 July

1878, he passed the qualification exam for a professor of natural sciences for upper gymnasium. That same year (1878), during the Austrian occupation of Bosnia and Herzegovina, he was called up for military service as a reserve officer. He took part in the battles near Bihać and tasted the harshness of military life. He contracted lung and stomach disease in Bosanski Petrovac. In December 1878, he returned home seriously ill. He was ill for a year and a half, and it was not until 1880 that he completed his studies and passed the exam for mathematics and physics. On 6 July 1880, he also passed the qualification exam for teaching mathematics and physics in German at the lower gymnasium.

He worked in Ljubljana all his life. In the 1880/81 school year, he was a substitute teacher (teacher candidate) at the Ljubljana Upper Realgymnasium, and from 1881 to 1886 he was a substitute teacher at the Ljubljana Upper Gymnasium, later the First State Gymnasium. On 16 March 1884, he passed the exam for teaching in Slovenian. From 1886 he was the professor at the same gymnasium; that same year, he also became the head of the Botanic Gardens in Ljubljana. In 1907, he became an education councillor. On 15 November 1907, he interrupted his teaching activities because of an illness, and on 30 January 1908 he officially took sick leave until the end of the school year. On 5 September 1908, he was assigned to the Second State Gymnasium, with German as the medium of instruction, where he did not teach at all until his retirement due to a nervous

disorder. At his own request, he retired on 1 January 1910. The Provincial Education Council commended him for his many years of selfless, conscientious and successful work. He was awarded the Knight's Cross. When he retired as a professor, he managed the gardens at the special request of the provincial government until 1920. When the University of Ljubljana was founded, the University Council, at the suggestion of Professors Rajko Nahtigal of the Faculty of Arts and Karl Hinterlechner of the Technical Faculty, asked the Provincial Government to relinquish the Botanic Gardens to the University, which then happened in 1920 (Wraber 2000, Bavcon 2010). Paulin returned to work as the director and led the garden until his final retirement in 1931.

It should be noted that later Paulin strongly criticised the work of Konšek, his teacher and later also his predecessor in the Botanic Gardens, as well as gardener Rulitz. When he took over the garden, he wrote that very few of Slovenian indigenous plant species remained in the garden. He also criticised the fruit tree nursery, but he failed to mention that he himself received funds for it for eight years until 1894. Furthermore, gardener Rulitz also worked with him until his retirement in 1907. In some later writings from 1893, he mentions an excursion to Velebit, where he was accompanied by Rulitz, and this time he mentions Rulitz quite positively (Bavcon 2010). Paulin was very critical of many, even of his predecessors, with the exception of the first head of the garden, Franc Hladnik (Bavcon 2010). He also had this

critical attitude towards the papers written by other authors. It is true, however, that Paulin was very strict and critical even of himself. When he had a new administrative building constructed in 1897, he immediately added that it was too small and useless. Considering that he lived in his youth on the estate of a manor house, he was used to a little more luxury, and the newly built building certainly seemed too small to him. He was also an officer in the Austro-Hungarian army (Bavcon 2010), which probably further contributed to his character. In the scientific field, he had a good foundation from education in Graz and many connections with various researchers from the time of his practice.

Paulin introduces Slovenian nomenclature

Paulin was an exemplary professor and tried to teach students to observe nature as accurately and in as much detail as possible. It was for this purpose that he wrote the first Slovenian original textbook for teaching botany in the lower grades of gymnasium, which was published in 1898. In 1901, he translated a zoological atlas, *Zoologijski atlant* (Pucsko 1910). Paulin also collected Slovenian plant names. From 1887 to 1893, he collaborated on the Slovene-German dictionary (Pleteršnik 1894–1895). He also edited all the material relating to natural science (Pleteršnik 1894). Pleteršnik (1894) wrote: "I collected a lot of material in verbal

communication. A few gentlemen were so selfless that they regularly met with me on certain evenings to talk and consult about dictionary matters." Below the line, he wrote: "In this respect, I would sincerely like to thank my colleagues Mr A. Paulin ..."

Collaboration with foreign botanists

Paulin was a botanist of international renown, he was a specialist for Carniolan flora, his work was at a high scientific level and, because of all of the above, he had lively contacts with all major European botanists who asked him for information on species from Carniolan region, for explanations and for collaboration on their work. From 1906 to 1925, Paulin collaborated on the largest work on the flora of Central Europe (Hegi 1906–1925). He sent written reports and explanations to Hegi about the floristic situation in Carniola (*Illustrierte Flora von Mitteleuropa*). The rich collection of Paulin's correspondence with other experts has been preserved in the manuscript collection of the Library of the Slovenian Academy of Sciences and Arts (Wraber 2008). Of course, not everything is preserved, but it sheds light on Paulin's professional contacts. He corresponded with over 80 botanists from all over Europe.

Paulin (1901b) categorised Carniolan vegetation into Alpine, Illyrian, Pannonian and Mediterranean flora. He also mentioned

endemics. Paulin also gave his manuscript on flora and fauna to F. Orožn, the author of *Vojvodina Kranjska (The Duchy of Carniola)*. For Melik's *Yugoslavia*, Melik (1921) contributed a text on vegetation, which was also extensively used in the second edition published in 1924.

He told one of his students, Debevec (1937/38), about his days in retirement: "When I get up at six in the morning and smoke a cigarette at breakfast, and read the *Slovenec* newspaper, I immediately start working and work throughout the day, day in, day out." He was also in constant contact with scientists throughout the world: he was visited by various worldly scholars, and in his quiet apartment he received letters from various scientific centres, with foreign botanists enquiring about the details of Slovenian flora. He had always enjoyed going on excursions, but he had to give them up. His last botanical trip was to the Vrata valley below Triglav. He died on 1 December 1942 in Ljubljana.

Scientific articles

Paulin's scientific articles were very sound and critical, but he was even more critical of the authors who published articles in his time, not only domestic but also foreign authors, and thus often published critical articles on their topics. Paulin's bibliography is quite extensive, but ends in 1917. Some of his articles include:

Paulin's first printed scientific publication was a monographic article on Carniolan clubmosses and lesser clubmosses (Paulin 1895, Praprotnik et al. 2021). In the article, he presents all our (Carniolan) clubmosses and lesser clubmosses, and describes their sites.

The cards of the first to sixth *centuriae* of the *Flora exsiccata Carniolica* collection (Paulin 1901a, 1902a, c) contained not only the most basic information about the taxa, but also the history of its discovery, known sites in Carniola, and much more interesting facts.

Paulin (1906) published a monograph on Carniolan ferns. The very next year, he published an article on lady's mantles. Paulin (1907) was an expert on genus *Alchemilla* and published a monograph about this difficult genus, which even today causes problems for taxonomist working on it.

Paulin (1911) published a monograph on Carniolan horsetails, which listed all then known sites in Carniola.

Paulin (1915a, 1915b, 1916a, 1916b) wrote extensively about individual new or rare species of Carniolan vegetation and published a correction of the article on some new or rare species of Carniolan vegetation (Paulin 1916c).

Paulin (1917a) wrote about two new species he found in the Bohinj Alps. (*Iris cengialti* and *Centaurea alpigena*). The article ended with the words "conclusion to follow" ("*Schluß folgt*"), but was never finished. Wraber (1978, 2008) believed that Paulin never completed the article because it was written in German, which was no longer acceptable at the time. His last article (Paulin 1917b) was a monograph on adventitious spurge.

Paulin as garden design consultant

Paulin was a consultant for the design of several private and school gardens. An unnamed author (Anonymous 1933) wrote in newspaper *Jutro* that "following Paulin's example, many flower enthusiasts began creating botanic gardens themselves. Today, we have many gardens throughout Slovenia and beyond, with the most beautiful corners dedicated to Slovenian alpine flora." Several letters have been preserved in Paulin's written legacy (Wraber 2008) in support of this fact. He even supported some gardens financially. Even then, Paulin was also creating outside his home garden (Bavcon and Ravnjak 2015), which is also a very modern approach that is now included in the strategy of the best botanical gardens in Europe. This tradition of his is continued in the garden even today.

Paulin as nature conservationist

Alfonz Paulin was also active in efforts to preserve nature, particularly in the preservation of vegetation. Not much was known about his efforts. Only the discovery of his manuscript *Über botanische Naturdenkmäler in Krain* (Paulin 1906, Mayer, 1988) shed light on this aspect of his work. His role in the creation of the famous Memorandum from 1920 (Beuk 1920) is important. This manuscript and its interesting fate help us understand the mood of those times. It confirms that, at the beginning of the 20th century, nature protection in Slovenia was very well conceptualised and organised at the level of societies.

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Družinsko drevo Alfonza Paulina

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Po nam znanih podatkih družinsko drevo Alfonza Paulina še ni bilo raziskano oz. ni bilo objavljeno v dostopnih virih. Znani podatki, ki so bili temelj našega raziskovanja, so kraj in datum rojstva in smrti Alfonza Paulina ter nagrobnika štirih Paulinovih bratov in sester, ki sta vzdana na južnem zidu župnijske cerkve Žalostne Matere Božje v Leskovcu pri Krškem.

Kot vir nam je služila tudi osmrtnica Alfonza Paulina, pod katero je kot žalujoča navedena sestra Hedvika Martinak, vdova sodnega svetnika. Podatke o drugih družinskih članih smo iskali v Matičnih knjigah Nadškofijskega arhiva Ljubljana, to je v krstnih, poročnih in mrliških knjigah. Kot vir nam je služila tudi spletna stran Slovenskega rodoslovnega društva.

Starša Alfonza Paulina sta bila Augustin Paulin, rojen leta 1819 ali 1820, in Maria Josepha, rojena leta 1826 z dekliškim priimkom Blažič (Blashitsch). Poročila sta se 12. junija 1848 v Ljubljani, v Trnovem, August je bil tedaj upravitelj gospostva Motnik. Starša Augusta Paulina sta bila Aleksander (Alex)¹ in

¹ Tudi oče Aleksander je bil grajski upravitelj (Herrschafts-Verwalter).

Terezija (Theresia) Paulin, starša Marije Jožefe pa Anton² in Ana Blažič (Blashitsch).

Po zbranih podatkih se je Augustu in Mariji Paulin rodilo dvanajst otrok. Prvi otrok – sin Gustav je bil rojen leta 1849. Oče August v tem času še ni bil oskrbnik Šrajbarskega turna v Leskovcu pri Krškem, zato sinovo rojstvo in krst še nista zabeležena v Krstni knjigi Župnije Leskovec pri Krškem, v kateri pa so rojstni in krstni podatki vseh njegovih mlajših otrok. Zapisi v krstnih knjigah kažejo, da so bili otroci krščeni isti dan ali najkasneje dva dni po rojstvu.

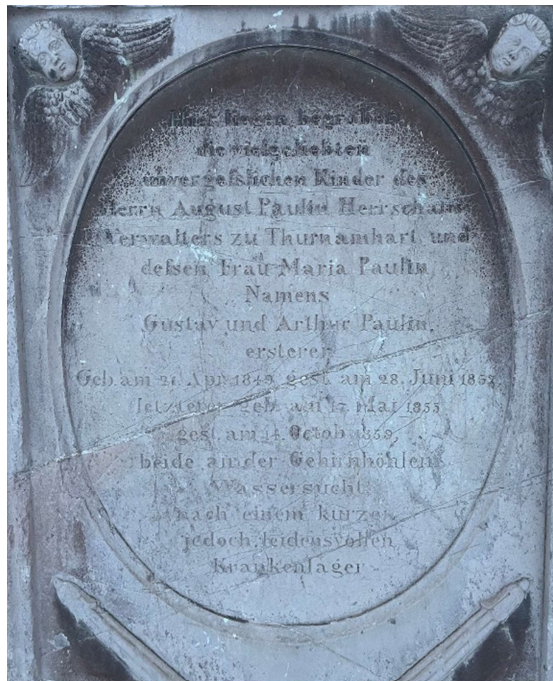
Leta 1850 se je rodil drugi otrok, sin Anton August, leta 1852 hči Berta. Kot četrtojeni se je 14. septembra 1853 rodil Alfonz, leta 1855 sin Artur Anton Alojz. Ti otroci, z izjemo Alfonza Paulina, so umrli zelo zgodaj. Zapisi na nagrobnikih pričajo, da sta prvorojeni Gustav in petorojeni Artur umrla zaradi možganske vodenice v starosti osem in štiri leta, drugorojeni Anton August in tretjerojena Berta pa zaradi nenadne visoke vročine, samo en dan drug za drugim, v starosti tri in dve leti.

Zanimivo je, da sta bila drugorojenemu otroku, sinu Antonu Augustu, krstna botra grof Anton Auersperg in njegova žena Maria Auersperg Attems. Sicer pa so imeli drugi otroci po tri ali štiri krstne botre. Največkrat je bil kot boter naveden Anton Blažič, predvidevamo, da materin oče ali brat.

² Anton Blažič je bil zunanji uradnik mestnega računovodstva (blagajne) Ljubljane (Aushilfe beamter der k.k. Stadt Buchhaltung zu Laibach).

Kot šesti otrok se je leta 1856 rodil Felix Alexander Anton, leta 1858 hči Charlotte Maria, leta 1860 sin Wilhelm, leta 1861 hči Olga Victoria, leta 1863 hči Maria, leta 1864 Hedvig Justine ter leta 1867 hči Amalia. Za te otroke smo podatek o smrti našli le za hčer Hedviko, poročeno Martinak, ki je umrla 22. februarja 1953, v starosti 88 let.

Alfonz Paulin potomcev ni imel. Umrl je 1. decembra 1942, pokopan je bil 3. decembra na pokopališču k Sv. Križu (na današnjih ljubljanskih Žalah). V osmrtnici ob njegovi smrti je bilo zapisano, da se poslavljajo od ljubljenega brata in strica, tako da se je krvna linija nadaljevala po njegovih nečakih oz. nečakinjah.





Slika / Figure 3 Nagrobnika Paulinovih otrok³ / Tombstones of Paulin's children

³ Nagrobnika Paulinovih otrok (na levi nagrobnik Gustavu in Arturju, na desni nagrobnik Antonu in Berti), ki sta vzdana v južno pročelje župnijske cerkve Žalostne Matere Božje v Leskovcu pri Krškem. / Tombstones of Paulin's children (on the left, the tombstone of Gustav and Artur, on the right, the tombstone of Anton and Berta), which are built into the southern façade of the parish church of the Sorrowful Mother of God in Leskovec pri Krškem.

Izpisi iz krstnih in mrliških knjig

Alex Paulin + Theresia Nitsch
Anna Mahorchich

Anton Blashitsch +

Augustin Paulin + Marija Jožefa, roj. Blashitsch
 (por. 12. 6. 1848)

roj. l. 1819/1820

roj. l. 1826

Gustav Paulin

Anton August Paulin

Berta Paulin

roj. 21. 4. 1849

roj. 6. 7. 1850

roj. 9. 1. 1852

krst: ?

krst: 6. 7. 1850

krst: 10. 1. 1852

smrt: 28. 6. 1857

smrt: 5. 7. 1854

smrt: 6. 7. 1854

pogreb: 30. 6. 1857

pogreb: 7. 7. 1854

pogreb: 8. 7. 1854

Alfonz Paulin

Alexander Anton Paulin

roj. 14. 9. 1853

rojstvo: 12. 12. 1856

krst: 15. 9. 1853

krst: 13. 12. 1856

smrt: 1. 12. 1942

pogreb: 3. 12. 1942

Artur Anton Paulin

roj. 17. 6. 1855

krst: 18. 6. 1855

smrt: 14. 10. 1859

pogreb: 15. 10. 1859

Felix

Charlotte Maria Paulin

Olga Victoria Paulin

roj. 10. 10. 1858

roj. 22. 12. 1861

krst: 12. 10. 1858

krst: 23. 12. 1861

Wilchelm Paulin

roj. 10. 6. 1860

krst: 11. 6. 1860

Maria Paulin

Amalia Paulin

roj. 9. 6. 1863

roj. 25. 2. 1867

krst: 9. 6. 1863

krst: 25. 2. 1867

Hedvig Justine, por. Martinak

roj. 20. 10. 1864

krst: 20. 10. 1864

smrt: 22. 2. 1953

Povzetek

Ker v dostopnih slovenskih virih ni družinskega drevesa Paulinovich, smo pri Kulturnem društvu Leskovec pri Krškem izpisali člane družine, ki jih ohranjajo krstne in mrliške matice župnije v Leskovcu pri Krškem. Izpostavljamo tudi dva nagrobnika Pavlinovich, vzdana v južno pročelje župnijske cerkve Žalostne Matere Božje v Leskovcu.

Family tree of Alfonz Paulin

Mojca Pacek, Leskovec pri Krškem Cultural Society

According to available information, Alfonz Paulin's family tree has not yet been researched and was not published in accessible sources. The available information that formed the basis of our research includes the place and date of birth and death of Alfonz Paulin and the tombstones of four of Paulin's brothers and sisters, which are built into the south wall of the parish church of the Sorrowful Mother of God in Leskovec pri Krškem.

The obituary of Alfonz Paulin, which lists among the bereaved his sister, Hedvika Martinak, widow of a court councillor, also served as a source. We searched for information about other family members in the registers of the Archdiocese of Ljubljana, i.e. in the Registers of Baptisms, Marriages and Deaths. The website of the Slovenian Genealogical Society also served as a source.

Alfonz Paulin's parents were Augustin Paulin, born in 1819 or 1820, and Maria Josepha, born in 1926 with the maiden name Blažič (Blashitsch). They were married on 12 June 1848 in Ljubljana, in Trnovo. At the time, August was then the manager of the Motnik estate. August Paulin's parents were Aleksander

(Alex)⁴ and Terezija (Theresia) Paulin, whereas Maria Jožefa's parents were Anton⁵ and Ana Blažič (Blashitsch).

According to collected information, August and Marija Paulin had twelve children. The first child, son Gustav, was born in 1849. At that time, father August was not yet the caretaker of the Šrajbarski Turn in Leskovec pri Krškem, so his son's birth and baptism were not yet recorded in the Register of Baptisms of the Parish of Leskovec pri Krškem, which contains information on births and baptisms of all his younger children. Records in the Register of Baptisms show that the children were baptised on the same day or at the latest two days after their birth.

The second child, son Anton August, was born in 1850, and daughter Berta in 1852. The fourth child, Alfonz, was born on 14 September 1853, and son Artur Anton Alojz in 1855. These children, with the exception of Alfonz Paulin, died at an early age. Tombstone inscriptions indicate that the first-born Gustav and the fifth-born Artur died of hydrocephalus at the ages of eight and four, while the second-born Anton August and the third-born Berta died of a sudden high fever, just one day apart, at the ages of three and two.

It is interesting that Count Anton Auersperg and his wife Maria Auersperg Attems were the godparents of the second-born child,

⁴ Alexander, August's father, was also an estate manager (Herrschafts-Verwalter).

⁵ Anton Blažič was an independent city accounting officer (treasury) of Ljubljana (Aushilfe beamter der k.k. Stadt Buchhaltung zu Laibach).

Anton August. In fact, other children each had three or four godparents. Most often, Anton Blažič was listed as the godfather, presumably the mother's father or brother.

Felix Alexander Anton was born in 1856 as the sixth child, daughter Charlotte Maria in 1858, son Wilhelm in 1860, daughter Olga Victoria in 1861, daughter Maria in 1863, Hedvig Justine in 1864, and daughter Amalia in 1867. For these children, we found information on their death only for daughter Hedvika, married Martinak, who died on 22 February 1953 at the age of 88.

Alfonz Paulin had no descendants. He died on 1 December 1942 and was buried on 3 December at the cemetery of the Holy Cross (in present-day Žale Cemetery in Ljubljana). His obituary stated that the bereaved are saying goodbye to a beloved brother and uncle, so his bloodline continued through his nephews and nieces.



Alfonz Paulin's obituaries / Osmrtnici za Alfonza Paulina

Extracts from registers of baptisms and deaths

Alex Paulin + Theresia Nitsch
Anna Mahorchich

Anton Blashitsch +

Augustin Paulin + Marija Jožefa, née Blashitsch
 (married 12 June 1848)
born 1819/1820 born 1826

Gustav Paulin

Anton August Paulin

Berta Paulin

born 21 April 1849

born 6 July 1850

born 9 January 1852

baptism: ?

baptism: 6 July 1850

baptism: 10 January 1852

death: 28 June 1857

death: 5 July 1854

death: 6 July 1854

funeral: 30 June 1857

funeral: 7 July 1854

funeral: 8 July 1854

Alfonz Paulin**Felix Alexander Anton Paulin***born 14 September 1853**born: 12 December 1856**baptism: 15 September 1853**baptism: 13 December 1856**death: 1 December 1942**funeral: 3 December 1942***Artur Anton Paulin***born 17 June 1855**baptism: 18 June 1855**death: 14 October 1859**funeral: 15 October 1859***Charlotte Maria Paulin****Olga Victoria Paulin***born 10 October 1858**born 22 December 1861**baptism: 12 October 1858**baptism: 23 December 1861***Wilchelm Paulin***born 10 June 1860**baptism: 11 June 1860***Maria Paulin****Martinak Amalia Paulin***born 9 June 1863**born 25 February 1867**baptism: 9 June 1863**baptism: 25 February 1867***Hedvig Justine, married***born 20 October 1864**baptism: 20 October 1864**death: 22 February 1953*

Summary

Since available Slovenian sources do not include Paulin's family tree, we at the Leskovec pri Krškem Cultural Society have listed the family members included in the registers of baptisms and deaths of the parish in Leskovec pri Krškem. We also including two tombstones of the Paulin family, built into the southern façade of the parish church of the Sorrowful Mother of God in Leskovec.

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Jutro: dnevnik za gospodarstvo, prosveto in politiko (02. 12. 1942, letnik 22. številka 277).

<https://www.dlib.si/stream/URN:NBN:SI:DOC-WRMTM1OP/8416c179-1233-4022-a53f-0d8a8a42fc27/PDF>

Alfonz Paulin in njegova *Flora exsiccata Carniolica* ali »Posušeno rastlinstvo Kranjske«

Špela Pungaršek, Prirodoslovni muzej Slovenije

** Prispevek sem v veliki meri pripravila po podatkih, ki sta jih zbrala muzejska svetnica dr. Nada Praprotnik in dr. Tone Wraber.*

Uvod

Alfonz Paulin je večino življenja deloval kot gimnazijski profesor naravoslovja in vodja ljubljanskega Botaničnega vrta. Prirodopis in matematiko je študiral na Univerzi v Gradcu in se pozneje izpopolnjeval na zoološki postaji v Trstu ter sodeloval pri geoloških raziskavah na Srednjem Štajerskem. Opravil je izpite za profesorja naravoslovja na višji gimnaziji in izpite za poučevanje matematike in fizike na nižji gimnaziji. V šolskem letu 1880/1881 je pripravništvo opravil na ljubljanski višji realki, kjer je najverjetneje spoznal srednješolskega profesorja in

mikologa Wilhelma Vossa (1849–1895), ki je takrat sodeloval tudi s kranjskim Deželnim muzejem in bil član Muzejskega društva za Kranjsko. Po opravljenem pripravništvu je Paulin leta 1881 postal profesor na ljubljanski višji, pozneje I. državni gimnaziji, ki je imela svoje prostore v liceju, kjer je svoje herbarije hranil tudi leta 1821 ustanovljeni Deželni muzej, v tej zgradbi pa je bila nameščena tudi licejska knjižnica. Paulin je tako na dosegu roke imel vse herbarije, ki so obravnavali območje Kranjske, in vso botanično literaturo. Kar 30 let je delal kot profesor, vmes pa je postal tudi vodja Botaničnega vrta in to delo opravljal kar 45 let. Ko je prevzel vodenje vrta, se je posvetil predstavitvi in proučevanju kranjske flore (Piskernik 1935, Wraber 2008, Praprotnik 2015). V času poučevanja je izdal učbenik *Prirodopis rastlinstva*, namenjen nižjim razredom srednjih šol, ki je bil prvi izvirni botanični učbenik v slovenščini (Paulin 1898). Objavljal je botanične članke v glasilih Muzejskega društva (Mitteilungen des Musealvereines für Krain, Carniola) in v letnih poročilih gimnazije (Jahresbericht des k.k. I. Staatgymnasiums zu Laibach) ter tudi znanstvene prispevke za tuje revije (Österreichische botanische Zeitschrift). Pisal je o praprotnicah (Paulin 1895, 1896, 1906b, 1911) in o redkih vrstah naše flore (Paulin 1902b, 1902c, 1902č, 1915, 1916), ki jim je pogosto dodal tudi bogate popise vrst na njihovih nahajališčih. Lotil se je tudi taksonomsko zahtevnejših skupin in postal strokovnjak za plahtice (Paulin 1907b, Wraber 2008) ter poročal o pojavu adventivnih in tujerodnih vrst na Kranjskem (Paulin

1897a, 1917b). Od leta 1888 je bil član Muzejskega društva za Kranjsko (Musealverein für Krain; Wraber 2008) in za srečanja pripravljaj tudi predavanja, npr. o mesojedih rastlinah (Anonymous 1890). Ukvarjal se je tudi z naravovarstvom in predstavil pregled botaničnih spomenikov na Kranjskem (Paulin 1906a).



Slika / Figure 4 Ljubljansko licejsko poslopje (nekdanji frančiškanski samostan). Leta 1901 so ga podrli, ker je bilo ob potresu leta 1895 močno poškodovano, danes pa na

tem mestu stoji ljubljanska tržnica. Gimnazija je v liceju imela svoje prostore do leta 1899, muzej pa do leta 1888, ko se je preselil v stavbo na današnji Muzejski ulici 1. Selitev zbirk v novo stavbo je bila postopna. Med prvimi zbirkami so prestavili herbarije, pri čemer je pomagal tudi Alfonz Paulin, ki je sodeloval tudi pri postavitvi razstavne zbirke v prvem nadstropju nove muzejske stavbe (Križnar 2021). Vir: Narodni muzej Slovenije, grafični kabinet, Franz Kurz von Goldenstein, licej okoli 1840 / The Lyceum building in Ljubljana (former Franciscan monastery). It was demolished in 1901 because it was badly damaged in the 1895 earthquake, and the Ljubljana market is located on this spot today. The Gymnasium had its premises in the Lyceum until 1899, and the museum until 1888, when it moved to the building at today's Muzejska ulica 1. The collections were moved to the new building gradually. Herbariums were among the first collections to be moved, also with the help of Alfonz Paulin, who also participated in setting up the exhibition collections on the first floor of the new museum building (Križnar 2021). Source: National Museum of Slovenia, Graphics Cabinet, Franz Kurz von Goldenstein, the Lyceum circa 1840

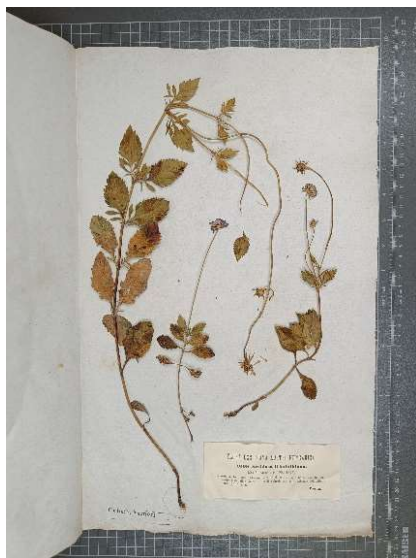
Eksikatne zbirke

Paulin je pregledal in kritično ovrednotil botanično znanje na območju Kranjske in ugotovil, da so v njem številne vrzeli (Praprotnik 2015). Scopolijeva »*Flora Carniolica*« je bila delo iz začetkov florističnega raziskovanja na Kranjskem (Wraber 1966), nekaj podatkov se je skrivalo v delih Franza Ksaverja Wulfna (1728–1805; Praprotnik 2016) in v zbirki, ki jo je izdajal nemški botanik H. G. L. Reichenbach (1793–1879; *Flora Germanica exsiccata*) in so zanj po prispevali tudi kranjski naravoslovci (Praprotnik 2015). Delo *Übersicht der Flora Krains* Andreja Fleischmanna (1804–1867; Fleischmann, 1844), ki naj bi povzelo dognanja Franca Hladnika (1773–1844), je bilo zaradi več

napačnih navedb nezanesljivo (Paulin 1897b). Prispevki Žige Grafa (1801–1838), Henrika Freyerja (1802–1866), Karla Dežmana (1821–1889), Muzia Tommasinija (1794–1879), Jurija Dollinerja (1794–1872), Valentina Plemla (1820–1875), Juliusa Kugyja (1858–1944) in Wilhelma Vossa (1849–1895) so bili raztreseno objavljeni v različnih publikacijah, nekateri njihovi podatki pa so bili shranjeni v obliki herbarijev, ki jih je hranil Deželni muzej za Kranjsko. Čeprav je bila herbarijska zbirka muzeja obsežna, pa so med polami manjkale predvsem težje določljive vrste. Tako ni obstajalo sinteznega in aktualnega dela o flori Kranjske. Paulin se je zato odločil, da kot pripravo za novo kranjsko floro začne izdajati eksikatno zbirko po zgledu tedaj izhajajoče »*Flora exsiccata Austro-Hungarica*«, pri kateri je sodeloval tudi sam (Wraber 1966).

Eksikatne (posušene) zbirke rastlin so posebna oblika herbarijev, ki so izhajali v več izdajah kot npr. knjige, njihove etikete (shede) pa niso bile le v herbarijskih polah, ampak objavljene tudi posebej v revijah ali posebnih prispevkih. Urednik ali avtor zbirke je to običajno pošiljal v centurijah, torej po 100 herbarijskih pol skupaj (Praprotnik 2015). Pri dveh takšnih zbirkah je sodeloval tudi Alfonz Paulin. Med letoma 1881 in 1913 je na Dunaju izhajala zbirka *Flora exsiccata Austro-Hungarica* (»Posušena flora Avstro-Ogrske«), pri kateri so sodelovali številne kranjski botaniki, tudi Alfonz Paulin, ki je objavil seznam vrst, nabranih na Kranjskem (Paulin 1913). Glavni urednik zbirke je bil profesor za botaniko na innsbruški in kasneje dunajski univerzi Anton J.

Kerner von Marilaun (1831–1898), po njegovi smrti pa sta delo nadaljevala Heinrich de Handel-Mazzetti (1882–1940) in Ignaz Dörfler (1866–1950; Praprotnik 2015). Paulin je za to zbirko prispeval 46 herbarijskih pol: 9 gliv, 1 jetrenjak, 5 praprotnic in 31 višjih rastlin. Paulin je nato po Kernerjevem vzoru leta 1901 začel izdajati lastno eksikanto zbirko, ki bi predstavila floro Kranjske. Sodeloval pa je tudi pri eksikatni zbirki *Flora stiriaca exsiccata* (»Posušena flora Štajerske«; Hayek 1904–1912) in zanjo prispeval 6 števil 5 vrst (Piskernik 1935).



Slika / Figure 5 Hladnikov grintavec (Scabiosa hladnikiana Host.), ki ga je za zbirko Flora exsiccata Austro-Hungarica nabral Alfonz Paulin. V herbariju Prirodoslovnega muzeja Slovenije (LJM) je shranjenih prvih 2000 herbarijskih pol, herbarij Univerze v Ljubljani (LJU) pa hrani popolno izdajo te zbirke. Foto: Špela Pungaršek / Scabiosa hladnikiana Host., collected for the Flora exsiccata Austro-Hungarica collection by Alfonz Paulin. The herbarium of the Slovenian Museum of Natural History (LJM) keeps the first 2,000 herbarium sheets, while the herbarium of the University of Ljubljana (LJU) keeps a complete copy of this collection. Photo: Špela Pungaršek

Kranjsko posušeno rastlinstvo ali »Flora exsiccata Carniolica«

Paulin se je zavedal, da bi mu pri delu prišla prav pomoč prostovoljcev. Da bi našel nova nahajališča rastlin na Kranjskem, je za pomoč prosil planince. V Planinskem vestniku so najprej objavili napoved, da prof. Paulin išče pomoč pri nabiranju rastlin za znanstveno rabo, on pa bo pripravil navodila za nabiranje rastlin (Anonymous 1896). Ta članek je potem izšel v dveh delih v naslednjih številkah Planinskega vestnika (Paulin 1897b). A odziv je bil slab in Paulinu se je javil le en gospod, ki je bil pripravljen pomagati (Petkovšek 1943). Kljub temu si je Paulin pridobil kar nekaj sodelavcev, ki so mu pomagali nabirati rastline, sodelovali so: Fritz Altmann, Josef Armič, Pavla Borštner, Fran Dolšak, August Hayek, Stjepan Horvatić, Rajko Justin, Vilim Loschnigg, Carlo Marchesetti, Carl Mulley, Viktor Petkovšek, Hugon Roblek, Marko Zalokar in Jakob Zupančič. Največ rastlin je nabral Paulin sam, precej so jih prispevali Armič, Justin, Muley, Roblek in Zupančič, medtem ko so drugi nabrali le po nekaj pol. Rajko Justin (1865–1938) je za prvih šest centurij nabral rastline s kar 164 nahajališč, nato pa je med njim in Paulinom prišlo do spora in ni več sodeloval. Pri tehničnem delu je Paulinu pomagal vrtnar v ljubljanskem Botaničnem vrtu Franc Juvan (1875–1960), pri zadnjih izdajah pa tudi prof. F. Kapus (Wraber 1966, Praprotnik 2015).

Flora exsiccata Carniolica je izhajala v letih 1901–1936, izšlo je 20 centurij, torej 2000 herbarijskih pol, deset pred prvo svetovno vojno in deset po njej. Izdajali so jo v škatlah, ki so obsegale dve centuriji (dvakrat po 100 herbarijskih pol). Etikete (shede) za

prvih deset centurij so bile tiskane in so izšle še posebej v petih zvezkih, katerih avtor je bil Paulin (1901, 1902a, 1904, 1905, 1907a). Za prvih 600 herbarijskih pol so bile etikete zelo izčrpne in so vsebovale tudi podatke o razširjenosti vrste na Kranjskem in njenih sinonimih. Podatke o tem je Paulin dobil v literaturi, v herbarijih Kranjskega deželnega muzeja in z lastnimi opazovanji. S tem je vsaj delno nadomestil manjkajočo Kranjsko floro. Etikete za naslednjih 400 herbarijskih pol so bile še vedno tiskane, a manj obsežne, vsebovale so le običajne podatke o nahajališču rastline. Po prvi svetovni vojni je Paulin razširil svojo zbirko tudi na ozemlje Štajerske, a je zbirka ohranila naziv Kranjska. Etikete naslednjih desetih centurij so bile pisane ročno v latinščini, njihove shede pa je za osem centurij napisal Paulinov sodelavec Fran Dolšak in jih prevedel v slovenščino ter jim dodal floristične, sistematske in ekološke pripombe (Dolšak 1929, 1936). Za zadnji dve centuriji je shede objavil Tone Wraber (1938–2010) in jih prav tako prevedel v slovenščino ter dodal številne opombe (Wraber 1966).

Preglednica 1: Pregled izdanih centurij dela *Flora exsiccata Carniolica* s podanimi značilnostmi etiket in objavljenih shed (Wraber 1966)

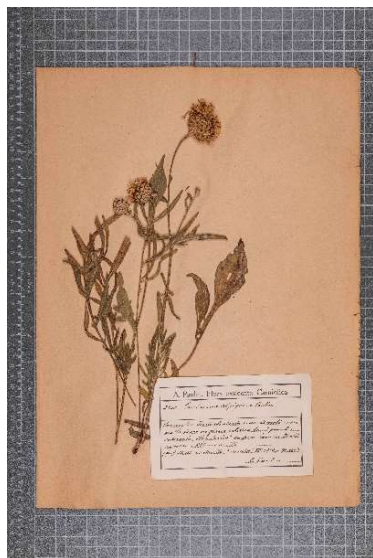
Centurija	Leto izida	Značilnosti etiket	Značilnosti shed	Vir objavljenih shed
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1. in 2.	1901	Tiskane, obsežne opombe	Enake kot etikete, latinščina z opombami v nemščini	Paulin 1901
3. in 4.	1902	Tiskane, obsežne opombe	Enake kot etikete, latinščina z opombami v nemščini	Paulin 1902a
5. in 6.	1904	Tiskane, obsežne opombe	Enake kot etikete, latinščina z opombami v nemščini	Paulin 1904
7. in 8.	1905	Tiskane	Enake kot etikete, latinščina	Paulin 1905
9. in 10.	1906	Tiskane	Enake kot etikete, latinščina	Paulin 1907a
11. in 12.	1926	Pisane ročno	Prevedene v slovenščino, dodane opombe	Dolšak 1929

13. in 14.	1928	Pisane ročno	Prevedene v slovenščino, dodane opombe	Dolšak 1929
15. in 16.	1930	Pisane ročno	Prevedene v slovenščino, dodane opombe	Dolšak 1936
17. in 18.	1934	Pisane ročno	Prevedene v slovenščino, dodane opombe	Dolšak 1936
19. in 20.	1936	Pisane ročno	Prevedene v slovenščino, dodane opombe	Wraber 1966



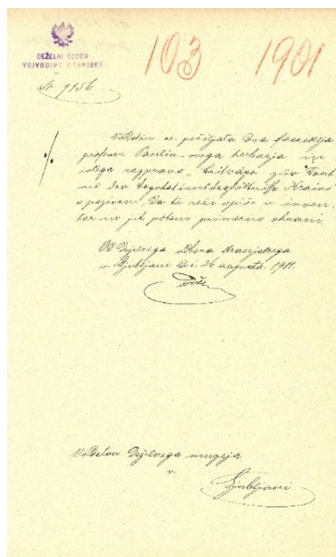
Slika / Figure 6 The herbarium sheet with Wulfen's primrose (Primula wulfeniana Schott) from the 2nd centuria of Flora exsiccata Carniolica with a large written label. Photo: David Kunc / Herbarijska pola z Wulfenovim jegličem (Primula wulfeniana Schott) iz 2. centurije dela Flora exsiccata Carniolica z obsežno napisano etiketo. Foto: David Kunc



Slika / Figure 7 The last herbarium sheet from the 20th century of *Flora exsiccata Carniolica* shows the south-eastern knapweed (*Centaurea dichroantha* (A.Kern.) Holub), which Paulin collected on the slopes of Pršivac near Savica Falls in Bohinj and considered a new species, which he described in his article as *Centaurea alpigena* (Paulin 1917a), but it was later found to be an already known species. He did not complete the article and it became his last floristic article published in the journal. Wraber assumed that it is most likely because it was written in German, which was no longer acceptable to the public at that "revolutionary" time (Wraber 1978, 2008). / Zadnja herbarijska pola iz 20. stoletja dela *Flora exsiccata Carniolica* prikazuje dvobarvni glavinec (*Centaurea dichroantha* (A. Kern.) Holub), ki ga je Paulin nabral na pobočju Pršivca v bližini slapa Savice v Bohinju in imel za novo vrsto, ki jo je v svojem članku opisal kot *Centaurea alpigena* (Paulin 1917a), pozneje pa so ugotovili, da gre za že znano vrsto. Članka ni dokončal in to je bil njegov zadnji floristični prispevek

objavljen v reviji. Wraber predvideva, da najverjetneje zato, ker je bil napisan v nemščini, ta pa v tistem »prevratnem« času v javnosti ni bila več sprejemljiva (Wraber 1978, 2008).

Prvih deset izdaj zbirke *Flora exsiccata Carniolica* je dobilo več ustanov, na primer univerzi v Zagrebu in na Dunaju, Prirodoslovni muzej Joanneum v Gradcu in Naravoslovni muzej v Budimpešti, botanična inštituta univerz v Kološvaru in Zürichu, Botanično združenje v Regensburgu in Britanski naravoslovni muzej. Zadnjih deset izdaj te zbirke pa sta prejela le botanična inštituta ljubljanske (danes Univerze v Ljubljani) in zagrebške univerze ter Narodni muzej Slovenije (danes Prirodoslovni muzej Slovenije; Piskernik 1935).



Slika / Figure 8 Dokument iz Arhiva Narodnega muzeja Slovenije, na katerem je zapisano, da je Kranjski deželni muzej prejel dva fascikla Paulinove zbirke herbarijev. Arhiv NMS 1901–103 / The document from the Archives of the National Museum of Slovenia, which states that the Estate Museum of Carniola received two fascicles from Paulin's collection of herbariums. Archive of the National Museum of Slovenian 1901-103.



Slika / Figure 9 Herbarij LJM pred letom 1947, kjer je na spodnji polici in na desni strani druge police vidna Paulinova Flora exsiccata Carniolica. Arhiv PMS / The herbarium of the Slovenian Museum of Natural History before 1947, where Paulin's Flora exsiccata Carniolica is exhibited on the lower shelf and on the right side of the second shelf. Archive of the Natural History Museum of Slovenia.

Zaključek

Čeprav Paulin ni izdal knjige o flori Kranjske, pa je njegovo življenjsko delo *Flora exsiccata Carniolica* postalo temelj novejši slovenske floristike in je v začetku 20. stoletja dobro

nadomeščalo pregledno floro Kranjske. Njegova zbirka je bila najverjetneje skupaj s podatki iz herbarija Frana Dolšaka temelj za prvi določevalni ključ o praprotnicah in cvetnicah Slovenije, ki ga je objavila Piskernik (1941 in 1951) ter kasneje tudi pomemben vir Seznama praprotnic in cvetnic slovenskega ozemlja (Mayer 1952).

Zahvala

Najlepša hvala mag. Matiji Križnarju, ki je v arhivu Narodnega muzeja Slovenije skeniral dokumente, ki se nanašajo na zbirke Prirodoslovnega muzeja Slovenije in jih delil s sodelavci. Prav tako hvala dr. Borisu Kryštufku za posredovanje arhivske fotografije herbarijev v Prirodoslovnem muzeju Slovenije. Ne nazadnje gre zahvala Narodnemu muzeju Slovenije za dovoljenje za objavo slike liceja iz njihovega grafičnega kabineta.

Alfonz Paulin and his *Flora exsiccata Carniolica* or Dried Flora of Carniola

Špela Pungaršek* Natural History Museum

**I prepared the paper to a large extent based on the data collected by the museum councillor Dr Nada Praprotnik and Dr Tone Wraber.*

Introduction

For most of his life, Alfonz Paulin worked as a gymnasium (secondary school) professor of natural sciences and the head of the botanical garden in Ljubljana. He studied natural history and mathematics at the University of Graz, later trained at the zoological station in Trieste, and participated in geological research in Central Styria. He passed the exams to become a professor of natural sciences at the upper gymnasium and the exams for teaching mathematics and physics at the lower gymnasium. In the 1880/1881 school year, he completed his internship at the Ljubljana Upper Realgymnasium, where he most

likely met the secondary school professor and mycologist Wilhelm Voss (1849–1895), who at that time also worked with the Estate Museum of Carniola and was a member of the Museum Society for Carniola. After completing his internship in 1881, Paulin became a professor at Ljubljana Upper Gymnasium, later First State Gymnasium, which had its premises in the Lyceum, where the Estate Museum of Carniola, established in 1821, also housed its herbariums, with the Lyceum Library was also located in this building. Paulin thus had all the herbariums covering the territory of Carniola, as well as all botanical literature, at his fingertips. He worked as a professor for 30 years, and in this time also became the head of the Botanic Gardens and performed this job for 45 years. When he took over the management of the gardens, he dedicated himself to the presentation and study of Carniolan flora (Piskernik 1935, Wraber 2008, Praprotnik 2015). While he was teaching, he published the textbook *Prirodopis rastlinstva* (*Natural History of Plants*), intended for the lower classes of secondary schools, which was the first original botanical textbook in Slovenian (Paulin 1898). He published botanical articles in the newsletters of the Museum Society (*Mitteilungen des Musealvereines für Krain, Carniola*) and in the annual gymnasium reports (*Jahresbericht des k.k. I. Staatgymnasiums zu Laibach*), as well as scientific papers for foreign journals (*Österreichische botanische Zeitschrift*). He wrote about ferns (Paulin 1895, 1896, 1906b, 1911) and about rare species of Carniolan flora (Paulin 1902b, 1902c, 1902č,

1915, 1916), to which he often added extensive inventories of species at their sites. He also tackled taxonomically more complex groups and became an expert on lady's mantles (Paulin 1907b, Wraber 2008) and reported on the occurrence of adventitious and non-native species in Carniola (Paulin 1897a, 1917b). He was a member of the Museum Society for Carniola (Musealverein für Krain, Wraber 2008) and also prepared lectures for meetings, for example on carnivorous plants (Anonymous 1890). He was also involved in nature conservation and presented an overview of botanical monuments in Carniola (Paulin 1906a).

V. Flora der Saantaler Alpen.

Zusammengestellt von Dr. A. v. Hayek und A. Paulin.

Die nachfolgenden Zusammenstellung ist ein etwas erweitertes Gekürzt der des obigen Teiles, der Arbeit an Grunde gelegt, indem die südlich von Seibach gelegenen Hänge bis zum Leuchner- und Fuchsbau, die Kachla und der Südhang des Unthies bis zum Hohenberg sind.

Je nach Art, die wir im Gekürzte nicht selbst beobachtet haben und von denen wir auch keine aus dem Gekürzten Polypodiaceen gesehen haben, wurde der Name des Gekürzten beibehalten. Besonders ungewöhnliche und direkt irrtümliche Angaben werden weggelassen. Zur besseren Orientierung wurden des einzelnen Standorten die betreffenden Kreisläufe in abgekürzter Form (K. = Kärnten, Kr. = Krain, St. = Steiermark) angegeben.

Polypodiaceae.

Cyrtopogon fragilis (L. Sp. pl. 1091 sub Polypodio), Bernh. in Schmid, N. Jour. 1898 I 2, 25. K. Kr. St. An Felsen und Mauern bis in die Krummholzregion häufig.

Cyrtopogon regia (L. Sp. pl. 1091 sub Polypodio), Presl, Tent. Plur. 83. K. Kr. St. An Felsen und besonders im Felschutt von der höheren Voralpen- bis in die Hochalpenregion (2000–2500 m) häufig.

Cyrtopogon montana (Lam., Fl. franc. I 23 sub Polypodio), Lk. II, Berol. II 151. An feuchten Felsen, in Wäldern, in der Voralpenregion zerstreut. Kr. Am Fuchsbau und am Aufstieg zum Kanker und Steiner Sattel, in der Bela dolina, in der Schachgrube Veterana auf der Velika planina. St. In Jezzeritz, bei der Obereckhütte, Na seide, unter der Leutcher Hütte.

Osmunda Struthiopteris (L. Sp. pl. 1091 sub Osmunda), Hoffm., Deutschl. Fl. II 12. An Ufern, feuchten buschigen Abhängen, selten. K.: Bei Bad Vellach (Theutitz). Kr.: Bei Stein (Glowach), Sela bei Stein (Rohr).

Dryopteris Thelypteris Christens., Ind. fl. 284. K. Kr. St. In Wäldern verbreitet.

Dryopteris Eboracea (Hoffm., Deutschl. Fl. II 20 sub Polypodio), Christens., Ind. fl. 284. E. Kr. St. An Felsen, Mauern, in Wäldern, gemein bis in die Krummholzregion.

Dryopteris Linnemannii Christens., Ind. fl. 275. An Felsen, in Wäldern, auf kalkigen Boden, zerstreut. K.: In der oberen Seibacher Kette und am Weg von Vellach zum Pavlovtsattel. Kr.: Im Fuchsbau und unter dem Kankerattel (Ost- und Westseite) bei Ulrichshaus. St.: Am Weg von Seibach zum Pavlovtsattel und am Aufstieg von Leutcher zum Planinisch. *Nephraria montana* (Vahl, Dis. Polyp. sp. ign., Gies. 1781, sub Polypodio), Baker in Hook.-Bak. Syn. fl. 27. In Wäldern zerstreut. K. St.: Häufig zwischen Vellach und Seibach. Kr.: In Seibachschluchtgraben (Albanen), bei Ulrichshaus (Rohr). St.: Am Wege von Leutcher zum Planinisch.

Slika / Figure 10 Skupaj z Augustom Hayekom (1871–1928), profesorjem na Univerzi na Dunaju, je Paulin pisal o rastlinstvu Kamniških Alp (Hayek in Paulin, 1907). / Together with August Hayek (1871–1928), a professor at the University of Vienna, Paulin wrote about the flora of the Kamnik Alps (Hayek and Paulin 1907).

Exsiccate collections

Paulin reviewed and critically evaluated the botanical knowledge in the Carniolan region and found many gaps (Praprotnik 2015). Scopoli's *Flora Carniolica* was a work from the beginnings of floristic research in Carniola (Wraber 1966), some information

was hidden in the works of Franz Ksaver Wulfen (1728–1805; Praprotnik 2016) and in the collection published by the German botanist H.G.L. Reichenbach (1793–1879; *Flora Germanica exsiccata*), which included sheets contributed by Carniolan naturalists (Praprotnik 2015). *Übersicht der Flora Krains* by Andrej Fleischmann (1804–1867; Fleischmann 1844), which was supposed to summarise the findings of Franz Hladnik (1773–1844), was unreliable due to several incorrect statements (Paulin 1897b). Articles by Žiga Graf (1801–1838), Henrik Freyer (1802–1866), Karel Dežman (1821–1889), Muzio Tommasini (1794–1879), Juri Dolliner (1794–1872), Valentin Plemel (1820–1875), Julius Kugy (1858–1944) and Wilhelm Voss (1849–1895) were published in various publications, and some of their data were stored in the form of herbariums kept by the Estate Museum of Carniola. Although the museum's herbarium collection was extensive, the sheets were missing particularly the species that were more difficult to identify. Thus, there was no synthesis and up-to-date work on the flora of Carniola. Paulin therefore decided to start publishing an exsiccate collection as preparation for the new flora of Carniola, following the example of *Flora exsiccata Austro-Hungarica* being published at that time, on which he also collaborated (Wraber 1966).

Exsiccate (dried) plant collections are a special form of herbariums, which were published in several copies like books, while their labels (cards) were not only in herbarium sheets, but were also published separately in journals or special articles. The

editor or author of the collection usually sent these in *centuriae*, i.e. 100 herbarium sheets together (Praprotnik 2015). Alfonz Paulin also collaborated on two such collections. Between 1881 and 1913, the collection *Flora exsiccata Austro-Hungarica* (*Dried Flora of Austria-Hungary*) was published in Vienna, on which many Carniolan botanists collaborated, including Alfonz Paulin, who published a list of species collected in Carniola (Paulin 1913). The main editor of the collection was Anton J. Kerner von Marilaun (1831–1898), professor of botany at the University of Innsbruck and later Vienna, and after his death the work was continued by Heinrich de Handel-Mazzetti (1882–1940) and Ignaz Dörfler (1866–1950) (Praprotnik 2015). Paulin contributed 46 herbarium sheets to this collection: 9 fungi, 1 liverwort, 2 ferns, and 31 higher plants. Following Kerner's example, in 1901 Paulin began to publish his own exsiccant collection, which would present the flora of Carniola. He also collaborated on the exsiccant collection *Flora Stiriaca exsiccata* (*Dried Flora of Styria*; Hayek 1904–1912), contributing 6 numbers of 5 species (Piskernik, 1935).

Dried flora of Carniola or *Flora exsiccata Carniolica*

Paulin was aware that he could use the assistance of volunteers in his work. To find new sites of plants in Carniola, he asked

mountaineers for help. *Planinski vestnik* first published the announcement that Prof Paulin seeks help in collecting plants for scientific use, and that he will prepare instructions for collecting plants (Anonymous 1896). This article was then published in two parts in subsequent issues of *Planinski vestnik* (Paulin 1897b). But the response was poor, with only one gentleman willing to help contacting Paulin (Petkovšek 1943). Nevertheless, Paulin found quite a few colleagues who helped him collect plants. Among them were: Fritz Altmann, Josef Armič, Pavla Borštner, Fran Dolšak, August Hayek, Stjepan Horvatić, Rajko Justin, Vilim Loschnigg, Carlo Marchesetti, Carl Mulley, Viktor Petkovšek, Hugon Roblek, Marko Zalokar, and Jakob Zupančič. Most of the plants were collected by Paulin himself, Armič, Justin, Muley, Roblek and Zupančič contributed a lot, while others collected only a few sheets each. Rajko Justin (1865–1938) collected plants from as many as 164 sites for the first six *centuriae*, but then a dispute arose between him and Paulin and he no longer participated. Paulin was assisted in the technical work by Franc Juvan (1875–1960), a gardener at the Ljubljana Botanic Gardens, and also by Prof F. Kapus (Wraber 1966, Praprotnik 2015).



Slika / Figure 11 Rajko Justin (1865–1938) je delal kot učitelj v več krajih po Sloveniji, leta 1924 pa je postal kustos herbarija na Univerzi v Ljubljani (Šlebinger 1928). Na teren je pogosto zahajal s Paulinom, nato pa je med njima prišlo do spora in ni več sodeloval. Vir: Zbirka upodobitev znanih Slovencev NUK. / Rajko Justin (1865–1938) worked as a teacher in several towns in Slovenia, and in 1924 became curator of the herbarium at the University of Ljubljana (Šlebinger 1928). He often did fieldwork with Paulin, but then there was a dispute between them and he no longer participated. Source: A collection of photographs of famous Slovenians, National and University Library.

Flora exsiccata Carniolica was published in from 1901 to 1936, in 20 *centuriae*, i.e. 2000 herbarium sheets, ten before and ten after the First World War. It was published in boxes that included

two *centuriae* (two times 100 herbarium sheets). Herbarium labels (cards) were printed for the first ten *centuriae* and were published separately in five special notebooks, authored by Paulin (1901, 1902a, 1904, 1905, 1907a). For the first 600 herbarium sheets, the labels were very comprehensive and also included information on the distribution of the species in Carniola and its synonyms. Paulin obtained this information in literature, in the herbariums of the Estate Museum of Carniola and through his own observations. With this, he at least partially replaced the missing Carniolan flora. The labels for the next 400 herbarium sheets were still printed, but were less extensive, containing only the usual information about the site of the plant. After the First World War, Paulin expanded his collection to the territory of Styria, but the collection retained the title of Carniola. The labels of the next ten *centuriae* were written by hand in Latin, while their cards for the eight *centuriae* were written by Paulin's colleague Fran Dolšak and translated into Slovenian, adding floristic, systematic and ecological comments (Dolšak 1929, 1936). Tone Wraber (1938–2010) published the cards for the last two *centuriae* and also translated them into Slovenian, adding many notes (Wraber 1966).

Table 1: Overview of the published *centuriae* of *Flora exsiccata Carniolica* with characteristics of labels and published cards (Wraber 1966)

<i>Centuria</i>	Year of publication	Label characteristics	Card characteristics	Source of published cards
1st and 2nd	1901	Printed, extensive notes	Same as labels, Latin with German notes	Paulin 1901
3rd and 4th	1902	Printed, extensive notes	Same as labels, Latin with German notes	Paulin 1902a
5th and 6th	1904	Printed, extensive notes	Same as labels, Latin with German notes	Paulin 1904
7th and 8th	1905	Printed	Same as labels, Latin	Paulin 1905
9th and 10th	1906	Printed	Same as labels, Latin	Paulin 1907a
11th and 12th	1926	Written by hand	Translated in Slovenian, added notes	Dolšak 1929

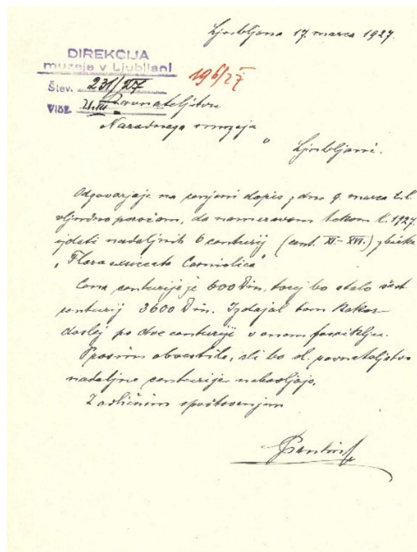
13th and 14th	1928	Written by hand	Translated in Slovenian, added notes	Dolšak 1929
15th and 16th	1930	Written by hand	Translated in Slovenian, added notes	Dolšak 1936
17th and 18th	1934	Written by hand	Translated in Slovenian, added notes	Dolšak 1936
19th and 20th	1936	Written by hand	Translated in Slovenian, added notes	Wraber 1966



Slika / Figure 12 Herbarijska pola s kortuzovko (Cortusa matthioli L.) iz 7. centurije dela Flora exsiccata Carniolica z etiketo pisano v latinščini, ki vsebuje običajne podatke o nahajališču. Foto: David Kunc / The herbarium sheet with alpine bells (Cortusa matthioli L.) from the 7th centuria of Flora exsiccata Carniolica with a label written in Latin containing the usual site information. Photo: David Kunc

The first ten copies of the *Flora exsiccata Carniolica* collection were given to several institutions, for example the University of Zagreb and the University of Vienna, the Natural History Museum Joanneum in Graz, and the Natural History Museum in Budapest, the botanical institutes of the universities of Cluj-Napoca and Zurich, the Botanical Society in Regensburg, and the

British Museum of Natural History. The last ten copies of this collection were given only to the Botanical Institute of Ljubljana (now the University of Ljubljana) and the University of Zagreb, as well as the National Museum of Slovenia (now the Natural History Museum of Slovenia) (Piskernik 1935).



Slika / Figure 13 Odgovor Alfonza Paulina na povpraševanje Kranjskega deželnege muzeja o tem, ali bo še izdal kakšno centurijo svojega dela Flora exsiccata Carniolica. Paulin je 17. 3. 1927 ravnateljstvu muzeja sporočil, da namerava v letu 1927 izdati še šest centurij. Arhiv NMS 1927–231. / Alfonz Paulin's reply to the request of the Estate Museum of Carniola whether he will publish another centuria of his Flora exsiccata

Carniolica. On 17 March 1927, Paulin informed the directorate of the museum that he intends to publish six more centuriae in 1927. Archive of the National Museum of Slovenian 1927-231.

Conclusion

Although Paulin did not publish a book on the flora of Carniola, his life's work *Flora exsiccata Carniolica* became the foundation of modern Slovenian floristry and was a good substitute for an overview of Carniolan flora at the beginning of the 20th century. His collection, together with data from Fran Dolšak's herbarium, was most likely the basis for the first identification key on the ferns and flowers of Slovenia published by Piskernik (1941 and 1951) and later also an important source of the List of Ferns and Flowers of the Slovenian Territory (Mayer 1952).

Acknowledgements

I would like to thank Matija Križnar, MSc, who scanned the documents in the archive of the Slovenian National Museum, which refer to the collections of the Slovenian Natural History Museum, and shared them with his colleagues. I would also like to thank Dr Boris Kryštufek for providing archival photos of the herbariums in the Slovenian Natural History Museum. Last but not least, I would like to thank the National Museum of Slovenian

for permission to publish the image of the lyceum from their Graphics Cabinet.

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Herbarijske zbirke in njihov pomen

Mag. Andrej Podobnik

Čeprav je Alfonz Paulin deloval na številnih področjih botanike in na področju naravovarstva, je eno od ključnih, mogoče tudi najbolj poznano delo zbirka Posušenih rastlin Kranjske, *Flora exsiccata Carniolica*, ki je v 20. stoletjih izhajala med letoma 1901 in 1936 (Praprotnik et al. 2021: 134–146). Izhajala je torej vsaj deloma vzporedno z zbirko *Flora exsiccata Austro Hungarica*, ki sta jo med letoma 1881 in 1913 izdajala Kerner in Fritsch (Praprotnik et al. 2021: 162), in Hayekovo zbirko *Flora Stiriaca exsiccata* med letoma 1904 in 1912 (Praprotnik et al. 2021: 164, Widder & Teppner 1974). Paulin je za ti dve zbirki prispeval nekatere pole, verjetno pa je z izmenjavo za njegovo eksikratno zbirko omenjeni zbirki dobil v osebno last in sta preko njega prešli med zbirke ljubljanskega univerzitetnega herbarija LJU (Praprotnik et al. 2021: 162–164, Wraber 2000: 12). Lahko bi trdili, da je bila Paulinova herbarijska zapuščina skupaj s herbariji, ki so jih zbrali njegovi sodobniki, predvsem Dolšak in Justin, osnova za to javno herbarijsko zbirko, ki se je nato bogatila z zbranim gradivom kasnejših botanikov (Wraber 1990).

Pomemben del tega herbarija je tudi gradivo, ki ga je zbirka kasneje pridobila z izmenjavo z drugimi herbariji.

Paulin je svoje raziskovalno delo temeljil na proučevanju dela starejših avtorjev, tako literature kot herbarijev, ki so bili na voljo, proučevanjem herbarijskega gradiva, ki ga je zbral sam ali dobil od drugih botanikov kot s proučevanjem rastlin, ki jih je gojil v ljubljanskem Botaničnem vrtu. Ali imajo herbarijske zbirke danes, ko je na voljo obilica gradiva na spletu, med drugim tudi digitalizirane herbarijske zbirke, enak pomen kot v Paulinovem času in kolikšen je pomen zbiranja herbarijskega gradiva danes?

Herbarijska pola, to je ustrezno preparirana in posušena rastlina (ali več rastlin z istega nahajališča), opremljena z ustreznimi podatki na etiketi, je dokazno gradivo za uspevanje določenega taksona na določenem nahajališču ob določenem času. Tako so poleg drugih virov herbarijski podatki osnova za ugotavljanje razširjenosti taksonov in izdelavo zemljevidov razširjenosti.

Prav tako je kadar koli mogoče preveriti pravilnost določitve, če obstoji herbarijski material, kar je posebej pomembno pri sistematsko zahtevnejših – težavnejših skupinah. Kadar ob podatku v pisnem viru podvomimo o uspevanju taksona na nekem območju, lahko s pregledom herbarijskega gradiva dvom hitro odpravimo, sicer lahko navedbo potrdimo ali zavrnamo samo s ponovnim delom na terenu.

Herbarijske pole so lahko referenčni material. Pri določanju materiala zahtevnejših skupin rastlin je primerjava z že zbranim gradivom, predvsem če ga je določil ali revidiral za skupino priznan strokovnjak, lahko odločilna za pravilno določitev.

Zbrano herbarijsko gradivo je lahko osnova za sistematske raziskave oziroma za načrtovanje teh raziskav, tudi v smislu načrtovanja terenskega, kabinetnega in laboratorijskega dela.

Odveč je omenjati, da je treba pri opisu in imenovanju novih taksonov določiti tipski primerek – nomenklaturni tip. Prav tako naj bi se vsaka kariološka analiza in analiza genoma nanašala na določen herbariziran in v javni herbarijski zbirki spravljen primerek.

Herbarijske zbirke v določeni meri razkrivajo tudi, kaj se z rastlinstvom dogaja na nekem območju, tako izginjanje vrst na rastiščih kot pojavljanje novih.

Herbarizirane rastline so razmeroma krhke, hkrati pa podvržene zunanjim dejavnikom, med drugim tudi različnim škodljivcem, zato zahtevajo ustrezno hranjenje in rokovanje (Praprotnik & Pungaršek 2021: 83). Propad herbarijske pole ali zbirke pomeni uničenje vseh informacij, ki jih vsebujejo in nepopravljivo škodo. Številni javni herbariji so že digitalizirali svoje gradivo in je dostopno na spletu. S tem je vsaj del informacij, ki jih vsebuje herbarijska pola, varno shranjenih, hkrati pa brez neposrednega stika z gradivom (in s tem potencialnega poškodovanja materiala)

na voljo raziskovalcem. Tako digitalizirani herbariji se izognejo nevarnostim, ki načeloma pretijo prvim herbarijem in v primeru uničenja teh očitajo del njihovih informacij.

Ob splošni dostopnosti fotografiranja se poraja vprašanje, ali fotografija rastline v naravi lahko nadomesti herbarijski primerek in ali je na osnovi posnetka možna določitev taksona. Težava določanja na osnovi fotografije je, da za določitev pomembni morfološki znaki na posnetku niso vedno vidni. Strokovnjak z izkušnjami bo verjetno posnel tudi detajle, ki so pomembni za določanje neke skupine. Na posnetku tudi ni mogoče meriti, razen če rastlino posnamemo skupaj z merilom, in še v tem primeru je natančnejše merjenje navadno močno oteženo ali celo nemogoče. Na drugi strani imajo posnetki to prednost, da nam dobro predstavijo barve in oblike, ki so na herbarijskem materialu navadno spremenjene ali izginejo. Verjetno bi bila vsaj v nekaterih primerih idealna kombinacija fotografija rastline v naravi, fotografije za določanje pomembnih detajlov in herbarijski primerek.

Herbarium collections and their signifiante

Mag. Andrej Podobnik

Although Alfonz Paulin worked in many fields of botany and in the field of nature conservation, one of the key, perhaps the most well-known works is the collection of Dried Flora of Carniola, *Flora exsiccata Carniolica*, which was published in 20 *centuriae* between 1901 and 1936 (Praprotnik et al. 2021: 134–146). It was therefore published, at least partly, in parallel with the collection *Flora exsiccata Austro Hungarica*, published by Kerner and Fritsch between 1881 and 1913 (Praprotnik et al. 2021: 162), and Hayek's collection *Flora Stiriaca exsiccata* between 1904 and 1912 (Praprotnik et al. 2021: 164, Widder & Teppner 1974). Paulin contributed some sheets for these two collections; by exchanging them for his exsiccata collection, he probably received these two collections for himself, and they then passed into the collections of the herbarium of the University of Ljubljana LJU (Praprotnik et al. 2021: 162–164, Wraber 2000: 12). It could be argued that Paulin's herbarium legacy, together with the herbariums collected by his contemporaries, particularly Dolšak and Justin, was the basis for this public herbarium

collection, which was later enriched by the collected material of later botanists (Wraber 1990). An important part of this herbarium is also the material that was added to the collection later through exchanges with other herbaria.

Paulin based his research work on the study of works of older authors, both literature and herbariums that were available, on the study of herbarium material that he collected himself or obtained from other botanists, and on the study of plants that he cultivated in the Botanical Gardens in Ljubljana. Do herbarium collections today, with the abundance of material available online, including digitised herbarium collections, hold the same importance as in Paulin's time, and what is the significance of collecting herbarium material today?

A herbarium sheet, i.e. a properly prepared and dried plant (or several plants from the same locality) equipped with appropriate information on the label, represents evidence for the growth of a specific taxon at a specific site at a specific time. Thus, in addition to other sources, herbarium data represent the basis for determining the distribution of taxa and creating distribution maps.

It also makes it possible to check the correctness of identification at any time if herbarium materials exist, which is especially important for systematically more complex, more difficult groups. When there are any doubts about the distribution of a

taxon in a specific area based on information in a written source, we can quickly eliminate any doubts by examining the herbarium material; otherwise, we can confirm or reject the statement only by again conducting fieldwork.

Herbarium sheets can be reference material. When determining the material of more complex groups of plants, a comparison with already collected material, especially if it was identified or reviewed for the group by a recognised expert, can be decisive for correct identification.

Collected herbarium material can be the basis for systematic research or for the planning of such research, also in the sense of planning fieldwork, cabinet work and laboratory work.

Needless to say, when describing and naming new taxa, it is necessary to determine the type specimen – nomenclatural type. Furthermore, every karyological analysis and genome analysis should refer to a specific herbarium specimen stored in a public herbarium collection.

To a certain extent, herbarium collections also reveal what is happening with the flora in a certain area, both the disappearance of species on sites and the appearance of new ones.

Herbarium plants are relatively fragile, but at the same time subject to external factors, including various pests, so they require proper storage and handling (Praprotnik & Pungaršek 2021: 83).

Destruction of a herbarium sheet or collection means the destruction of all the information they contain and irreparable damage. Many public herbariums have already digitised their material and made it accessible online. In this way, at least some of the information contained in herbarium sheets is safely stored, while also available for researchers without direct contact with the material (and thus potential damage to the material). Herbariums digitised in this way avoid the risks that real herbariums generally face and, in the event of their destruction, preserve part of their information.

With the general availability of photography, the question arises whether a photograph of a plant in nature can replace a herbarium specimen and whether it is possible to determine the taxon based on such photograph. The problem of identification based on photography is that morphological traits important for identification are not always visible on a photograph. An experienced expert is also likely to photograph details that are important for identifying a group. It is also not possible to measure on a photograph, unless the photo of a plant is taken together with a scale, and even then, a more accurate measurement is usually very difficult or even impossible. On the other hand, photographs have the advantage of depicting colours and shapes that are usually changed or disappear in herbarium materials. Likely, at least in some cases, a combination of a photograph of a plant in the wild, a photograph to determine important details, and a herbarium specimen would be ideal.

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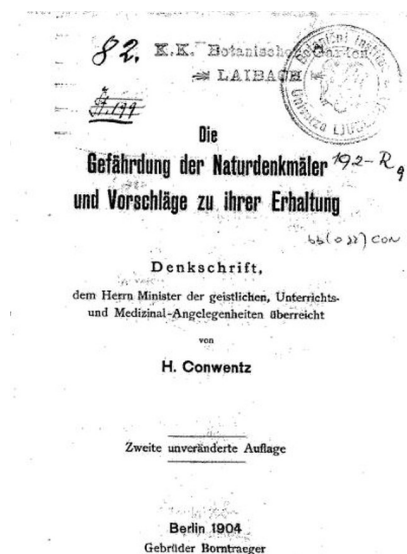
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Alfonz Paulin – vez med Belarjem in Spomenico

Dr. Peter Skoberne

Prof. Ernest Mayer (1988) je objavil v Biološkem vestniku članek o dveh različicah Paulinovega rokopisa *O botaničnih spomenikih Kranjske*. Zelo natančno in poglobljeno je obdelal botanično plat tega Paulinovega dela. Ostajalo pa je vprašanje, zakaj se Paulin sploh lotil te teme, zakaj delo ni bilo natisnjeno? Mayer je sicer omenil, da je nad naslovom pripisano besedilo: »Über Ersuchen der K. K. Landesregierung in Krain dem K. K. Ministerium für Kultus und Unterricht als Manuskript vorlegt, wo selbes noch jetzt erliegt« (Na zahtevo C. K. deželne vlade na Kranjskem kot rokopis predložen C. K. Ministrstvu za kulturo in uk, kjer je isti še v obravnavi), vendar tega dejstva ni razvijal naprej.

Tone Wraber (2008: 208) je to opombo razlagal kot Paulinov odgovor na pobudo Deželne vlade za Kranjsko, pobudnik pa naj bi bil seizmolog Albin Belar. Mimogrede, Mayer (1988: 34) je omenil, da je bil drugi rokopis najden v zavrženi Belarjevi zapuščini v modrem, poškodovanem ovitku z napisom Naturschutz, in še posebej omenja Belarjeva naravovarstvena prizadevanja.



Slika / Figure 14 Naslovnica Conwentzovega priročnika o naravnih spomenikih, ki je bil teoretska osnova Paulinovega rokopisa o botaničnih naravnih spomenikih Kranjske. Žig Botaničnega vrta v Ljubljani dokazuje, da je Paulin poznal to delo takoj po izidu. / The cover of Conwentz's handbook on natural monuments, which was the theoretical basis of Paulin's manuscript on the botanic natural monuments of Carniola. The stamp of the Botanic Garden in Ljubljana proves that Paulin knew this work immediately after its publication.

Očitno je bil Paulinov rokopis namenjen naravovarstvenemu pogledu na kranjsko rastlinstvo. V uvodnem delu se namreč opira na Kleinovo in Conwentzovo definicijo pojma 'naravni spomenik'. V nadaljevanju je povzel prav Conwentzovo

sodobnejšo definicijo (Conwentz, 1904). V knjižnici Inštituta za biologijo je bil izvod te publikacije, na naslovni strani pa žig Botaničnega vrta v Ljubljani. Očitno je Paulin dobil publikacijo kmalu po izidu in jo uporabil pri pripravi rokopisa.

Še vedno je manjkalo nekaj odločilnih drobcev, da bi lahko povezali delovanje Belarja in Paulina. Najprej je treba osvetliti Belarjevo vlogo. Belar je bil v prvi vrsti odličen seizmolog, a tudi naravoslovec s širino. Belarjeva pionirska vloga v varstvu narave na Slovenskem je bila povezana s prošnjo gorenjskega glavarstva, da pomaga pripraviti odgovor na okrožnico o naravnih spomenikih, ki jo je leta 1903 poslala dunajska vlada (Skoberne, 2011: 100). Belar se je tega z navdušenjem lotil, še več, zanimalo ga je tudi, kako so na to odgovorila druga glavarstva. Z odgovori ni bil zadovoljen, utrnila pa se mu je zamisel, da bi bilo koristno pripraviti pregled naravnih spomenikov Kranjske. Ni ostal pri zamisli, ampak se je dela lotil takoj. K sodelovanju je povabil Antona Ritterja von Schöppla (1858–1936) in Alfonza Paulina, uporabil pa je tudi spisek jam, ki ga je objavil Gratzy (1897). V tem delu je Belar ne le pripravil obsežen spisek naravnih spomenikov, ampak je tudi predlagal nekatera območja za zavarovanje (npr. Dolino Triglavskih jezer). Katalog je Belar poslal deželni vladi, kje se je zataknil ta dokument, še ni znano.

Največ podrobnosti je mogoče najti v dveh virih. Prvi je Belarjeva (1907) objava povzetka kataloga v Wiener Zeitung, kjer jasno navaja Paulinovo vlogo: »Najprej si je (avtor) zagotovil

sodelovanje gospodov dr. Antona pl. Schöppla, ki je že prej sestavil katalog kranjskih naravnih znamenitosti, in znanega domačega botanika prof. Alfonza Paulina.« Zelo podobno je zapisal Belar (1908) v rokopisnem poročilu o svoji zunaj službeni dejavnosti, kako je leta 1903 prostovoljno ponudil kranjski deželni vladi izdelavo kataloga naravnih spomenikov in pri tem pritegnil k sodelovanju prof. A. Paulina in A. Schöppla. Nastal je obsežen rokopis, ki ga je Belar poslal deželni vladi, ta pa ga je posredovala vložišču c. kr. Ministrstva za kulturo in poduk. Belar je v poročilu zapisal, da se je to zgodilo 'pred dvema letoma'. Ker se je poročilo nanašalo na leto 1908, lahko sklepamo, da je bilo to leta 1906.

S tem je pojasnjeno, zakaj je Paulin napisal rokopis o botaničnih naravnih spomenikih Kranjske. Čeprav delo ni bilo objavljeno in se je Belarjev katalog nekje založil, je Paulinovo delo na tem področju še dolgo odmevalo.

Belar se po neuspelem poskusu zavarovanja Doline Triglavskih jezer z zakupno pogodbo leta 1908 z varstvom narave ni več ukvarjal, kmalu se je začela tudi prva svetovna vojna.

Po razpadu monarhije Avstro-Ogrske se je začela trnova pot utrjevanja Slovencev v novi državi. Na strani poražencev v svoji majhnosti ni imela lahke vloge. A odločenost za samostojnost v okviru slovanskih narodov je bila velika. Že spomladi leta 1919 se je na prvem občnem zboru Muzejsko društvo za Kranjsko

preimenovalo v Muzejsko društvo za Slovenijo ter sprejelo odločitev, da pripravi poziv vladi glede ohranjanja narave. Za to nalogo so na občnem zboru imenovali skupino, Odsek za varstvo prirode. V njej je bil tudi Alfonz Paulin, ni pa bilo Belarja, ker je bil zaradi pripadnosti nemškemu kulturnemu krogu pred vojno, akademsko in javno popolnoma onemogočen.

Odsek za varstvo prirode je pripravil programski dokument, ki ga poznamo pod imenom Spomenica (1920), in ga januarja 1920 posredoval Vladi. V tem dokumentu so zapisane štiri utemeljene zahteve, podprte s konkretnimi predlogi:

- ustanovitev zavarovanih območij,
- zavarovanje rastlinskih in živalskih vrst,
- zavarovanje jam ter jamske flore in favne,
- popularizacija varstva narave.

V prvi točki Spomenice so korektno citirali Belarjevo pobudo za zavarovanje Doline Triglavskih jezer, v predlogih za rastlinske vrste pa ni težko prepoznati vsebin iz Paulinovega rokopisa. Kot soavtor Spomenice je imel glavno besedo pri botaničnem delu. V rokopisu je omenil 51 redkih vrst (med njimi 2 mahova), posebej izpostavil 9 ogroženih vrst (*Daphne blagayana*, *Primula carniolica*, *Leontopodium alpinum*, *Gentiana lutea* (vključno tudi *G. symphyandra*), *Gentiana froelichii*, *Viola cornuta*, *Eryngium alpinum*, *Geranium argenteum*) in 3 botanično pomembna območja (Ljubljansko barje, Kredarica in Krakovski gozd). V

Spomenici je navedenih 13 rastlinskih vrst, kar 6 jih je s Paulinovega seznama. Tudi predlog za varovanje dela Ljubljanskega barja je bil vključen v Spomenico. Tako je Paulin, ki je bil, mimogrede, član Muzejskega društva že vse od 1888, prispeval k uresničevanju nekaterih Belarjevih zamisli in je bil kot član Odseka za varstvo prirode tudi ves čas živo prisoten. Posebej si je prizadeval za ohranjanje Grmeza na Ljubljanskem barju.



Slika / Figure 15 Blagayev volčin je bila ena od naravovarstveno pomembnih vrst že vse od njenega odkritja leta 1837. Bil je zelo cenjen kot botanična posebnost, še

posebej znan zaradi obiska saškega kralja Friderika Avgusta leta 1838. Zaradi trganja in prodajanja na trgu je postal ogrožen in na Kranjskem od leta 1898 tudi zavarovan. Utemeljitev za njegovo zavarovanje spremljamo od Paulinovega rokopisa, prek Spomenice, kar je vodilo v neprekinjeno zavarovanje do današnjih dni. / Blagay's wolfberry has been one of the species important for nature conservation ever since its discovery in 1837. It was highly valued as a botanical specialty, especially famous due to the visit of the Saxon King Frederick Augustus in 1838. Due to plucking and selling on the market, it became endangered and in Carniola from in 1898 also insured. We trace the justifications for its insurance from Pauline's manuscript, through the Memorial, which led to continuous insurance to the present day.

Na podlagi predlogov za zavarovanje rastlinskih in živalskih vrst v Spomenici je bil leta 1922 razglašen Zakon o redkih ali za Slovenijo tipičnih in za znanstvo pomembnih živali in rastlin in o varstvu špilj v področju pokrajinske uprave za Slovenijo (28. februar 1922). S tem predpisom je bilo zavarovanih 21 rastlinskih vrst.

Morda za konec omenim še eno drobno zanimivost. Belarjev izvleček o katalogu kranjskih naravnih spomenikov, objavljen v Wiener Zeitung, je vzbudil pozornost Huga von Conwentza, prvega poklicnega strokovnjaka na področju varstva narave v Evropi. Dvakrat je pisal Paulinu (25. 11. 1914 in 9. 4. 1915, dopisnici sta v Paulinovi rokopisni zapuščini, ZRC SAZU), ker je želel dobiti dodatne informacije o Belarjevem delu. Belar v tem času javno ni bil 'viden', zato je iskal stik pri Paulinu, saj je sodeloval pri katalogu ter je bil priznan botanik in profesor. Zaradi vojnega časa se ta zgodba ni nadaljevala.

Alfonz Paulin – the link between Belar and the Memorandum

Dr. Peter Skoberne

Prof Ernest Mayer (1988) published an article in *Biološki vestnik (Biological Journal)* about two versions of Paulin's manuscript *O botaničnih spomenikih Kranjske (On the Botanical Monuments of Carniola)*. He examined the botanical aspect of Paulin's work very precisely and in depth. But the question remained: why did Paulin take on this subject in the first place, why was the work not printed? Mayer mentioned that the following note is written above the heading: "Über Ersuchen der K. K. Landesregierung in Krain dem K. K. Ministerium für Kultus und Unterricht als Manuskript vorlegt, wo selbes noch jetzt erliegt" ("At the request of the Imperial and Royal Regional Government in Carniola, submitted as a manuscript to the Imperial and Royal Ministry of Culture and Education, where it is still under consideration"), but he did expand this further.

Tone Wraber (2008: 208) interpreted this note as Paulin's response to the initiative of the Regional Government for

Carniola, the initiator of which is said to be seismologist Albin Belar. Incidentally, Mayer (1988: 34) mentioned that the second manuscript was found in Belar's discarded estate in a blue, damaged envelope with the inscription *Naturschutz*, and specifically mentions Belar's nature conservation efforts.

Apparently, Paulin's manuscript was intended for a nature conservation perspective on Carniolan flora. In the introduction, Paulin based his writing on Klein's and Conwentz's definition of the term 'natural monument'. Later on, he summarised Conwentz's more modern definition (Conwentz 1904). There was a copy of this publication in the library of the Institute of Biology, with the stamp of the Botanic Gardens in Ljubljana on the title page. Apparently, Paulin obtained this publication soon after it was published and used it in the preparation of the manuscript.

A few crucial pieces were still missing to connect the activities of Belar and Paulin. First, it was necessary to shed light on Belar's role. Belar was first and foremost an excellent seismologist, but also a naturalist with breadth. Belar's pioneering role in the protection of nature in the territory of Slovenia was linked to the request of the Upper Carniola government to help prepare a response to the circular on natural monuments sent by the Viennese government in 1903 (Skoberne 2011: 100). Belar took on this task with enthusiasm, and what's more, he was also interested in how the other regional governments responded to it. He was not satisfied with their responses, but he came up with the

idea that it would be useful to prepare an overview of the natural monuments of Carniola. He did not leave it at that, but immediately got to work. He invited Anton Ritter von Schöpple (1858–1936) and Alfonz Paulin to help him with this task, and he also used the list of caves published by Gratzy (1897). Belar not only prepared an extensive list of natural monuments, but also proposed some areas for protection (e.g. the Triglav Lakes Valley). Belar sent the catalogue to the regional government, but where this document got stuck is not yet known.

Most details can be found in two sources. The first is Belar's (1907) publication of a summary of the catalogue in *Wiener Zeitung*, where he clearly explains Paulin's role: "First of all, (the author) secured the cooperation of Dr Anton pl. Schöpple, who had previously compiled a catalogue of Carniola's natural attractions, and the well-known local botanist Prof Alfonz Paulin." Belar (1908) wrote very similarly in a handwritten report about his activities outside of work, how in 1903 he voluntarily offered to the regional government of Carniola to create a catalogue of natural monuments, and in doing so enlisted the collaboration of Prof A. Paulin and A. Schöpple. The result was an extensive manuscript, which Belar sent to the regional government, which forwarded it to the receiving office of the Imperial and Royal Ministry of Culture and Education. Belar wrote in his report that this happened 'two years ago'. Since the report referred to 1908, we can conclude that this was in 1906.

diese Aufgabe auszuführen. Zunächst jedoch sicherte er sich die Mitwirkung der Herren Dr. Anton Ritter von Schoeppel, welcher einen Katalog Krainer Naturmerkwürdigkeiten bereits früher angelegt hatte, und des bekannten heimatländischen Botanikers Professors Alfons Paulin, die in bereitwilliger Weise ihre Mitwirkung zugesagt hatten. Wie nun die gemeinsame Arbeit ausgeführt wurde und welche Vorschläge in Bezug auf die Erhaltung der Naturdenkmäler von Krain ausgegangen sind, möge im folgenden auszugsweise, so weit es von allgemeinem Interesse ist, angeführt werden.

Slika / Figure 16 Izsek iz Belarjevega članka v Wiener Zeitung, kjer je omenjena povezava s Paulinovim rokopisom (prevod tega dela je v besedilu). / Excerpt from Belar's article in the Wiener Zeitung, where the connection with the Pauline manuscript is mentioned (a translation of this part is in the text).

This explains why Paulin wrote a manuscript about the botanical natural monuments of Carniola. Although the work was not published and Belar's catalogue was lost somewhere, Paulin's work in this field resonated for a long time.

After the failed attempt to protect the Triglav Lakes Valley with a lease agreement in 1908, Belar was no longer active in nature protection, and the First World War began soon after.

After the collapse of the Austro-Hungarian monarchy, the thorny path of strengthening the Slovenes in the new country began. Its path was not easy, as it was on the losing side and was quite small. But the determination for independence within the framework of Slavic nations was great. In the spring of 1919, at the first general assembly, the Carniolan Museum Society was renamed the Slovenian Museum Society, and a decision was made to draft an appeal to the government regarding nature conservation. At the general meeting, a group was appointed for this task – the Department of Nature Protection. The group included Alfonz Paulin, but not Belar, because he was completely ostracised academically and publicly due to being part of the German cultural circle before the war.

The Department of Nature Protection prepared a programme document known as the Memorandum (1920) and submitted it to the government in January 1920. This document contains four well-founded requests supported by concrete proposals:

- establishment of protected areas,
- protection of plant and animal species,
- protection of caves and cave flora and fauna,
- popularisation of nature protection.

In the first point of the Memorandum, Belar's initiative for the protection of the Triglav Lakes Valley was correctly cited, and it is not difficult to recognise the contents from Paulin's manuscript

in the proposals for plant species. As a co-author of the Memorandum, he had the main say in the botanical section. In the manuscript, he mentioned 51 rare species (among them 2 mosses), particularly highlighted nine endangered species (*Daphne blagayana*, *Primula carniolica*, *Leontopodium alpinum*, *Gentiana lutea* (including *G. symphyandra*), *Gentiana froelichii*, *Viola cornuta*, *Eryngium alpinum*, *Geranium argenteum*) and three botanically important areas (Ljubljana Marshes, Kredarica, and Krakovo Forest). There are 13 plant species listed in the Memorandum, six of which are from Paulin's list. The proposal to protect part of the Ljubljana Marshes was also included in the Memorandum. Thus, Paulin, who had in fact been a member of the Museum Society since 1888, contributed to the realisation of some of Belar's ideas and, as a member of the Department for Nature Protection, was always actively present. He made a special effort to preserve Grmez on the Ljubljana Marshes.

Based on proposals for the protection of plant and animal species written in the Memorandum, the Act on rare or typical for Slovenia and scientifically important animals and plants, and on the protection of caves in the area of the provincial administration for Slovenia (28 February 1922). This law protected 21 plant species.

Perhaps I should mention one more small point of interest at the end. Belar's abstract on the catalogue of natural monuments in Carniola, published in *Wiener Zeitung*, attracted the attention of

Hugo von Conwentz, the first professional expert in the field of nature conservation in Europe. He wrote to Paulin twice (25 November 1914 and 9 April 1915, the letters are in Paulin's handwritten legacy, Research Centre of the Slovenian Academy of Sciences and Arts) because he wanted to get additional information about Belar's work. At that time, Belar was not publicly 'visible', so he sought contact with Paulin, as he collaborated on the catalogue and was a renowned botanist and professor. However, because of the war, this story did not continue.

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Alfonz Paulin – komunikator znanosti

Andraž Ivšek, Slovenska znanstvena fundacija

To, da predstavim profesorja Alfonza Paulina kot komunikatorja znanosti, se mi je na začetku zdela skoraj nemogoča naloga. Kako v luči modernega komuniciranja znanosti predstaviti znanstvenika botanika iz začetka dvajsetega stoletja? Problemi, način raziskovanja, način razmišljanja in tudi način življenja so bili zagotovo drugačni od teh, ki jih poznamo danes. Enako velja za orodja in metode, od katerih nekatere vztrajajo do današnjih dni, običajno v nekoliko optimizirani obliki. To seveda velja tudi za botaniko, ki je ena izmed najstarejših vej znanosti, saj izhaja iz prazgodovinskega zeliščarstva, ko so ljudje hoteli prepoznati uporabne, zdravilne in strupene rastline.

Komuniciranje znanosti se je od začetka dvajsetega stoletja močno spremenilo, in vendar se tu in tam zgodi, da smo priča dogodkom, zelo podobnim tistim iz preteklosti. Na začetku septembra (2023) je francoska modna hiša Dior v Brooklynskem botaničnem vrtu predstavila novo dišavo L'Or de J'adore. Povabljenih je bilo več kot 400 gostov, med njimi Charlize Theron, Rachel Brosnahan, Natalia Dyer, KiKi Layne, Awkwafina in drugi. Vplivni in slavni so v Diorovih kreacijah in

v naravnem ambientu predstavili tudi Diorovo sodelovanje v Unescovem programu Človek in biosfera.

Živimo v dobi, ko imajo mediji v družbi osrednjo vlogo, ti so sedaj večinoma digitalni, uveljavila so se tudi družbena omrežja. Na družbenih omrežjih, spletnih straneh in mobilnih aplikacijah, kot so Facebook, YouTube in TikTok, je dnevno več milijard ogledov video vsebin. Vsak si lahko poišče vire informacij, ki so dostopni na spletu in jih vsakodnevno ponujajo družbena omrežja. Dovolj radoveden državljan lahko na tak način vizualno in slušno pride do informacij in se sam uči ter vsebine deli z drugimi. Za razliko od radia, lahko sedaj poslušamo informacije v obliki podkastov, pri katerih opazimo, da je ne glede na temo, ki je lahko tudi akademska ali zelo strokovna, splošna javnost večinska publika. Znanstveniki lahko danes pridobijo na družbenih omrežjih svoje sledilce in kot želijo sporočajo rezultate svojega dela.

Da bolje razumemo, kako so znanstveniki v Paulinovem času komunicirali znanost, se moramo obrniti na gospo zgodovino, da nam pove, kaj se je v tistem času dogajalo predvsem v evropski znanosti. Po letu 1500, ko je moč katoliške cerkve nekoliko oslabela, predvsem na zahodu, opazimo gospodarsko stabilnost, svobodo veroizpovedi in željo po raziskovanju. Ko se je povečalo število raziskav, se seveda je povečala tudi potreba po komuniciranju znanosti.

Če se ozremo na nekoliko novejšo zgodovino, predvsem na tisti čas, ki nas bolj zanima, lahko opazimo, da je po dolgem obdobju zatišja velik napredek sredi 19. stoletja pomenila ustanovitev Kraljevega društva (angl. Royal Society) iz Londona. To je najstarejše strokovno združenje v Evropi. Eden izmed namenov ustanovitve je bil tudi, 'da se poveča pozornost javnosti znanstvenim predmetom'. Po nastanku Kraljevega društva 1660 se je vzpostavila sodobna znanstvena metoda in uveljavilo moderno raziskovanje. Znanstveni in tehnološki napredek je poleg duha tistega časa zagotovo povzročila tudi Velika razstava industrijskih izdelkov vseh narodov leta 1851 v Londonu (angl. Great Exhibition), ki je bila prva svetovna razstava v sodobnem pomenu besede. Takrat je darvinizem našel pot v širšo javnost, seveda na začetku z močnim odporom.

Znanost se je takrat komuniciralo predvsem v obliki razstav in predavanj. Nastajale so tudi prve znanstvene knjige in poljudnoznanstvene revije. Vendar pa se glede na socialnoekonomsko, rasno in spolno neenakost znanost ni razširila daleč med ljudi. Velika nepismenost je zahtevala svoj davek, tako da je znanost samevala v družbi evropskih, premožnih in elitno izobraženih ljudi, večinoma moških.

V zgodnjem 20. stoletju je bila znanstvena komunikacija odvisna predvsem od tiska. Znanost se širi v obliki znanstvenih revij, časopisov in knjig. Znanstveni jezik v tiskanih publikacijah je bil

formalen, podroben, s kompleksno terminologijo, članki so bili dolgi, prilagojen je bil predvsem ozki znanstveni publiki. Edini vir informacij, ki so bile takrat v tiskani obliki, so bile knjižnice, torej je bil dostop do globalnega občinstva, če primerjamo domet današnjih elektronskih medijev, ekstremno majhen.

Druga večja prelomnica, ko se je spet zelo povečalo zanimanje ljudi za znanost, je bila vesoljska tekma. Glavno vlogo za zelo veliko zanimanje za odkritja sta pravzaprav imeli hladna vojna in povečanje priljubljenosti televizije.

Šele v osemdesetih letih prejšnjega stoletja je začelo komuniciranje znanosti dobivati tako obliko, kot jo poznamo danes. Prevladalo je razumevanje, da bi s tem, ko bi zaposlili več inženirjev in znanstvenikov, povečali gospodarsko konkurenčnost držav. To pa je vodilo v sedanjo obliko komuniciranja znanosti, ki z dvosmernim dialogom postavlja strokovnjake in javnost v enak položaj in omogoča vzajemno učenje.

Kakšno pa je bilo v začetku dvajsetega stoletja stanje v botaniki? Komuniciranje znanosti je začelo dobivati svojo moderno obliko, seveda še daleč od tega, kot ga poznamo danes. Znanstvena odkritja so postala številna in začela so hitro spreminjati naš pogled na svet. To je imelo seveda vpliv tudi na botaniko tistega časa, zelo popularno vejo znanosti.

V botaniki tistega časa se je znanost komunicirala predvsem v tiskani obliki, te publikacije niso le obveščale znanstvenike o novostih žlahtnjenja rastlin in kmetijstva, ampak so navdihnile tudi amaterske botanike in ljubitelje vrtov po vsem svetu. Botanični vrtovi in muzeji so imeli vlogo živih zbirk rastlin. Javnost je tako lahko neposredno izvedela novosti o različnih rastlinskih vrstah. V njih so bile večkrat razstave in predavanja. Največji botanični vrtovi na svetu, kot je Newyorški botanični vrt (angl. The New York Botanical Garden) v Bronx Parku v New Yorku, so postali centri znanstvenih raziskav in javnega izobraževanja o botaniki. Pomembna pa so bila tudi znanstvena društva, ki so organizirala letna srečanja in konference.

Prve radijske oddaje na temo botanike so bile o pouku botanike in raziskovanju narave in vendar opažamo velike pomanjkljivosti komunikacije. Dostopa do knjig in revij niso imeli vsi, kot tudi ne do botaničnih vrtov in muzejev. Komunikacija je bila večinoma enosmerna, po prvih radijskih in televizijskih oddajah ni bilo veliko možnosti za povratne informacije.

In prav nič drugače ni znanstveno in poljudnoznanstveno deloval naš profesor Alfonz Paulin. Pregledal je vse herbarijske zbirke domačih floristov in jih primerjal z rastlinami, ki jih je nabral sam, posušil in določil. Iz nabranih, posušenih, določenih in sistematično urejenih vrst rastlin je nastala slovita herbarijska

zbirka, ki je znana pod imenom *Flora exsiccata Carniolica* ali kratko Paulinov herbarij. Neke vrste herbarij živih rastlin pa je postal ljubljanski Botanični vrt, ki ga danes poznamo kot Botanični vrt Univerze v Ljubljani. Vsako vrsto, ki jo je našel, je vsadil ali vsejal, če je bilo le mogoče, tudi na vrtu, ki ga je urejal in vodil. Že leta 1911 je bilo vsajenih več kot 6000 rastlin, tj. dvajsetkrat toliko kot tedaj, ko je vrt prevzel. To delo je vztrajno nadaljeval naslednjih 60 let. Njegovi sodelavci so potovali po vsej domovini, nabirali in prinašali so mu žive in posušene rastline iz vseh delov Slovenije. O napredku na vrtu je poročal v Izvestjih II. državne gimnazije v Ljubljani. Izdajal je sezname pridelanih semen in jih pošiljal drugim botaničnim vrtovom, v zameno pa je dobil semena. Tako se je živi vrtni inventar nenehno izpopolnjeval. Vrt je bil povezan z več kot 200 botaničnimi vrtovi po vsem svetu. Včasih je v enem letu poslal več deset tisoč zavočkov semen. Preuredil je načrt vrta in zasadil rastline po sistematičnih skupinah, preostali prostor pa je porabil za skupine rastlin npr. bukov gozdiček, rastje kraškega gozda itd. Zgradili so obsežen alpinetum, kjer so bile umeščene rastlinske vrste planinskega grmičevja, trat in skal.

Alfonz Paulin je vodil vrt na posebno željo deželne vlade do leta 1920, tudi potem ko je bil kot srednješolski profesor že upokojen. To, da je bil v prvih desetletjih prejšnjega stoletja vrt sistematično urejen in z najrazličnejšimi vrstami domačih in tujih rastlin bogato založen, je bila predvsem njegova zasluga, zato ga je

lahko kasneje za svoje znanstvene namene prevzela univerza. Na vrtu je bila zastopana domala vsa flora Slovenije z vsemi svojimi najvažnejšimi srednjeevropskimi, alpskimi, panonskimi in submediteranskimi elementi.

Profesor Paulin je bil na križišču tedanje evropske znanosti zelo napreden komunikator znanosti tistega časa. Vestno in bogato je uredil Botanični vrt Univerze v Ljubljani, tudi za ljubitelje vrtov. V tistem času je že poljudnoznanstveno pisal v Izvestjih II. državne gimnazije v Ljubljani, uspešno je komuniciral z več kot dvestotimi botaničnimi vrtovi po vsem svetu in izmenjeval semena z mnogimi po Evropi, tako strokovnjaki kot tudi ljubitelji vrtov.

Alfonz Paulin – science communicator

Andraž Ivšek, Slovenska znanstvena fundacija

Presenting professor Alfonz Paulin as a science communicator initially seemed to be an almost impossible task. How to present a botanical scientist from the beginning of the twentieth century in the light of modern science communication? The problems, the way of conducting research, the way of thinking, even the way of life, were certainly different from those we know today. The same is true for tools and methods. Some of the latter persist to the present day, usually in a somewhat optimised form. Of course, this also applies to botany, which is one of the oldest branches of science, as it originates from prehistoric herbalism, when people endeavoured to identify edible, medicinal and poisonous plants.

Science communication has changed a lot since the beginning of the twentieth century, and yet we occasionally witness events very similar to those of the past. At the beginning of September 2023, the French fashion house Dior presented a new fragrance, L'Or de J'adore, at the Brooklyn Botanic Garden. More than 400 guests were invited, including Charlize Theron, Rachel Brosnahan, Natalia Dyer, KiKi Layne, Awkwafina, and others. The influencers and celebrities also presented Dior's

collaboration on the UNESCO Man and the Biosphere programme in Dior creations and in a natural environment.

We live in an age when the media play a central role in society, are now mostly digital, while social networks have also become prominent. On social networks, websites and mobile applications such as Facebook, YouTube and TikTok, there are several billion views of videos every day. Anyone can find sources of information that are available online and provided daily by social networks. A sufficiently curious citizen can access video and audio information in this way, learn by themselves and share the content with others. Unlike radio, we can now listen to information in the form of podcasts – with these, regardless of the topic, which can also be academic or very professional, the general public is the predominant audience. Scientists today can gain followers on social networks and communicate the results of their work as they wish.

To better understand how science was communicated by scientists in Paulin's time, we must turn to history to learn about what was happening at that time, particularly in European science. After 1500, when the power of the Catholic Church somewhat diminished, particularly in the West, we see economic stability, freedom of religion, and the desire for research. When the number of researches increases, the need to communicate science naturally increases as well.

If we turn to more recent history, particularly at the time that we are interested in, we can see that after a long period of calm, the establishment of the Royal Society of London in the middle of the 17th century represented a great stride forward. This is the oldest scientific society in Europe. One of the purposes for its establishment was also 'to increase public attention to scientific subjects'. After the establishment of the Royal Society in 1660, the modern scientific method and modern research were established. Scientific and technological progress, in addition to the spirit of the time, was certainly caused by the Great Exhibition of the Works of Industry of All Nations in 1851 in London, which was the first world's fair in the modern sense of the word. At that time, Darwinism found its way to the general public, naturally with strong resistance at first.

At that time, science was mainly communicated in the form of exhibitions and lectures. The first scientific books and popular science journals were also being published. However, considering the socio-economic, racial, and gender inequality, science did not spread far among the people. High illiteracy took its toll, and science was restricted to European, wealthy and elite educated people, mostly men.

In the early 20th century, science communication depended primarily on the press. Science was disseminated in the form of scientific journals, newspapers and books. The scientific

language in printed publications was formal, detailed, using complex terminology, the articles were long, and it was primarily adapted to a narrow scientific audience. The only source of information that was in print at the time were libraries, so access to a global audience was extremely low compared to the reach of today's electronic media.

Another major turning point, when people's interest in science increased greatly again, was the space race. The Cold War and the rise in popularity of television actually played a major role in the very high interest in new discoveries.

It was not until the 1980s that science communication began to take the form we know today. The prevailing understanding was that the economic competitiveness of countries could be increased by employing more engineers and scientists. This, in turn, led to the current form of science communication, which puts experts and the public on an equal footing with a two-way dialogue, enabling mutual learning.

But what was the situation in botany at the beginning of the twentieth century? Science communication began to take on its modern form, of course still far from what we know today. Scientific discoveries became numerous and began to rapidly change our view of the world. Of course, this also had an impact on the botany of the time, a very popular branch of science.

In the botany of the time, science communication was primarily in print. These publications not only informed scientists about new developments in plant breeding and agriculture, but also inspired amateur botanists and garden enthusiasts around the world. Botanical gardens and museums had the role of living plant collections. The public was thus able to directly learn about new developments on different plant species. Exhibitions and lectures were held in them often. The largest botanical gardens in the world, e.g. the New York Botanical Garden in Bronx Park, New York, had become centres of scientific research and public education about botany. Scientific societies that organised annual meetings and conferences were also important.

The first radio broadcasts on the topic of botany were about teaching botany and exploring nature, but there were still major gaps in communication. Not everyone had access to books and journals, nor to botanical gardens and museums. Communication was mostly one-way, and after the first radio and television broadcasts there was not much opportunity for feedback.

And professor Alfonz Paulin's work in science and popular science was no different. He examined all the herbarium collections of local florists and compared them with the plants he had collected, dried and identified himself. From the gathered, dried, identified and systematically arranged plant species, the

famous herbarium collection was created, known as *Flora exsiccata Carniolica*, or Paulin's herbarium for short. The Ljubljana Botanic Gardens, known today as the University Botanic Gardens Ljubljana, became a kind of herbarium of living plants. Every species he found, he planted or transplanted, if possible also in the garden, which he arranged and managed. In 1911, more than 6,000 plants were planted in the garden, i.e. twenty times as many as when he took over the garden. He steadily continued this work for the next 60 years. His colleagues travelled all over the homeland, collected and brought him live and dried plants from all parts of Slovenia. He reported on the progress of the garden in the newsletter *Izvestje* of the 2nd State Gymnasium in Ljubljana. He published lists of seeds grown and sent them to other botanical gardens, receiving seeds in return. In this way, the living garden inventory was constantly expanded. The garden was connected with more than 200 botanical gardens around the world. Sometimes he sent tens of thousands of packets of seeds in a year. He rearranged the plan of the garden and planted plants in systematic groups, and used the rest of the space for groups of plants, e.g. a beech grove, Karst forest growth, etc. They also built an extensive alpine garden with plant species that grow among mountain shrubs, on meadows and rocky terrain.

Alfonz Paulin managed the garden at the special request of the provincial government until 1920, even after he had already retired as a secondary school professor. Paulin deserves the credit

for the systematic arrangement and rich inventory of the most diverse types of native and foreign plants in the first decades of the last century, which is why the university could later take over the garden for its scientific purposes. Almost the entire flora of Slovenia was represented in the garden, with all its most important Central European, Alpine, Pannonian and sub-Mediterranean elements.

Professor Paulin was a very advanced science communicator at the crossroads of European science at the time. He conscientiously and richly arranged the University Botanic Gardens Ljubljana, also for garden enthusiasts. At that time, he was already writing about popular science in the newsletter *Izvestje* of the 2nd State Gymnasium in Ljubljana, he successfully communicated with more than two hundred botanical gardens around the world, and exchanged seeds with many in Europe, both experts and garden enthusiasts.

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Učilnica v naravi: šolski vrtovi v preteklosti

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Šolski vrt včeraj – začetki

Šolski vrt v ožjem smislu je zemljišče, namenjeno vzgoji vrtnin, sadja, poljščin, ter z okrasnimi gredicami in drugimi podobnimi nasadi. V širšem smislu pomeni zunanji prostor šole, ki obsega poleg naštetega še vse drugo šolsko zemljišče, tudi športne, parkovne, travnate in gozdne površine. V šolski vrt štejemo rastline, ki jih gojimo na prostem na gredah, v posodah ali drugih površinah, ter rastline, ki jih gojimo v razredu, drugih delih šolske stavbe in v rastlinjaki.

Kot učni pripomoček je šolski vrt nastal v 19. stoletju, čeprav je sama ideja še starejša. Njegov pomen so omenjali že klasiki pedagogike. O vrtovih, ki naj bi bili ob šolah in bi se v njih otroci sprostili ob pogledu na drevje, cvetlice in zelenjavo ter se naučili ceniti naravo, je že v 17. stoletju pisal Jan Amos Komensky (1592–1670), utemeljitelj moderne pedagogike. V Evropi so se šolski vrtovi začeli pojavljati od srede 19. stoletja. Poznali so jih

tako v Švici, Belgiji, Franciji, Angliji, na Švedskem, v Nemčiji in Avstriji kot tudi v Ameriki (Akerblom 2005, Corbbet 1905, Fischer in Otto 1939, Hoff in Hennig 1995, Pogačnik 2013).

Tudi Slovenci nismo zaostajali, saj imajo slovenske šole bogato tradicijo šolskih vrtov. Prve podatke o njih opazimo že sredi 19. stoletja. Do leta 1869 niso bili obvezni. Iz posameznih člankov lahko razberemo, da so nastajali predvsem zaradi zavzetosti posameznih učiteljev. Ljudje so iz šolskih drevesnic dobivali drevesne sadike. O kakšnem drugem pomenu šolskih vrtov, razen gospodarskem, takrat še ne moremo govoriti.

Eden izmed prvih zapisov o šolskih vrtovih na Slovenskem sega v leto 1842, ko je Anton Martin Slomšek (1800–1862), pobudnik začetnih in ponavljalnih nedeljskih šol, napisal knjigo »Blaže in Nežica v nedeljski šoli«. Poleg različnih poglavij iz človekovega vsakdanjega življenja je eno namenil tudi sadjereji. Nasvete je pisal v obliki pridige in poglavje sklenil z besedami: »Vsak oče naj svojimu otroku, vsak kumej svojimu zeticu drevce vsadi, naj bo z otrokom rastlo, ino sadu prineslo. Nas že dolgo ne bo, drevo bo še rodilo ino otroka nas spomnilo. Vsako rodovitno drevo je gotov dnar, ki iz zemlje cveti« (Slomšek 1848). Slomškova drevesna šola za učence nedeljskih šol je bila poskus šolskega vrta, ki se je uveljavil kasneje.

Leta 1851 je državno namestništvo z okrožnico pozvalo učitelje k poučevanju sadjarstva. Poučevali so ga na podeželskih ljudskih

šolah, od katerih je imela večina lastne drevesnice. »Vsaka začetna ali ljudska šola na kmetih naj bi precej skrbela, da bi ji srenja (soseska) odločila kako mesto za sadni vert, kjer bi učitelj svojo šolsko mladino podučeval v poglavitnih opravilih sadjorejnih« (Novice 1857).

V različnih slovenskih strokovnih in pedagoških revijah (Šolski prijatelj, Učiteljski tovariš, Slovenski učitelj, Šola, Popotnik, Vrtnar) so po letu 1850 o svojih izkušnjah pri sadjarstvu, zelenjadarstvu, svilarstvu in čebelarstvu začeli pisati posamezni učitelji, poročati šolski nadzorniki in o njih razpravljati na učiteljskih zborovanjih. Opozarjali so na knjige in revije, ki so obravnavale to področje.

V našem najstarejšem pedagoškem listu »Šolski prijatelj« so že leta 1854 opozorili na važnost sadjarstva, zlasti na deželi. Pozvali so učitelje, ki so sadjarstvo že poučevali, da zapišejo svoje izkušnje. Enega prvih zapisov o pomenu sadjereje je prispeval vzorni učitelj, pedagoški pisec, čebelar, sadjar, knjižničar in hranilničar Peter Musi (1799–1875) iz Šoštanja. Pri pouku je zagovarjal nazorni pouk ter trdil, da so slike sicer lepe, da pa je pomembneje pokazati učencem čim več v naravi, jih peljati ven in skupaj z njimi praktično preizkušati in spoznavati snov. Tako je konec štiridesetih let 19. stoletja zasadil sadovnjak pod farno cerkvijo, pri šoli pa imel čebelnjak in vinograd, v katerem je svoje učence in vse zainteresirane učil umetnosti cepljenja trt in sadnih dreves. Vedenje o umnem sadjarstvu, čebelarstvu in kmetovanju

na splošno je s pridom in velikim uspehom širil tudi med odraslimi in o tem poročal leta 1854 v »Šolskem prijatelju«. Med drugim je zapisal, da se s tem poukom ukvarja že deset let. Jeseni je učencem naročil, naj nabirajo peške jabolke in hruške, jih spravljajo, da jih bodo nato sadili. Učenci so si na domačem vrtu izbrali prostor za sajenje, medtem ko so tisti, pri katerih vrta doma niso imeli, prinesli peške učitelju. Spomladi so hodili po posameznih vrtovih in pregledovali klice. V nadaljevanjih je Musi objavljал članek z naslovom »Kratek poduk o sadjoreji posebno za šolsko mladino« (Šolski prijatelj 1854).

Šolski vrt v obdobju Avstro-Ogrske 1869–1918

Maja leta 1869 je bil v Avstro-Ogrski, vključno s slovenskimi deželami, sprejet državni ljudskošolski zakon, ki je uvedel splošno šolsko obveznost vseh otrok od 6. do 14. leta starosti, torej osemletno šolsko obveznost. Zmanjšal se je vpliv katoliške cerkve na šolo, šolska uprava je prišla v državne roke.

Z omenjenim zakonom so bili postavljeni tudi temelji šolskim vrtovom. Pomembna so bila naslednja določila:

- 27. paragraf zakona je določal, da se vsakemu učiteljsku odkaže primeren kos zemlje »za vajo v kmetijskih delih«;

zahtevalo se je, da so učitelji, ki so skrbeli za tak vrt, o delu na vrtu poučeni;

- 29. paragraf je obvezoval moška učiteljišča, da izvajajo »nauk o kmetovanji s posebnim ozirom na talne razmere v domači deželi«;

- v 63. paragrafu 3. osnovnošolskega zakona pa preberemo: »Pri vsaki ljudski šoli je treba napraviti tudi telovadnico, v kmečkih občinah, če je mogoče, vrt za učitelja in zemljišče za kmetijske poskušnje«, (Heinz 1895) to zemljišče je bilo mišljeno kot šolski vrt.

- V paragrafu 56. ukaza c. kr. ministrstva za uk in bogočastje iz leta 1870, št. 7648, je bilo zapisano, da naj bi se vrt, če je le mogoče, uredil pri vsaki šoli na deželi, in sicer zraven šolskega poslopja ali vsaj blizu šole in naj bi obsegal najmanj tri are in ne več kot šestnajst arov (SŠM arhiv).

Državni osnovnošolski zakon iz leta 1869 je določal za izobraževanje učiteljstva samostojna, po spolih ločena štiriletna učiteljišča. V predmetniku na moških učiteljiščih se je najprej pojavil predmet sadjereja, nato pa kmetijstvo s posebnim ozirom na poljedelstvo ožje domovine (medtem ko so na ženskih učiteljiščih poučevali namesto kmetijstva predmet gospodinjstvo). Na ljubljanskem učiteljišču je kmetijstvo po dve uri na teden v drugem letniku poučeval učitelj Ivan Tomšič (1838–1894), ki je na Dunaju opravil šestmesečni gospodarsko-

kmetijski tečaj za učitelje. Napisal je več strokovnih del o kmetijstvu in sadjarstvu, med drugim je priredil slovensko izdajo Podobe za nazorni nauk I., II. 150 barvanih podob za prvi pouk najvažnejših strupenih in pitomih rastlin.

Leta 1880 je ministrstvo za uk in bogočastje zaradi velikega pomena kmetijskega pouka na učiteljiščih določilo, da morajo teoretični pouk v kmetijstvu spremljati praktične vaje na šolskem vrtu. V ta namen je ljubljanskemu učiteljišču za vrt odobrilo 2300 goldinarjev. Na zavodu je bil stalno nastavljen vrtnar, ki je pod vodstvom profesorja prirodopisa skrbel, da so dijaki redno prihajali na šolski vrt. Na vrtu so se vadili v vseh vrtnarskih delih, ki so bila potrebna za uspešno rast poljskih in vrtnarskih rastlin, sadnega drevja in trte. Vsako leto – jeseni in spomladi – so imeli dijaki obvezno prakso na šolskem vrtu po določenem načrtu in z jasnim namenom – zbuditi veselje do dela na vrtu in zanimanje za kmetijska vprašanja. Celoten vrt je obsegal približno 5000 m². Razdeljen je bil na sedem obdelovalnih prostorov z gredicami (del je bil namenjen za kompostne jame). Ob robovih so gojili cvetje. Sredi vrta je bila velika lopa za shrambo orodja in pridelkov. Za lažje zalivanje in škropljenje sta skrbela dva hidranta in (kasneje) betoniran bazen. K vrtnemu inventarju je spadal še čebelnjak, ki ga v tridesetih letih 20. stoletja niso več uporabljali (Gimnazija Ledina 130 let 1998). Da so bili kmetijski pouk in šolski vrtovi pri učiteljiščih na visoki ravni, dokazuje tudi podatek, da je dobilo mariborsko učiteljišče na deželni kmetijski

razstavi leta 1883 nekaj najvišjih medalj za svoje razstavne predmete.

V učnih načrtih in predmetnikih za ljudske šole iz leta 1869 najdemo nov učni predmet prirodopis, ki so ga poučevali v 5. razredu po dve uri na teden. Učni smoter pouka prirodopisa v osnovni šoli je bil učencem vzbujati čustvo in ljubezen do narave ter posredovanje znanja o najvažnejših živalih, rastlinah in kamninah ter njihovo praktično uporabo in pomen v vsakdanjem življenju. Praktični pouk o zelenjadarstvu, sadjarstvu, cvetličarstvu, čebelarstvu naj bi potekal na šolskem vrtu (Učni načrt za petrazredne ljudske šole 1896).

Prva knjižica, ki naj bi pomagala uresničevati zamisel o ustanavljanju šolskih vrtov na ljudskih šolah, je bila knjižica dveh avtorjev Maxa Machaneka in dr. Erasmusa Schwaba iz leta 1870 z naslovom: »Der Volksschulgarten. Ein Beitrag zur Lösung der Aufgabe unserer Volkserziehung« – Ljudskošolski vrtovi. Prispevek k razreševanju nalog v naši ljudski vzgoji. Knjižico so ponatisnili leta 1873, 1874 in nato še leta 1876. Prevedena je bila v številne jezike (hrvaščino, italijanščino, poljščino, madžarščino, angleščino). Dr. Erasmus Schwab, c.k. profesor in okrajni šolski inšpektor, je zapisal izvirno razmišljanje o šolskem vrtu na podlagi določil novega ljudskošolskega zakona. Max Machanek, moravski državnozborni poslanec, je narisal tri načrte za idealni šolski vrt.

Erasmus Schwab, vplivni avstrijski pedagog, je napisal priročnik, ki naj bi pomagal šolam in učiteljem pri uvajanju in vzdrževanju šolskih vrtov. Opozoril je, da imajo vrtovi poleg poklicnega usposabljanja za kmetijstvo tudi splošno vzgojno in izobraževalno vrednost: »Narava je naš dom, biti tujec v njem nam prinaša izgubo in sramoto.« Zato je spodbujal vrt pri vsaki šoli. Omenjal je prijateljski odnos mladine do vrta in pomen za pravilen osebni razvoj otroka. Na svežem zraku in v zelenem okolju bo otrok postal občutljiv za urejenost in potrebe skupnosti. Šolski vrt mora biti tisti zgled, ki ga otrok nezavedno sprejme in kot odrasel po tej podobi ureja svoje okolje. Naloga šolskega vrta je bila že na začetku široko zasnovana: praktično znanje naj se opira na izkušnje – empirično mišljenje, poleg tega še logično z bistrenjem razuma. Druga poglobljena funkcija pa je bila vzgojna. V šolskem vrtu naj bi bili: primeri domačih listavcev in iglavcev, gredica za njihove sejance in pikirance, sadna drevesa, gredica za sejance in cepljence, kmetijska poskusna greda, zelenjavni vrtiček s toplo gredo, kompost, posamezno tehnično in gospodarsko pomembne rastline na robu gred, okrasne cvetlice, trajnice in vrtnice na obrobju in okrasnih gredicah, čebelnjak, voda/vodnjak, telovadišče sredi zelenja.

Tako enotne, sistematične in vsestransko premišljene ter vsestransko vzgojno usmerjene zasnove za šolski vrt do takrat še ni bilo.

Če imaš prostorček, posadi drevo – neguj ga in obdarovalo te bo!
(Dr. E. Schwab)

V dobrem letu se je izoblikoval šolski vrt v teoriji in organizacijskem smislu: določen je bil z zakonom in omogočen z novim predmetnikom na učiteljskih in na ljudskih šolah, zavarovan in spodbujen z navodili za šolske inšpektorje ter teoretično podprt z brošuro Schwaba in z idealnimi načrti šolskih vrtov. Šolski nadzorniki so bili pri obiskovanju šol pozorni tudi na to, »če ima šola prostor za pouk, primeren razmeram dotičnega kraja glede obdelovanja zemlje, osobito v sadjarstvu, svilarstvu, čebeloreji in zelenjadarstvu in če se učitelj s takim poukom peča.« Poleg tega so zabeležili še urejenost vrta.

Kako je potekalo uresničevanje šolskih vrtov v praksi?

Sprva so bili šolski vrtovi le drevesnice, postopoma se je sadnemu drevju pridružilo še drugo rastlinje, kjer so upoštevali tudi že kolobarjenje. Pojavila se je potreba po izrisanem načrtu šolskega vrta. Eden izmed prvih domačih načrtov šolskega vrta je bil objavljen leta 1880 v »Popotniku«. Izdelal ga je Jakob Lopan, šolski upravitelj celjske okoliške šole. Vrt je temeljil na drevesnici, ki naj bi zavzemala več kot polovico vrta, preostala površina pa naj bi bila zasajena s sočivjem, vinsko trto, poljedelskimi in tehničnimi rastlinami, strupenimi zelišči in

cvetlicami. Poudarjal je, da naj načrt služi kot podlaga pri izdelovanju načrta posameznim šolskim vrtom, saj »občni načrt za vse šolske verte je nemogoča stvar [...] A načert vendar more imeti še tako mali šolski vertec; saj nobena reč dobro ne izide, ako je pred izpeljavo dobro ne preudarimo« (Lopan 1880).

Prvo obširnejšo slovensko knjigo s področja šolskih vrtov je po naročilu kmetijskega ministrstva leta 1888 napisal kmetijski strokovnjak in učitelj Gustav Pirc z naslovom Vrtnarstvo s posebnim ozirom za obdelovanje in oskrbovanje šolskih vrtov. V uvodu opozarja na drugačen namen šolskega vrta na kmetih in v mestu: »Vrt mestne šole bodi učno sredstvo za naravoznanstvo, vaški šolski vrt pa učno sredstvo za umno kmetijstvo, s katerim poučuje učitelj na podlagi naravoznanstva. Šolski vrt na kmetih bodi praktična vadnica za umno zvrševanje nekaterih strok kmetijstva, in sicer v pouk učencem in v spodbudo odraslim vaščanom« (Pirc 1888). Takratni šolski vrt ni služil samo za pomoč učencem pri pouku, ampak tudi za koristi širšega ljudstva. Vse to se je poudarjalo predvsem zato, ker so bile razmere na kmetih tedaj zelo slabe. Velikost vrtov so prilagajali lokaciji, možnostim in potrebam. Majhni vrtovi so merili do pet, srednje veliki od pet do osem, veliki pa nad osem arov.

Sodelovanje oblasti na državni in deželni ravni z idejo šolskega vrta je bilo v vseh deželah Avstro-Ogrske zgledno. Zataknilo pa se je pri sodelovanju na krajevnih in občinskih ravneh. Ustanavljanje in oskrbovanje šolskih vrtov je marsikje

naletelo na težave. Vzroke so na eni strani iskali v premajhnem znanju učiteljev, ki med svojim šolanjem še niso imeli ustreznega pouka. Edini izhod so bili vsakoletni tečaji za učitelje ter ogledi vzornih vrtov v okviru teh tečajev (na kmetijski šoli v Slapu pri Vipavi in v Grmu pri Novem mestu). Na drugi strani pa je bil vzrok težav finančne narave. Celotne stroške za šolske vrtove je morala plačati šolska občina, ki pa se je včasih poskušala tem izdatkom izogniti, zato vrta sploh ni uredila ali pa je odlašala z nadaljnjo oskrbo. Učitelji so želeli, da bi c. kr. okrajni šolski svet v letni proračun šolske občine vključil postavko za obdelovanje vrta. Marsikateri učitelj je za vrt vložil lastni denar in veliko dela predvsem v prvih letih urejanja. Nekaterim učiteljem je za urejanje vrtov vendarle uspelo dobiti tudi državno podporo (od c. kr. kmetijske družbe). Večkratno premeščanje učiteljev je imelo za vrt in njegov razvoj lahko negativni vpliv (učitelj, ki je bil premeščen, je lahko zapustil lepo urejen vrt, njegov naslednik pa ni bil vnet za delo na vrtu).

Šolski vrtovi so do leta 1890 že kar lepo napredovali. A še vedno ne tako, da bi bili vsesplošno razširjeni. O dejanskem stanju šolskih vrtov je leta 1892 pisal v »Popotniku« Fran Kocbek. Podatke o stanju šolskih vrtov je dobil v Popotnikovem koledarju za leto 1891. Od 844 ljudskih šol na Kranjskem, Štajerskem, Primorskem in Koroškem je imelo šolski vrt 297 šol, drevesnice pa 223 šol. Popolni šolski vrtovi so bili le pri dobri tretjini ljudskih šol, pri skoraj dveh tretjinah pa so vrtovi manjkali. 324 šol (38,4 %) ni imelo niti drevesnice (Kocbek 1892).

Leta 1892 je bil sprejet organizacijski statut za šolske vrtove, ki je bil leta 1895 dopolnjen z navodilom za ustanavljanje, oskrbovanje in uporabljanje šolskih vrtov, v katerem so v šestih točkah pojasnjeni organizacijski in strokovni vidiki šolskih vrtov (SŠM, arhiv).

Vedno pogostejša so bila tudi predavanja o šolskih vrtovih na učiteljskih zborovanjih. Slovenska učiteljska organizacija Zaveza slovenskih učiteljskih društev je imela od leta 1893 sekcijo za šolsko vrtnarstvo. Šole so s svojimi šolskimi vrtovi sodelovale na deželni razstavi, na katerih so učitelji sodelovali s pridelki z vrtov in številni dobili tudi priznanja.



Slika / Figure 17 Šolski vrt Deške meščanske šole iz Brežic okoli 1930. / School garden, Boys' higher primary school Brežice, circa 1930.

V Krškem je bil za lepo urejen šolski vrt zaslužen ravnatelj meščanske šole Ivan Lapajne (1849–1931): »Neobhodno potrebno učilo za rastlinstvo je dobro urejen šolski vrt.« V šestem letnem poročilu deške meščanske šole 1886/87 je bil objavljen njegov zapis »Naš šolski vrt« z načrtom vrta (Lapajne, 1886/87). Zemljišče za vrt in ograjo je kupil šolski dobrotnik Martin Hočevar. Načrt, po katerem se je vrt uredil, in ga je priskrbel c.

kr. okrajni šolski svet od samega Machaneka z Dunaja, je pod nadzorom učitelja risanja narisal učenec II. razreda meščanske šole Matej Sternen, pozneje znan slovenski slikar impresionist. Ob meščanski šoli v Krškem, ki je bila ustanovljena leta 1877, je bil v šolskem letu 1886–1887 zasnovan čudovit šolski vrt, katerega načrt je leta 1880/81 izdelal takratni znani dunajski strokovnjak Machanek, narisal pa takrat učenec II. razreda meščanske šole Matej Sternen. Niso ga popolnoma uresničili, saj niso naredili vodometa in čebelnjaka. Vrt se žal ni ohranil v današnji čas.

Alfonz Paulin in šolski vrtovi

Pomembno mesto v zgodovini šolskih vrtov ima tudi botanik prof. Alfonz Paulin (1853–1942), gimnazijski profesor, ki je leta 1880 začel poučevati prirodopis na ljubljanski realki, leto pozneje pa na ljubljanski klasični gimnaziji. Poučeval je trideset let, vse do upokojitve leta 1910. Leta 1907 je postal šolski svetnik. Kot učitelj je bil strog, hkrati pa je znal učencem približati snov, o kateri je govoril. Dijake je poskušal naučiti, da bi čim bolj natančno in podrobneje opazovali naravo. 1898 je izšel njegov učbenik Prirodopis rastlinstva s 308 ilustracijami, ki ga je namenil učencem nižjih razredov srednjih šol. To je bil prvi izvirni botanični učbenik v slovenskem jeziku. V prvem poglavju je popisal najvažnejše rastlinske vrste, v drugem pa je pisal o glavnih delih cvetnih rastlin, o razplodbi, razmnožitvi in

razširjati cvetnih rastlin. Na koncu je slovensko-latinski imenik. Pomembno je, da je uredil botanično terminologijo, ki je bila osnova naslednjim piscem botaničnih učbenikov (Praprotnik et al. 2021).

Leta 1886 je postal vodja Botaničnega vrta v Ljubljani. Botanični vrtovi so veljali za prve šolske oziroma učne vrtove. Tudi Botanični vrt Univerze v Ljubljani je bil leta 1810 ustanovljen kot šolski vrt za potrebe študija naravoslovja na Centralnih šolah v času Ilirskih provinc. Paulinovo obdobje je bilo v vsej zgodovini botaničnega vrta najdaljše. Kljub upokojitvi in nato ponovni reaktivaciji ga je vodil vse do 1931. V vrtu je tako deloval 45 let in v tem času je botanični vrt dvignil na evropsko raven. S svojimi rastlinami, znanjem in svetovanjem je bil vseskozi v pomoč pri nastanku drugih šolskih vrtov. Svetoval je več zasebnim in šolskim vrtovom: učitelj na Kmetijski šoli Grm pri Novem mestu ga je prosil za semena strupenih rastlin in nasvete za šolski vrt, učitelj Janez Levec, vodja na IV. deški ljudski šoli v Ljubljani se mu je zahvalil za sadike strupenih rastlin. Profesor naravoslovja na kranjski gimnaziji je Paulina prosil za rastline za gimnazijski vrt, profesorji na celjski gimnaziji pa so se mu zahvalili za prejete alpinske rastline za njihov alpinet. Nekatere vrtove je podprl tudi finančno (Bavcon & Ravnjak 2015).

Obdobje med obema vojnama 1918–1941

V prvi svetovni vojni je bilo veliko vrtov uničenih, njihova vloga pa se je iz vzgojno-izobraževalnega pomena preusmerila v proizvajalca pridelkov, ki naj bi služili za prehrano v skrajni sili. Pomembnejšo vlogo so dobile učiteljice vrtnarke, ki jih do tega časa skoraj ne zasledimo na šolskih vrtovih (razen na nunskih). Poudarek je bil na pridelovanju zelenjave, ki je bila namenjena prehrani. Vojni čas je pokazal, da znanje, ki si ga učenci pridobijo na vrtu, ni pomembno le za kmečko, ampak tudi za mestno prebivalstvo (Rojko 1983).

Po letu 1918 so se lotili temeljite obnove šolskih vrtov, tako v organizacijskem kot pedagoškem smislu. Sadjereja je bila še vedno prevladujoča panoga vrta. Leta 1921 je poverjeništvo za uk in bogočastje v Ljubljani uvedlo kmetijsko-prirodosnanstveni pouk, ki se je začel v šolskem letu 1921/22 v vseh ljudskih šolah na Slovenskem. Pouk je potekal dve uri tedensko v višjih razredih ljudske šole za fante. Praktične vaje so v glavnem izvajali na šolskem vrtu: opazovali so zgornje in spodnje plasti zemlje, pripravili kompost, se seznanili s plevelom in ga skušali zatreti, pripravili krompir za saditev, opazovali posamezna sadna drevesa, kopali jame in sadili drevesa, gnojili sadno drevje, zatirali listne uši, zavarovali drevje pred zajci, se učili žagati veje, cepiti drevesa, se praktično urili v lovu na voluharje in na koncu pobrali pridelek (Fink 1922).

Več sprememb je bilo v organizacijskem smislu. Z odloki so predpisovali obveznost urejenih in dobro obdelanih šolskih vrtov.

Kontrolirali so jih šolski nadzorniki, pozneje so funkcijo prenesli najprej na okrajne poročevalce in nato na šolske upravitelje. Za nadzorovanje vrtov so predpisali posebne tiskovine: »Poročila o stanju in oskrbovanju šolskega vrta in zemljišč« in »Glavna poročila«, s katerimi so se natančno seznanili s potekom dela na šolskih vrtovih na posameznih šolah in njihovo urejenostjo. SŠM hrani v dokumentacijskih mapah osnovnih šol v Sloveniji za skoraj vsako šolo Poročilo o stanju in oskrbovanju šolskega vrta in zemljišča v šol. letu 1927/28 in 1933/34.

Zakon o narodnih šolah iz leta 1929 je zahteval obvezno ureditev šolskega vrta za podeželske šole, za mestne pa po njihovih zmožnostih. Poudaril je pomen šolskega vrta za učne namene, zlasti za pouk prirodoznanstva, za praktične vaje iz kmetijstva, pa tudi za praktični gospodinjski pouk za dekleta.

V tridesetih letih 20. stoletja so se začela uveljavljati reformna prizadevanja naprednih učiteljev, ki so nastala kot reakcija na pasivno, receptivno vlogo učenca v stari tradicionalni šoli učenja, poimenovani tudi šola – učilnica, kjer je bil središče procesa učitelj. Delovna šola je v vseh učnih predmetih uveljavljala duhovno in fizično delo učencev in si prizadevala za vsestransko aktivnost in razvoj otroka. Princip te nove šole je bil pridobivanje praktičnih znanj na temelju opazovanj, doživljanja in dela. Pouk je povezovala z življenjem okolja. Vse to so uveljavljali najnaprednejši učitelji vrtnarji tudi pri delu na šolskem vrtu in jih

uredili v vrtove učilnic. Šolski vrt je vzgajal v smislu vztrajnosti, potrpežljivosti, nežnosti in ljubezni do narave.

Pokazale so se zahteve za ureditev šolskih vrtov v mestih. Nekaterе šole so zaradi prostorske stiske imele vrtove neprimerno urejene ali jih sploh niso imele. Zato so za take šole uredili velik centralni šolski vrt z igriščem. V Ljubljani je bil tak v trnovskem predmestju.

Druga svetovna vojna pa je uničila veliko šolskih stavb in stanje vrtov je bilo porazno.

Pomen šolskih vrtov

Šolski vrt predstavlja enega od osnovnih in nepogrešljivih učil na vseh osnovnih šolah, v vrtcih in srednjih šolah. Z njim je bil v preteklosti povezan predvsem pouk biologije, pa tudi drugih naravoslovnih predmetov in pouk kmetijstva. Mlada drevesa kot nagrada za učni uspeh v šoli so bila zgleden primer uspešne pedagogike. Učitelji so poudarjali različne odlike šolskega vrta. Predvsem vsesplošno korist, ki so jo imeli vaščani s pridobivanjem boljših semen in sadja z vrta ter poučevanje učencev o poljedelstvu in vrtnarstvu, o sadjereji in vinarstvu. Šolski mladini naj bi vcepili ljubezen do vrta in vrtnih pridelkov – tako naj bi preprečevali lomljenje mladih dreves, trganje cvetlic, teptanje zelišč. Z ljubeznijo do rastlin naj bi vzgajali tudi ljubezen do živali. Kmalu so šolski vrt povezovali z duševno in telesno

vzgojo učencev. Z aktivnostjo na vrtu naj bi vzgajali ljubezen do bližnjega, redoljubnost učencev, delavnost in krepitev celega telesa. Veselje do dela naj bi bila nepogrešljiva vrednota v etičnem pogledu – otroci naj bi delali z veseljem in s tem izpolnjevali ne le dolžnosti, ki jih imajo v šoli, temveč tudi zunaj šole in si tako prizadevali pospeševati občo blaginjo. Za to pa je bilo potrebno tudi učiteljevo veselje do vrta.

Classroom in nature: School gardens in the past

Mateja Ribarič, Slovenian School Museum

The school garden of the past – the beginnings

A school garden in the narrow sense is a plot of land intended for the cultivation of vegetables, fruits, and crops, with decorative beds and other similar plantings. In a broader sense, it means the external area of a school, which includes, in addition to the above, all other school land, including sports, park, grass and forest areas. A school garden includes plants grown outdoors on beds, in pots or on other surfaces, as well as plants that are grown in the classroom, other parts of the school building and in greenhouses.

As a teaching tool, the school garden was created in the 19th century, although the idea itself is even older. Its importance was even mentioned by the classics of pedagogy. As early as the 17th century, John Amos Comenius (1592–1670), the father of modern education, wrote about gardens located next to schools, providing

a space where children could relax while looking at trees, flowers and vegetables, and learn to appreciate nature. In Europe, school gardens began to be introduced in the middle of the 19th century. They were known in Switzerland, Belgium, France, England, Sweden, Germany and Austria, as well as in America (Akerblom 2005, Corbbet 1905, Fischer and Otto 1939, Hoff and Hennig 1995, Pogačnik 2013).

Slovenians were not far behind either, as Slovenian schools have a rich tradition of school gardens. The first information about school gardens can be found in the middle of the 19th century. They were not compulsory until 1869. From individual articles, we can see that they were created mainly because of the commitment of individual teachers. People were getting tree seedlings from school nurseries. At that time, we cannot yet talk about any other significance of school gardens, apart from economic ones.

One of the first records on school gardens in Slovenia dates back to 1842, when Anton Martin Slomšek (1800–1862), the initiator of the basic and repeating Sunday schools, wrote the book *Blaže in Nežica v nedeljski šoli* (*Blaže and Nežica in Sunday School*). In addition to various chapters on everyday life, he also dedicated one to fruit cultivation. He wrote his advice in the form of a sermon and concluded the chapter with the following words: "Let every father plant a tree for his child, every godfather for his godchild, let it grow with the child and bear fruit. We will be long

gone, but the tree will bear fruit and remind the child of us. Every fruitful tree is guaranteed money blossoming from the earth" (Slomšek 1848). Slomšek's arboreal school for Sunday school students was an attempt at a school garden that later became popular.

In 1851, the state governorship issued a circular calling on teachers to teach fruit cultivation. It was taught in rural primary schools, most of which had their own nurseries. "Each basic or primary school in rural areas was supposed to take great care that the community decided on a place for the orchard, where the teacher would instruct their schoolchildren in the main tasks of fruit cultivation" (*Novice* 1857).

After 1850, individual teachers began to write about their experiences in fruit cultivation, vegetable cultivation, sericulture and beekeeping in various Slovenian professional and educational journals (*Šolski prijatelj*, *Učiteljski tovariš*, *Slovenski učitelj*, *Šola*, *Popotnik*, *Vrtnar*), while school supervisors provided reports and discussed them at teachers' meetings. They drew attention to books and journals that discussed this subject matter.

In 1854, our oldest pedagogic journal *Šolski prijatelj* drew attention to the importance of fruit cultivation, especially in rural areas. Teachers who had already taught fruit cultivation were invited to write down their experiences. One of the first texts on

the importance of fruit cultivation was contributed by Peter Musi (1799–1875) from Šoštanj, an exemplary teacher, educational writer, beekeeper, fruit grower, librarian and banker. In his lessons, he advocated object lessons and claimed that although pictures are beautiful, it is more important to show the students as much as possible in nature, to take them outside and practically test and learn about the subject matter together with them. Thus, at the end of the 1840s, he planted an orchard below the parish church, while an apiary and a vineyard were located next to the school, where he taught his students and all interested parties the art of grafting vines and fruit trees. He shared his knowledge about smart fruit cultivation, beekeeping and farming in general for others' benefit and with great success also among adults, and reported on this in *Šolski prijatelj* in 1854. Among other things, he wrote that he has been teaching this class for ten years. In autumn, he asked students to pick apple and pear seeds, store them, so that they could later plant them. The students chose a place to plant in their home garden, while those who did not have a garden at home brought the seeds to the teacher. In spring, they visited individual gardens and examined the sprouts. Later, Musi published an article entitled "A short lesson on fruit cultivation especially for school youth" (*Šolski prijatelj* 1854).

School gardens during the Austro-Hungarian period 1869–1918

In May 1869, Austria-Hungary, which included Slovenian territories, adopted the National Primary Education Act, which introduced general compulsory schooling for all children between the ages of 6 and 14, i.e. eight years of compulsory schooling. The influence of the Catholic Church on schools thus decreased, as the state took control of school administration.

With this law, the foundations of school gardens were also laid. The following provisions were important:

- Paragraph 27 of the law stipulated that each school should be given a suitable plot of land "for training in agricultural works"; it was required that the teachers who looked after such a garden should be trained in garden work.
- Paragraph 29 required that men's schools for teachers conduct "the teaching of agriculture with special reference to soil conditions of homeland".
- Paragraph 63 of the 3rd Primary Education Act stated: "A gym must also be built at every primary school, and in farming municipalities, if possible, a garden for the teacher and land for agricultural experiments" (Heinz 1895) – this land was meant as a school garden.
- Paragraph 56 of the decree of the Imperial and Royal Ministry of Education and Worship from 1870, no. 7648, states that, if possible, a garden should be established at every school in

the country, specifically next to the school building or at least close to the school, and should cover at least three ares and no more than sixteen ares (Archive of the Slovenian School Museum).

The State Primary Education Act of 1869 provided for independent, gender-separated four-year schools for teachers. The subject of fruit cultivation first appeared in the curriculum at men's schools for teachers, followed by agriculture with a special focus on the agriculture of immediate homeland (whereas the subject of home economics was taught at women's schools for teachers instead of agriculture). At the Ljubljana school for teachers, agriculture was taught for two hours a week in the second year by the teacher Ivan Tomšič (1838–1894), who completed a six-month economic and agricultural course for teachers in Vienna. He wrote several expert articles on agriculture and fruit cultivation, also edited the Slovenian edition of *Podobe za nazorni nauk I., II. 150 barvanih podob za prvi pouk najvažnejših strupenih in pitomih rastlin* (*Images for Illustrative Teaching I., II. 150 coloured images for the first lesson on the most important poisonous and cultivated plants*).

In 1880, due to the great importance of agricultural lessons in schools for teachers, the Ministry of Education and Worship determined that theoretical lessons in agriculture must be accompanied by practical exercises in the school garden. For this purpose, 2,300 guldens were granted to the Ljubljana school for

teachers for a garden. The institute had a permanent gardener who, under the guidance of the natural history professor, made sure that the students regularly came to the school garden. At the garden, students practised all gardens works necessary for successful growth of field and garden plants, fruit trees and vines. Every year, in autumn and spring, the students had compulsory practise in the school garden according to a specific plan and with a clear purpose – to instil enthusiasm for working in the garden and interest in agricultural issues. The entire gardens spanned approximately 5000 m². It was divided into seven cultivation areas with beds (a part was intended for compost pits). Flowers were grown along the edges. In the middle of the garden was a large shed for storing tools and produce. Two hydrants and (later) a concrete pool ensured easier watering and spraying. The garden inventory also included a beehive, which was no longer used in the 1930s (Gymnasium Ledina, 130 years, 1998). That the agricultural lessons and school gardens at the schools for teachers were at a high level is also evident from the fact that the Maribor school for teachers won some of the highest medals for its exhibits at the regional agricultural exhibition in 1883.

The curricula and course books for primary schools from 1869 include a new subject of natural history, which was taught in the 5th grade for two hours a week. The educational purpose of natural history lessons in primary schools was to instil in students emotions and love for nature, to impart knowledge about the most important animals, plants and rocks, as well as their practical use

and importance in everyday life. Practical lessons on vegetable cultivation, fruit cultivation, flower cultivation, and beekeeping were supposed to take place in the school garden (Curriculum for fifth grade of primary school, 1896).

The first booklet to help realise the idea of establishing school gardens in primary schools was written by two authors, Max Machanek and Dr Erasmus Schwab, in 1870 and was titled *Der Volksschulgarten. Ein Beitrag zur Lösung der Aufgabe unserer Volkserziehung* (Primary School Gardens. A contribution to solving tasks in our primary education). The booklet was reprinted in 1873 and 1874, and again in 1876. It has been translated into many languages (Croatian, Italian, Polish, Hungarian, English). Dr Erasmus Schwab, Imperial-Royal professor and district school inspector, wrote his original thinking on the school garden based on the provisions of the new primary school law. Max Machanek, a member of the Moravian National Assembly, drew three plans for an ideal school garden.

Erasmus Schwab, an influential Austrian educator, wrote a handbook to help schools and teachers establish and maintain school gardens. He pointed out that, in addition to vocational training for agriculture, gardens also have a general educational value: "Nature is our home, being a stranger in it brings loss and shame." That is why he encouraged a garden at every school. He mentioned the positive attitude of the youth towards the garden and its importance for proper personal development of the child.

In the fresh air and in a green environment, the child will become sensitive to orderliness and the needs of the community. The school garden must be the example that the child unconsciously accepts and, as an adult, arranges his environment according to this image. From the very beginning, the function of the school garden was broadly conceived: practical knowledge should be based on experience – empirical thinking, in addition to logical thinking with the development of the mind. The second main function was educational. The school garden should include: specimens of domestic deciduous and coniferous trees, a bed for their seedlings and cuttings, fruit trees, a bed for seedlings and grafts, an agricultural experimental bed, a vegetable garden with a greenhouse, compost heap, specific technically and economically important plants on the edge of the beds, decorative flowers, perennials and roses on the edges and on decorative beds, apiary, water/fountain, gym in the middle of greenery.

Until that time, there had never been such a uniform, systematic and comprehensively thought-out and educationally oriented design for a school garden.

If you have some space, plant a tree – take care of it and it will reward you! (Dr E. Schwab)

In just over a year, the school garden took shape in theory and organisational terms: it was established by law and made possible by a new curriculum in schools for teachers and in primary

schools, secured and encouraged by instructions for school inspectors, and theoretically supported by Schwab's pamphlet and by plans for ideal school gardens. When visiting schools, school supervisors also paid attention "if the school has a place for lessons suitable for the conditions of the place in question regarding the cultivation of the land, especially in fruit cultivation, silk farming, beekeeping and vegetable cultivation, and if the teacher is busy with such lessons." In addition, they also noted the orderliness of the garden.

How were school gardens implemented in practice?

Initially, school gardens were just tree nurseries; gradually, the fruit trees were joined by other vegetation, where crop rotation was also taken into account. The need for a drawn school garden plan arose. One of the first domestic school garden plans was published in *Popotnik* in 1880. It was made by Jakob Lopan, the school administrator of the Celje District School. The garden was based on a tree nursery, which spanned over half of the garden, while the remaining area was planted with legumes, vines, agricultural and technical plants, poisonous herbs and flowers. He emphasised that the plan should serve as a basis for creating an individual school garden plan, because "a general plan for all school gardens is an impossible thing [...] But even a small school

garden can have a plan, because nothing good can be made if we do not think it through before doing it" (Lopan 1880).

The first comprehensive Slovenian book on school gardens was commissioned by the Ministry of Agriculture in 1888 and written by the agricultural expert and teacher Gustav Pirc, and was entitled *Vrtnarstvo s posebnim ozirom za obdelovanje in oskrbovanje šolskih vrtov* (*Gardening with a special focus on the cultivation and maintenance of school gardens*). In the introduction, he points out the different purpose of the school garden on the farm and in the city: "The city school garden should be a teaching tool for natural science, whereas the village school garden should be a teaching tool for smart agriculture, used by the teacher to teach on the basis of natural science. The school garden in rural areas should be a practical exercise area for smart practice of certain branches of agriculture, specifically as a lesson for students and as an encouragement for adult villagers" (Pirc 1888). At that time, the school garden was not only used to help students in their lessons, but also for the benefit of the wider population. All this was emphasised mainly because the conditions in rural areas were very bad at that time. The size of the garden was adapted to the location, options and needs. Small gardens spanned up to five ares, medium-sized from five to eight ares, and large ones over eight ares.

The cooperation of the authorities at the state and regional levels with the idea of the school garden was exemplary in all the

regions of Austria-Hungary. However, problems area in cooperation at the local and municipal levels. Establishing and maintaining school gardens encountered problems in many places. On the one hand, the causes were identified in the lack of knowledge of the teachers, who did not have adequate training during their education. The only solution were annual courses for teachers and visit to model gardens as part of these courses (at the Agricultural School in Slap near Vipava and in Grm near Novo mesto). On the other hand, the cause of the problems was of a financial nature. The full costs for school gardens had to be paid by the municipality of the school, which sometimes tried to avoid these expenses – as a result, it did not arrange the garden at all or delayed further maintenance. The teachers wanted the Royal and Imperial District School Council to include an item for cultivating the garden in the annual budget of the school municipality. Many teachers invested their own money in the garden and put in a lot of work, especially in the first years. Some teachers managed to get state support (from the Royal and Imperial Agricultural Society) for arranging their gardens. The repeated relocation of teachers had a negative impact on the gardens and their development (a teacher who was transferred could leave a well-kept garden, but his successor was not enthusiastic about working in the garden).

By 1890, the school gardens had progressed quite nicely. But they were still not generally widespread. In 1892, Fran Kocbek wrote about the actual state of school gardens in *Popotnik*. He got the

data about the condition of school gardens in the *Popotnikov koledar* for 1891. Of the 844 primary schools in Carniola, Styria, Littoral and Carinthia, 297 schools had a school garden, and 223 schools had tree nurseries. Only a third of primary schools had full school gardens, and almost two thirds had no gardens. As many as 324 schools (38.4%) did not even have a tree nursery (Kocbek 1892).

In 1892, the organisational statute for school gardens was adopted, which was supplemented in 1895 with instructions for the establishment, maintenance and use of school gardens; it explained the organisational and expert aspects of school gardens in six points (Archive of the Slovenian School Museum).

Lectures on school gardens at teachers' meetings were also more and more frequent. The Slovenian teachers' organisation, the Association of Slovenian Teachers' Societies, has had a section for school gardening since 1893. Schools attended regional exhibitions with their school gardens, where teachers participated with their garden produce – many of them received awards.

The principal of the higher primary school, Ivan Lapajne (1849–1931), was credited for the well-kept school garden in Krško: "A well-kept school garden is an indispensable teaching tool on plant life." His article, entitled *Naš šolski vrt* (*Our School Garden*), was published together with the garden plan in the 1886/87 sixth annual report of the boys' higher primary school (Lapajne 1886/87). The land for the garden and the fence was bought by

school benefactor Martin Hočevár. The plan for the garden was provided by the Royal and Imperial District School Council from Machanek from Vienna himself, and was drawn under the supervision of a drawing teacher by a second-grade student of the higher primary school Matej Sternen, who later became a well-known Slovenian impressionist painter. Next to the Krško Higher Primary School, which was founded in 1877, a beautiful school garden was designed in the 1886–1887 school year; the plan was drawn up in 1880/81 by the well-known Viennese expert Machanek at the time, and drawn by a second-grade student of the upper primary school, Matej Sternen. Their plan was not fully implemented, because a water fountain and a beehive were not built. Unfortunately, the garden had not been preserved to this day.

Alfonz Paulin and school gardens

Botanist and gymnasium professor Prof Alfonz Paulin (1853–1942) also has an important place in the history of school gardens. He started teaching natural history at the Ljubljana Realgymnasium in 1880, and a year later at the Ljubljana Classical Gymnasium. He taught for thirty years, until his retirement in 1910. In 1907, he became an education councillor. As a teacher, he was strict, but also knew how to introduce the discussed subject matter to his students. He tried to teach students to observe nature as accurately and in as much detail as possible.

In 1898, his textbook *Prirodopis rastlinstva* (*Natural History of Plants*) was published with 308 illustrations, which he intended for students in lower grades of secondary schools. This was the first original botanical textbook in the Slovenian language. In the first chapter, he listed the most important plant species, and in the second, he wrote about the main parts of flowering plants, as well as on the breeding, reproduction and propagation of flowering plants. At the end was a Slovenian-Latin index. Importantly, he organised the botanical terminology that was the basis for future authors of botanical textbooks (Praprotnik et al. 2021).

In 1886, he became the head of the Botanic Gardens in Ljubljana. The Botanic Gardens were considered the first school or educational gardens. The University Botanic Gardens Ljubljana were also established in 1810 as a school garden for the needs of natural science studies at the Central Schools during the Illyrian Provinces. The Paulin era in the history of the Botanic Gardens was the longest. Despite his retirement and subsequent return, he managed the Gardens until 1931. He worked in the Botanic Gardens for 45 years and elevated the gardens to the European level during this time. With his plants, knowledge and advice, he was a constant help in the creation of other school gardens. He provided advice to several private and school gardens: a teacher at the Grm Agricultural School near Novo mesto asked him for seeds of poisonous plants and advice for the school garden, teacher Janez Levec, head of the 4th Boys' Primary School in Ljubljana thanked him for the seedlings of poisonous plants. The

professor of natural sciences at the Carniola Gymnasium asked Paulin for plants for the gymnasium garden, and the professors at the Celje Gymnasium thanked him for the alpine plants they received for their alpine garden. He even supported some gardens financially (Bavcon & Ravnjak 2015).



Slika / Figure 18 Osnovna šola Šentjernej na Dolenjskem okoli 1930. / State primary school in Št. Jernej in Lower Carniola, circa 1930.

The period between the two wars, 1918–1941

In the First World War, many gardens were destroyed, and their role was shifted from educational importance to the production of crops that were to be used for emergency food. A more important role was given to women gardener teachers, who until this time were not really observed in school gardens (except for nuns' gardens). The emphasis was on growing vegetables intended for consumption. Wartime showed that the knowledge that students developed in the garden is not only important for the rural population, but also for the urban population (Rojko 1983).

After 1918, a thorough renovation of school garden was undertaken, both in terms of organisation and pedagogy. Fruit cultivation was still the dominant branch of the garden. In 1921, the Commission for Education and Worship in Ljubljana introduced agricultural and natural science classes, which began in the 1921/22 school year in all primary schools in Slovenia. Classes were held for two hours a week in the upper grades of the boys' primary school. Practical exercises were mainly carried out in the school garden: they observed the top and bottom layers of the soil, prepared compost, learned about weeds and tried to suppress them, prepared potatoes for planting, observed individual fruit trees, dug pits and planted trees, fertilised fruit trees, eradicated aphids, protected the trees from rabbits, learned

to cut branches, graft trees, practised vole hunting, and finally harvested crops (Fink 1922).

There were several changes in the organisational sense. Decrees were used to prescribe the obligation to have orderly and well-cultivated school gardens. They were checked by school supervisors, and later the function was transferred first to district reporters and then to school administrators. Special printed publications were prescribed for the supervision of the gardens: "Reports on the condition and maintenance of the school garden and grounds" and "Main reports", which were used to provide detailed information on the progress of work in school gardens at individual schools and their orderliness. The Slovenian School Museum keeps in its Slovenian primary school documentation folders a Report on the condition and maintenance of the school garden and school grounds in 1927/28 and 1933/34 for almost every school.

The National School Act from 1929 required the arrangement of a school garden for rural schools, whereas urban schools could arrange a garden according to their capabilities. It emphasised the importance of the school garden for educational purposes, especially for natural history lessons, for practical exercises in agriculture, as well as for practical home economics classes for girls.

In the 1930s, the reform efforts of progressive teachers began to take hold, which arose as a reaction to the passive, receptive role of the student in the old traditional school of learning, also called school – classroom, where the teacher was at the centre of the process. Progressive education implemented the spiritual and physical work of students in all subjects and promoted all-round activity and development of the child. The principle of this new school was the acquisition of practical knowledge based on observations, experience and work. Lessons were connected to the life of the environment. All this was implemented by the most progressive gardening teachers also when working in school gardens, arranging them into classroom gardens. The school garden was used to teach perseverance, patience, tenderness and love for nature.

Demand for school gardens in cities became apparent. Due to space constraints, some schools had inappropriately arranged gardens or did not have them at all. Therefore, a large central school garden with a playground was arranged for such schools. In Ljubljana, one such gardens was in the suburb of Trnovo.

However, the Second World War destroyed many school buildings and the condition of the gardens was devastating.

The significance of school gardens

The school garden represents one of the basic and indispensable teaching aid in all primary schools, kindergartens and secondary schools. In the past, it was mainly associated with biology lessons, as well as other natural sciences and agriculture courses. Young trees as a reward for academic success in school were an exemplary example of successful pedagogy. Teachers emphasised various qualities of the school garden. Above all, the overall benefit for the villagers because of better seeds and fruit from the garden, and teaching students about agriculture and gardening, about fruit cultivation and wine-making. A love for the garden and garden products was to be instilled in school children – thus preventing breaking of young trees, plucking of flowers, and trampling of herbs. A love for plants would be used to teach a love for animals. Soon, the school garden was associated with the mental and physical education of students. Activities in the garden would instil a love for others, a sense of orderliness, hard work and strengthening of the whole body. A sense of enthusiasm for working should be an indispensable value from an ethical point of view – children should work with enthusiasm and thus fulfil not only the duties they have in school, but also outside of school, thereby endeavouring to promote common welfare. However, this required that the teacher was also enthusiastic about gardening.

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učiteljišča, 1973); članki v pedagoških časopisih: Učiteljski tovariš, Popotnik, Šolski prijatelj, Novice.

SŠM, dokumentacijska zbirka: dokumentacijske mape posameznih OŠ.

SŠM, arhiv: šolske kronike posameznih šol, fascikel 49:

Navodilo kako je napravljati, oskrbovati in porabljati šolske vrte. Priloga k razpisu c. kr. dež. šolskega sveta z dne 19. 2. 1895, št. 358.

Tematska številka revije Šolska kronika ob razstavi Učilnica v naravi: šolski vrt včeraj, danes, jutri (urednica Mateja Ribarič). 24/2015, št.3, Ljubljana, Slovenski šolski muzej.

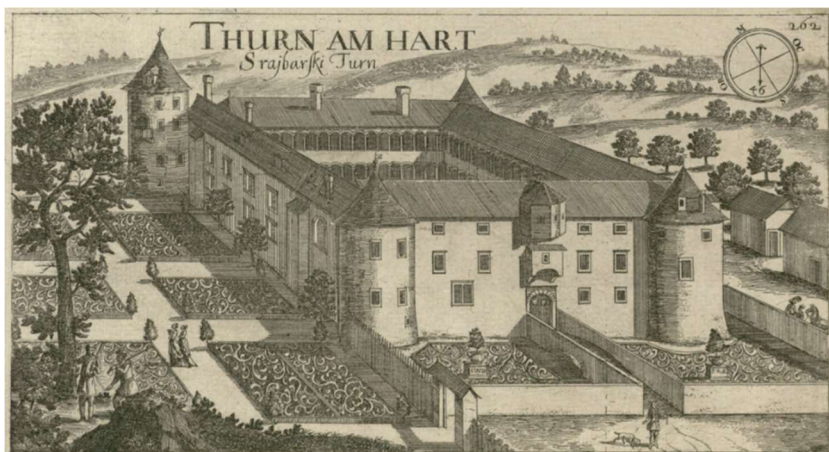
Parkovno urejanje ob gradu Šrajbarski turn

Mitja Simič, ZVKDS OE Novo Mesto

Območje gradu Šrajbarski turn leži na razgibanem reliefu južnih obronkov Krškega gričevja nad Krško-Brežiškim poljem. Danes lokacija gradu zaradi gozda in trajnih nasadov sadnega drevja prostorsko ni izstopajoča in daje vtis odmaknjenosti. Tu je najprej stala srednjeveška utrdba, o kateri pa ne vemo veliko. V 16. stoletju je grad Turn dobil podobo renesančnega dvorca, ki jo je kljub številnim kasnejšim prezidavam ohranil do danes.

Začetki parkovnega urejanja

Za večino vrtnih ureditev ob grajskih stavbah pri nas velja, da o njihovem nastanku ne vemo prav veliko oz. bistveno manj, kot vemo o gradovih samih. Na splošno se večja vrtna urejanja ob gradovih pri nas začenjajo s prenehanjem nevarnosti turških vpadov v začetku 17. stoletja. Običajno so naši grajski vrtovi in parki prvič upodobljeni na Valvasorjevih grafikah iz konca 17. stoletja, vendar pa ti prikazi niso vedno najbolj zanesljivi.



Slika / Figure 19 Valvasorjeva upodobitev iz Topografije iz leta 1679 prikazuje bolj raven teren, kot je v resnici. / Depictions from Valvasor's Topografija (Topography) from 1679 show a flatter terrain than it actually is.

Bolj zanesljiv vir je kataster, ki so ga za naše kraje izdelali okoli 1825 – t. i. Franciscejski kataster.

Ta pri gradu prikazuje večjo vrtno ureditev po renesančno baročnih vzorih, medtem ko se v južnem delu območja kaže parkovna ureditev po zgledih angleškega krajinskega sloga.

19. stoletje

Grajsko posestvo je bilo že dolgo v lasti Auerspergov (vse od leta 1653). Med leti 1825 in 1876 je bil lastnik posestva grof Anton Aleksander Auersperg (1806–1876), ki je v tem času na gradu ustvarjal svoje (nemške) pesmi in je med pesniškimi krogi tistega časa postal znan tudi kot **Anastasius Grün**. Bil je sodobnik Franceta Prešerna, s katerim sta tudi prijateljevala in znano je, da ga je Prešeren na posestvu Turna tudi obiskal.

Ustvarjala pa je tudi Grünova žena grofica Marija Auersperg roj. Attems (1816–1880), ki se je v našo likovno zgodovino zapisala kot slikarka cvetličnih tihožitij. V tem obdobju je tudi vrtno oz. parkovno urejanje pri Šrajbarskem turnu doseglo svoj vrhunec.

In prav v tem času vesplošnega kulturnega razcveta se je grajskemu oskrbniku leta 1853 rodil sin Alfonz Paulin, slovenski botanik. Kljub temu, da o njegovem življenju na gradu ne najdemo jasnih pisnih virov, pa lahko sklepamo, da so zgledno urejene parkovne površine s svojim negovanim rastlinjem, oranžerijo in rastlinjakom, zaznamovale njegovo strokovno pot na kateri je med drugim kar 45 let (1886 – 1931) vodil Botanični vrt v Ljubljani.



Slika / Figure 20 Fotografija parka iz konca 19. stoletja / Photograph of the park from the end of the 19th century

Fotografije iz konca 19. stoletja kažejo, da so formalno vrtno zasnovo nadomestile parkovne površine po vzorih angleškega krajinskega sloga, vendar so te še vedno vzorno urejene. Ob smrti Anastasiusa Grüna so po načrtih graškega arhitekta Konrada

Lueffa na sosednji vzpetini postavili mavzolej, v katerem je grof in pesnik tudi pokopan. Mavzolej predstavlja eno izmed najpomembnejših in najkakovostnejših tovrstnih gradenj pri nas.

20. stoletje

Največji razcvet so naši parki in vrtovi dosegli v 19. stoletju, potem so nekako preživeli do začetka druge svetovne vojne, med njo in po njej pa so večinoma klavarno propadli. Vse to žal velja tudi za Šrajbarski Turn. Leto 1903 je prineslo konec dolgega obdobja lastništva Auerspergov. Leta 1918 postane lastnik posestva pisatelj Friderich Gagern z gradu Mokrice, leta 1938 pa posestvo kupi Janez Trenz, posestnik iz Šentjerneja. Kljub temu da je bil park do druge svetovne vojne razmeroma dobro vzdrževan, pa je iz fotografij že zaznaven izrazit upad parkovne kakovosti.

Po drugi svetovni vojni je bil grad s posestvom nacionaliziran in dan v upravljanje Agrokombinatu iz Krškega, v gradu pa so si uredili svoje domovanje slabše situirani občani. Parkovne ureditve skupaj s številnimi drevesi so propadle in se zarastle. Del parka je nekaj časa še služil kot zelenjavni vrt, medtem ko so vzhodni del parka priključili površinam velikega sadovnjaka med gradom in južno grajsko pristavo (ki leži zunaj območja gradu). Sadovnjak so zasadili tudi na drugi strani, med mavzolejem in gradom, tako da mavzolej nima več svoje dostopne poti.

Leta 1992 so slovenski botaniki in Občina Krško Alfonzu Paulinu ob 50. obletnici smrti v območju nekdanjega parka postavili spomenik v obliki kamnitega menhirja.



Slika / Figure 21 Spomenik Alfonzu Paulinu ob Šrajbarskem turnu odkrit leta 1992. / Monument near Šrajbarski turn dedicated to Alfonz Paulin, opened in 1992

Območje gradu Šrajbarski turn (EID 1-08772) in mavzolej Anastazija Grüna (EID 1-10284) sta bila leta 1999 razglašena za kulturna spomenika državnega pomena. Mavzolej stoji znotraj območja gradu, sestavni del območja pa so še sam grad, park in gornja grajska pristava.

Izzivi današnjega časa

Leta 2009 je lastništvo gradu prevzela država in iz njega so se odselili še zadnji stanovalci. Dolgoletna odsotnost urejanja in vzdrževanja je pripeljala do degradacije in skoraj popolne nerazpoznavnosti parkovnih površin. Ohranjeni so le redki fragmenti nekdanje parkovne zasnove. Velik del nekdanjega parka preraščajo gozd in sadovnjaki.

Pristop k celoviti prenovi območja gradu med drugim otežuje tudi neugodno lastništvo površin, ki je razdrobljeno med državo (grad in park), kmetijsko zadrugo (pristava) in drugimi zasebnimi lastniki, med katerim je tudi družina Auersperg (mavzolej). Z vidika prenove parkovnih površin je upravljanje državnega premoženja zelo nesrečno razdeljeno, saj Ministrstvo za kulturo upravlja le grad, medtem ko so parkovne površine v upravljanju Sklada kmetijskih površin. In sklad seveda ni primeren upravljavalec, saj park po definiciji ni kmetijsko zemljišče in sklad v njegovo prenovu ne bo vlagal svojih sredstev, sicer namenjenih za kmetijstvo. Z medresorskim usklajevanjem bi parkovne

površine v prihodnosti nujno morale preiti v upravljanje ministrstva za kulturo, saj je park (ali bi vsaj moral biti) kulturni prostor. Že tako se dogaja, da so pri prenovi kulturnih spomenikov parki in vrtovi v primerjavi s stavbami praviloma v podrejenem položaju.

Pozitivni premiki

V zadnjih dveh letih se je po dolgem času vendarle zgodilo nekaj pozitivnih premikov. Občina Brežice je v okviru participativnega proračuna poskrbela za nekatera najnujnejša sanacijska dela v parku in nadomestno zasaditev petih dreves ter odstranitev zabojnikov za smeti z glavnega portala. V letu 2023 pa je Ministrstvo za kulturo vendarle začelo s prvimi prenovitvenimi deli na že razpadajoči grajski stavbi.

Zelo pomembno pa je tudi, da se s kulturnim spomenikom istoveti lokalna skupnost. Vinska klet Krško s svojo blagovno znamko Turn in s poimenovanjem nekaterih vin po zgodovinskih osebnostih z gradu promovira kulturni spomenik in njegovo zgodovino. Krajanje ohranjajo zgodovino Šrajbarskega turna tudi z igranimi uprizoritvami in drugimi prireditvami. Sprejetost med domačini in možnost vključevanja v vsakdanje življenje ljudi je namreč predpogoj za kakršnokoli uspešno prenovu dediščine oz. kulturnega spomenika.

Park landscaping next to Šrajbarski Turn castle

Mitja Simič, ZVKDS OE Novo Mesto

The Šrajbarski Turn castle area lies on the rugged terrain of the southern slopes of the Krško Hills above the Krško-Brežice Field. Today, due to the forest and permanent orchards, the location of the castle does not stand out in terms of location, giving the impression of remoteness. A medieval fort stood here initially, but not much is known about it. In the 16th century, the Turn Castle took on the appearance of a Renaissance manor, which it has preserved to this day despite many subsequent reconstructions.

The beginnings of park landscaping

Not much is known about the origin of most garden arrangements next to castle buildings in the territory of present day Slovenia, or there is significantly less knowledge about their origin than about the castles themselves. Generally, larger garden arrangements near castles the territory of present day Slovenia begin with the end of the threat of Turkish invasions at the beginning of the 17th century. Castle gardens and parks are usually first depicted in

Valvasor's images from the late 17th century, but these depictions are not always the most reliable.

The cadastre is a more reliable source, created for this territory around 1825 – the so-called Franciscan Cadastre.

The cadastre shows a larger garden arrangement next to the Castle, based on Renaissance Baroque patterns, while the southern part of the area shows a park arrangement, based on models of the English landscaping style.



Slika / Figure 22 Franciscejski kataster / Franciscan Cadastre

19th century

The castle estate had been owned by the Auerspergs for a long time (since 1653). From 1825 to 1876, the owner of the estate was Count Anton Aleksander Auersperg (1806–1876), who during this time wrote his (German) poems at the castle and became known as **Anastasius Grün** in the poetry circles of that time. He was a contemporary of France Prešeren, with whom they were friends – it is also known that Prešeren visited him at the Turn estate. The adjective "Šrajbarski" (derived from *šrajbati* – to write) originates from the fact that poets and writers lived there (first Anastasius Grün, later Friedrich Gager).

Grün's wife, Countess Marija Auersperg, née Attems (1816–1880), was also a creative spirit, and is remembered in the art history of Slovenia as a painter of floral still life paintings. During this period, the garden or park landscaping at Šrajbarski Turn reached its peak.

And it was during this time of a general cultural boom that the castle caretaker's son, Alfonz Paulin, an important Slovenian botanist, was born in 1853. Although there are no clear sources about his life at the castle, we can conclude that the exemplary landscaped park areas with their well-kept flora marked his professional path.

Photographs from the end of the 19th century show that the formal garden design was replaced by park areas modelled after the English landscape style, but are still meticulously arranged. When Anastasius Grün died, a mausoleum was built on the neighbouring hill according to the plans of the Graz architect Konrad Lueff, where the count and poet is buried. The mausoleum represents one of the most important and highest-quality constructions of its kind in Slovenia.

20th century

Slovenian parks and gardens reached their peak in the 19th century; afterwards, they somehow survived until the beginning of the Second World War, but mostly sadly deteriorated during after the war. Unfortunately, this is also true for Šrajbarski Turn. In 1903, the long period of Auersperg ownership came to an end. In 1918, writer Friedrich Gagern from Mokrice Castle became the owner of the estate, and in 1938, Janez Trenz, a landowner from Šentjernej, bought the estate. Although the park was relatively well maintained until the Second World War, the photos show a marked decline in the quality of the park.



Slika / Figure 23 Za časa družine Trenz / During the time of the Trenz family

After the Second World War, the castle and its estate were nationalised and placed under the management of Agrokombinat from Krško, and less fortunate citizens made their homes in the castle. Park arrangements along with many trees became degraded and overgrown. A section of the park was still used as a vegetable garden for some time, while the eastern section of the park was joined to the area of the large orchard between the castle

and the southern manor house (which lies outside the castle area). An orchard was also planted on the other side, between the mausoleum and the castle, so that the mausoleum no longer had its own access path.

In 1992, on the 50th anniversary of Alfonz Paulin's death, Slovenian botanists and the Municipality of Krško erected a stone menhir as a monument in the area of the former park.

The Šrajbarski Turn castle area (EID 1-08772) and the Mausoleum of Anastasius Grün (EID 1-10284) were declared cultural monuments of national importance in 1999. The mausoleum is located within the castle area, which also includes the castle itself, the park and the upper manor house.

Challenges of today

In 2009, the state took over ownership of the castle and the last residents moved out. Long-term lack of landscaping and maintenance led to degradation and almost completely unrecognisable park areas. Only rare fragments of the former park design have been preserved. A large part of the former park is overgrown with a forest and orchards.

Comprehensive renovation of the castle area is also complicated by unfavourable land ownership, which is fragmented between

the state (castle and park), agricultural cooperative (manor house), and other private owners, including the Auersperg family (mausoleum). From the perspective of renovation of park areas, the management of state property is very unfortunately divided, as the Ministry of Culture only manages the castle, while the park areas are managed by the Farmland and Forest Fund of the Republic of Slovenia. Of course, the Fund is not a suitable manager, since the park is not agricultural land by definition, and the Fund will not invest its resources, otherwise intended for agriculture, in its renovation. With inter-sectoral coordination, the park areas must in the future be transferred under the management of the Ministry of Culture, since the park is (or should be, at least) a cultural area. As it stands, in renovation of cultural monuments, parks and gardens are generally in a position subordinate to buildings.

Positive changes

However, in the last two years there have been some positive changes after a long time. Within the framework of the participatory budget, the Municipality of Brežice took care of some of the most urgent rehabilitation works in the park and replaced five trees, and also removed garbage containers from the main portal. In 2023, however, the Ministry of Culture began the first renovation works on the already crumbling castle building.

It is also very important that the local community identifies with the cultural monument. The Krško Wine Cellar promotes the cultural monument and its history with its Turn brand and by naming some wines after historical figures from the castle. The locals preserve the history of the Šrajbarski Turn by organising plays and other events. Acceptance among the locals and the option of integration into people's everyday life is a prerequisite for any successful renovation of the heritage or cultural monument.

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Posavci ter povezanost Paulina in Maksa Pleteršnika

Alenka Černelič Krošelj, Boštjan Kolar, Posavski muzej
Brežice

Uvod

Posavje med rekami Savo, Mirno, Krko in Sotlo je območje, v katerem se tisočletja prepletajo in spletajo različne zgodbe ljudi, ki so se tu rodili ali pa so se med te griče in ravnice naselili. Med burna in pestra stoletja lahko štejemo obdobje rimskega imperija, ko se je razvilo pomembno mesto Neviodunum, pa burno 16. stoletje s kmečkimi upori, rojstvom in življenjem Jurija Dalmatina (ok. 1547—1589) in Adama Bohoriča (ok. 1520—1598) ter njunim delom, ki je soomogočilo oblikovanje naroda in ohranjanje jezika, in pestro ter z dosežki polno 19. stoletje.

Velika pražupnija Leskovec pri Krškem je do leta 1894 vključevala tudi mesto Krško, oba bregova Save pa sta bila v Krškem leta 1866 povezana tudi z mostom. Poseben in pomemben premik je pomenila ustanovitev meščanske šole leta

1878 ter pestro dogajanje v vseh deželah v drugi polovici 19. stoletja, še posebej do začetka šestdesetih let prejšnjega stoletja.

O Posavcih in njihovi povezanosti

Alenka Černelič Krošelj, direktorica Posavskega muzeja Brežice, in Boštjan Kolar, kustos pedagog v Posavskem muzeju Brežice, sva predstavila čas sredine 19. stoletja – Pomlad narodov in izpostavila izjemne Posavce, ki so živeli in delovali v tem času. To so bili izobraženci, med katere bi lahko v tistem času šteli duhovnike, učitelje, zdravnike in pravnike, ki so se trudili in sooblikovali različne izraze in temelje narodne zavesti oziroma zavedanja, da zaradi posameznih lastnosti, jezika, izvora, geografskega porekla in tudi načina življenja, pripadajo enemu narodu, eni skupini, ki je poimenovana z enim imenom.

Obdobje, ki sta ga zaznamovali življenje in delo Alfonza Paulina, so na območju Posavja zaznamovali številni možje, v povezavi s Paulinom pa smo predstavili Dragotina Ferdinanda Ripšla, Ferdinanda Seidla, Ivana Lapajneto, dr. Radoslava Razlaga, Tomaža Romiha in Maksa Pleteršnika.

Dragotin Ferdinand Ripšl (1820—1887) je bil duhovnik, sadjar, pisec, pesnik, zbiratelj ljudskega izročila, vsestranski človek, ki je želel s svojim znanjem pomagati svojim župljanom in širše. Služboval je po Koroškem, Štajerskem in v Benečiji, kjer je bil vojni kurat. Njegovo zadnje mesto je bilo v župniji sv. Ruperta na

Vidmu ob Savi, kamor je prišel leta 1874; tu je umrl 8. novembra 1887. V času službovanja v Loki pri Zidanem Mostu je spisal knjižico *Kratki nauki za sadjerejo*, ki je prvič izšla leta 1867 na Dunaju. Posavje je bilo za sadjarstvo zelo ugodno, česar se je Ripšl tudi dobro zavedal in je bil zlasti na tem področju zelo aktiven. Manj znana ali skoraj neznana so »Ripšlova jabolka«, ki so jih imenovali tafeljček. Po vzoru in navodilih je skrbno spisal tri kronike, in sicer župnije sv. Martina nad Laškim, župnije Loka pri Zidanem Mostu in župnije sv. Ruperta na Vidmu. Obsežna Videmska kronika je osrednji vir za spoznavanje načina življenja celotnega območja na obeh bregovih reke Save v drugi polovici 19. stoletja.



Slika / Figure 24 Dragotin Ferdinand Ripšl (1. november 1820, Šentjur – 8. november 1887, Krško). Hrani Digitalna knjižnica Slovenije – dLib.si. / Dragotin Ferdinand Ripšl (1 November 1820, Šentjur – 8 November 1887, Krško). Kept by the Digital Library of Slovenia – dLib.si.

Ivan Lapajne (1849—1931), dr. Ferdinand Seidl (1856—1942) in dr. Tomaž Romih (1835—1935) so v Meščanski šoli Krško skrbeli za povezovanje z drugimi in prenos znanj na učence meščanske šole, ki so prihajale s celotnega območja, tako s Kranjskega (desni breg Save) kot s Štajerskega (levi breg Save). Še posebej so skrbeli za naravoslovje ter leta 1880/81 uredili šolski vrt. Načrt zanj je izdelal takratni znani in cenjeni dunajski

strokovnjak Machanek. Niso ga popolnoma uresničili, saj niso naredili vodometa in čebelnjaka. Ocenili so, da za čebele v Krškem ni bilo dovolj paše.

Načrt za Letno poročilo, objavljen leta 1886, je pod nadzorstvom učitelja risanja narisal učenec II. razreda meščanske šole, kasneje znan slikar in restavrator, Matej Sternen (1870—1949), ki se je nekaj let šolal v Krškem. Poglavitni nameni vrta so bili učenje sadjarstva, pouk o rastlinstvu, ki je potekal od marca do julija, ter vzgoja novih rastlin, trt in sadnega drevja. Na dveh delih so učenci sami poskušali gojiti razna semena, h katerim so pod vodstvom učitelja prirodoslovja Ferdinanda Seidla (1856—1942) postavili »etikete« – lesene plošče so prevlekli s holandsko belo oljnato barvo, na katero so s svinčnikom napisali imena v slovenskem, nemškem in včasih še v latinskem jeziku.



Slika / Figure 25 Ferdinand Seidl (10 March 1856, Novo mesto – 1 December 1942, Novo mesto). Kept by the Digital Library of Slovenia – dLib.si. / Ferdinand Seidl (10. marec 1856, Novo mesto – 1. december 1942, Novo mesto). Hrani Digitalna knjižnica Slovenije – dLib.si.

Ključna oseba pa je bil Ivan Lapajne (1849—1931), ki je v Krško prišel leta 1878 kot že uveljavljeni učitelj v Ljutomeru, učitelj, ki je veljal za načelnega, naprednega in slovenskemu narodu ter jeziku predanega učitelja. Ivan Lapajne je Krčanom najbolj znan po prvi domoznanski knjigi o mestu in območju. Knjiga Krško in Krčani, izdana leta 1894, je ena izmed najbolj priljubljenih in uporabljenih »krških« knjig od izida do danes. Njegovo delo na

številnih področjih ga umešča med najpomembnejše učitelje 19. stoletja. Bil je med ustanovitelji različnih društev v rodni Idriji, v Ljutomeru in v Krškem, kjer je bilo leta 1886 ustanovljeno *Pedagogiško društvo*, prvo tovrstno društvo na Slovenskem. Pisal in izdajal je slovenske učbenike in bil je med ustanovitelji *Dolenjskih novic* leta 1885. Ustanovil je posojilnico v Krškem in spodbujal ustanovitve drugje, skrbel za stalen napredek meščanske šole in mesta Krško ter obeh okrajev, saj je bila to edina meščanska šola daleč naokoli, obiskovali pa so jo tako Kranjci kot Štajerci.

Z vsemi je bil povezan tudi dr. Radoslav Razlag. Razlag, rojen leta 1826 v Radoslavcih pri Ljutomeru, je prišel v Brežice junija 1862. Do leta 1869 je v mestu deloval kot odvetnik, v širšo družbo pa se je vključeval na različnih področjih. V t. i. prvem brežiškem obdobju je bil aktiven po vsem Štajerskem, sodeloval na taborih, izdal pesmarico, bil izvoljen v štajerski deželni zbor in odbor Slovenske matice (ustanovljena leta 1865) ... Za naslednji dom si je izbral Ljubljano, stike pa je ohranjal, saj je še naprej sodeloval npr. z župnikom Dragotinom Ferdinandom Ripšlom. Oba sta bila 2. maja 1869 govornika na taboru v Sevnici, bila pa sta tudi ustanovna člana Slovenskega pisateljskega društva. V Brežice se je po izjemni politični poti že bolan in očitno naveličan burnega političnega življenja vrnil leta 1877. Na desnem bregu Save je še vedno »razlagovina«, kjer je kmetoval in se ukvarjal s sadjarstvom. Njegova zadnja služba grajskega oskrbnika je bila v gradu, ki je danes dom Posavskega muzeja Brežice.



Slika / Figure 26 Dr. Radoslav Razlag (12. januar 1826, Radoslavci – 5. junij 1880, Brežice. Hrani Digitalna knjižnica Slovenije – dLib. / Dr Radoslav Razlag (12 January 1826, Radoslavci – 5 June 1880, Brežice). Kept by the Digital Library of Slovenia – dLib.si.

Maks Pleteršnik se je rodil 3. decembra 1840 Francu Pleteršniku, učitelju v zasebni šoli na gradu Pišece, ki jo je z lastnimi sredstvi ustanovil napredni baron Anton Albert Moscon (1782– 1822). Maks Pleteršnik je obiskoval štiri razrede ljudske šole v Pišecah, med letoma 1851 in 1859 pa gimnazijo v Celju, kjer je bil vedno med najboljšimi učenca. Na dunajski univerzi je dokončal študij klasične filologije in slovanskega jezikoslovja pri profesorju

Franu Miklošiču (1813–1891). Po študiju je služboval kot profesor na različnih gimnazijah. Od leta 1863 je poučeval na gimnaziji v Mariboru in od leta 1864 na gimnaziji v Celju. Leta 1865 je bil imenovan na gimnazijo v Kranju in že istega začel poučevati slovenščino na gimnaziji v Gorici, od tam pa je bil premeščen leta 1867 na gimnazijo v Trst. Leta 1871 je bil premeščen na I. državno gimnazijo v Ljubljano, kjer je poučeval vse do svoje upokojitve leta 1900 (Breznik 2013).

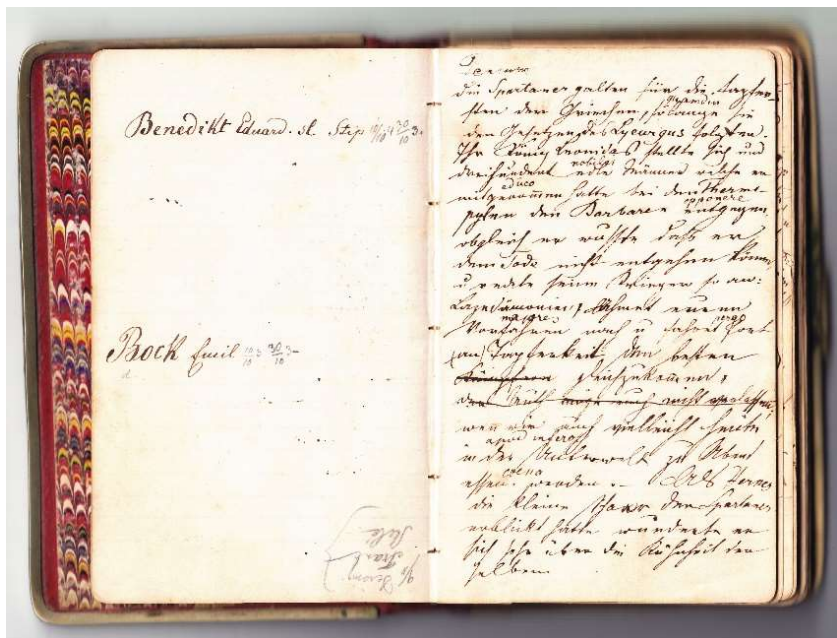


Slika / Figure 27 Portret Maksa Pleteršnika iz leta 1880, foto: Ernst Pogorelz, Ljubljana. Hrani: Posavski muzej Brežice. / Portrait of Maks Pleteršnik from 1880, photo: Ernst Pogorelz, Ljubljana. Kept by: Posavje Museum Brežice.

Pleteršnikovo življenjsko delo je izdaja Velikega slovensko-nemškega slovarja, ki ga je urejal med letoma 1883 in 1895. V pripravo slovarja je bil vključen že zelo zgodaj, leta 1883 pa je postal urednik že pridobljenega gradiva. Slovar je izšel je v 23 snopičih, končno podobo pa je dobil v dveh knjigah, ki sta izšli v letih 1894 in 1895. Pomagal je tudi pri tisku Staroslovensko-grško-latinskega leksikona (Dunaj 1862–1865), pri prireditvi Rožkovega latinsko-slovenskega slovnika za 3. in 4. gimnazijski razred (izšel 1882), kjer je obdelal več kot petino dela ter pregledal in za tisk pripravil cel rokopis (Breznik 2013).

Maks Pleteršnik je bil zelo dejaven tudi v različnih društvih, v Posavskem muzeju Brežice med drugim hranimo listino, ki je bila leta 1871 podeljena Maksu Pleteršniku kot ustanovnemu članu Slovenske matice v Ljubljani. Nekaj časa je bil podpredsednik Slovenske matice, največje delo pri matici je opravil z zbiranjem slovenskih krajevnih imen. Zbral je ogromno gradiva, delo pa ni bilo nikoli dokončano in objavljeno (Dokumentacija Posavskega muzeja Brežice).

V Posavskem muzeju Brežice hranimo njegovo redovalnico, v katero je zapisoval sezname dijakov, njihove ocene, urnik, nekaj je tudi zapiskov v nemški gotici. Po upokojitvi je živel med Ljubljano in Pišecami. Smrt ga je pričakala 13. septembra 1923 v Pišecah, kjer je tudi pokopan (Dokumentacija Posavskega muzeja Brežice).



Slika / Figure 28 Pogled v profesorsko redovalnico Maksa Pleteršnika. Hrani Posavski muzej Brežice. / Professor Maks Pleteršnik's grade book. Kept by Posavje Museum Brežice.

Maks Pleteršnik je v letih 1887–1893 sodeloval tudi z botanikom Alfonzom Paulinom (1853–1942), ki je za Veliki slovensko-nemški slovar uredil vse gradivo, ki se nanaša na prirodoslovje (Piskernik, 1935). Zanimivo je bilo, da sta bila rojena dokaj blizu, Paulin na Kranjskem, le 20 km stran od Pleteršnika na

Štajerskem. Oba izjemna moža sta bila v svojem času pomembna znanstvenika in pedagoga, ki sta s svojim zelo aktivnim življenjem doprinesla veliko tako na znanstvenem področju, s strokovnim pisanjem, kot tudi z aktivnim delom v šolstvu. Alfonz Pavlin je bil pomemben pisec učbenikov, med drugimi je po njem priredil učbenik Botanika za I. in II. razred srednjih šol Franc Dolžan leta 1939. Tako Paulin kot Pleteršnik sta bila profesorja na ljubljanski gimnaziji (Paulin 1881–1910, Pleteršnik 1871–1900) in za svoje izjemno delo tudi odlikovana z viteškim križcem Franc Jožefovega reda (Paulin 1910, Pleteršnik okoli 1900).

Oba sta krajši čas svojega začetnega delovnega obdobja preživela v Trstu. Pleteršnik je poučeval na tamkajšnji gimnaziji, Paulin pa proučeval morsko rastlinstvo in živalstvo. Maks Pleteršnik je prevajal tudi literarna dela iz nemščine v slovenščino (Kalifornijske povesti, Desno oko poveljnikovo, Gospoda Thompsona izgubljeni sin). Podobno je tudi Paulin prevedel Zoologijski atlant iz leta 1901, ki ga je sestavil Heinrich Leutemann, knjigo, ki je namenjena mladini in ji razlaga živalske vrste (Breznik 2013; Piskernik 1935).



Slika / Figure 29 Alfonz Paulin, botanik, pedagog. Hrani Digitalna knjižnica Slovenije – dLib.si. / Alfonz Paulin, botanist, educator. Kept by the Digital Library of Slovenia – dLib.si.

Zaključek

Izjemni soustvarjalci 19. stoletja in začetka 20. stoletja so sooblikovali območje, kjer se je rodil Alfonz Paulin, skupaj z njim pa je njihovo delo segalo daleč naokoli in je vidno tudi v 21. stoletju.

Lower Sava Valley locals and the link between Paulin and Maks Pleteršnik

Alenka Černelič Krošelj, Boštjan Kolar, Posavski muzej Brežice

Introduction

The Lower Sava Valley, located between the rivers Sava, Mirna, Krka and Sotla, is an area in which the different stories of the people who were born here or who settled among these hills and plains have been intertwining for thousands of years. Some of the turbulent and interesting centuries include the period of the Roman Empire, during which the important city of Neviodunum developed, and the turbulent 16th century with peasant revolts, the birth and life of Juri Dalmatin (ca. 1547–1589) and Adam Bohorič (ca. 1520–1598) and their work, which enabled the formation of the nation and the preservation of the language, and an interesting 19th century filled with many achievements.

The large parish of Leskovec pri Krškem included the town of Krško until 1894, and the two banks of the Sava were connected in Krško by a bridge in 1866. A special and important shift was the establishment of the higher primary school in 1878 and the varied events in all regions in the second half of the 19th century, especially until the beginning of the 1860s.

About the Lower Sava Valley locals and their connectedness

Alenka Černelič Krošelj, director of the Posavje Museum Brežice, and Boštjan Kolar, curator and educator at the Posavje Museum Brežice, presented the time of the middle of the 19th century, the Spring of Nations, and highlighted the exceptional Lower Sava Valley locals who lived and worked during that time. These were educated people, at that time including priests, teachers, doctors and lawyers, who worked hard and co-created various expressions and foundations of national consciousness or the awareness that they, because of individual characteristics, language, origin, geographical origin and also the way of life, belong to a specific nation, one group, which is called by one name.

The period marked by the life and work of Alfonz Paulin was also marked by many other people in the Lower Sava Valley region. In connection with Paulin, we presented Dragotin Ferdinand

Ripšl, Ferdinand Seidl, Ivan Lapajne, Dr Radoslav Razlag, Tomaž Romih, Maks Pleteršnik, as well as Alfonz Paulin.

Dragotin Ferdinand Ripšl (1820—1887) was a priest, fruit grower, writer, poet, collector of folklore, a versatile man who wanted to use his knowledge to help his parishioners and others outside his parish. He served in Carinthia, Styria and Venecia, where he was an army chaplain. His last position was in the parish of St. Rupert on Videm ob Savi, where he arrived in 1874; he died here on 8 November 1887. During his service in Loka pri Zidanem Mostu, he wrote the booklet *Kratki nauki za sadjerejo* (*Short Lessons on Fruit Growing*), which was first published in 1867 in Vienna. The Lower Sava Valley was very good for fruit growing, which Ripšl was well aware of and was particularly active in this field. Less known or almost unknown are "Ripšl's apples", which were called *tafeljček*. Following a specific model and instructions, he carefully wrote three chronicles, namely the Chronicle of the Parish of Sv. Martin nad Laškim, the Chronicle of the Parish of Loka pri Zidanem Mostu, and the Chronicle of the Parish of Sv. Rupert na Vidmu. The extensive Videm Chronicle is the central source for learning about the lives of locals in this region on both banks of the Sava in the second half of the 19th century.

In the Krško Higher Primary School, Ivan Lapajne (1849–1931), Dr Ferdinand Seidl (1856–1942) and Dr Tomaž Romih helped establish connections and transferred knowledge to the students

of the higher primarily school, who came from the whole area, both from Carniola (right bank of the Sava) and Styria (left bank of the Sava). They were primarily active in natural sciences and in 1880/81 arranged a school garden. The plan for the garden was made by the then well-known and respected Viennese expert Machanek. They did not fully implement the plan, because they did not make a water fountain and a beehive. They assessed that there was not sufficient bee pasture in Krško.



Slika / Figure 30 Tomaž Romih (8. december 1853, Dobje pri Planini – 15. december 1935, Novo mesto. Hrani Digitalna knjižnica Slovenije – dLib. / Tomaž Romih (8

December 1853, Dobje pri Planini – 15 December 1935, Novo mesto). Kept by the Digital Library of Slovenia – dLib.si.

The plan for the Annual Report, published in 1886, was drawn by a student of the 2nd grade of the higher primary school, later a well-known painter and restorer, Matej Sternen (1870–1949), who studied for several years in Krško. The main purposes of the garden were to teach fruit cultivation and lessons in botany, which took place from March to July, and the cultivation of new plants, vines and fruit trees. In two sections, students themselves tried to grow various seeds, which were then marked with labels, under the guidance of science teacher Ferdinand Seidl (1856–1942) – wooden boards were covered with Holland white oil paint, on which they wrote names in Slovene with a pencil, in German, and sometimes also in Latin.

The key person was Ivan Lapajne (1849–1931), who came to Krško in 1878 as an already established teacher in Ljutomer, a teacher who was considered principled, progressive and devoted to the Slovenian nation and language. Ivan Lapajne is best known to the people of Krško for the first local history book about the city and the area. The book *Krško and Krčani (Krško and Krško Residents)*, published in 1894, is one of the most popular and used "Krško" books since its publication until today. His work in many fields places him among the most important teachers of the 19th century. He was among the founders of various societies in his native Idrija, in Ljutomer and in Krško, where the Pedagogical

Society, the first such society in Slovenia, was founded in 1886. He wrote and published Slovenian textbooks and was one of the founders of *Dolenjske novice* (*Lower Carniola News*) in 1885. He founded a loan company in Krško and encouraged the establishment elsewhere, promoted constant progress of the higher primary school and the town of Krško and the two districts, as it was the only higher primary school in the area, and was attended by both the people of Carniola and the people of Styria.



Slika / Figure 31 Ivan Lapajne (22. november 1849, Vojsko – 16. november 1931, Krško). Hrani Digitalna knjižnica Slovenije – dLib. / Ivan Lapajne (22 November 1849, Vojsko – 16 November 1931, Krško). Kept by the Digital Library of Slovenia – dLib.si.

All of them were also connected to Dr Radoslav Razlag. Razlag, born in Radoslavci near Ljutomer in 1826, came to Brežice in June 1862. Until 1869, he worked as a lawyer in the city, and was involved in the wider society in various fields. During the so-called first Brežice period, he was active all over Styria, participated in camps, published a songbook, was elected to the Styrian regional assembly and the board of Slovenska matica (Slovenian Society, founded in 1865) ... He chose Ljubljana as his next home, but maintained contacts, as he continued his collaboration with others, for example with parish priest Dragotin Ferdinand Ripšl. Both were speakers at the camp in Sevnica on 2 May 1869, and were also founding members of the Slovene Writers' Association. After an extraordinary political career, he returned to Brežice in 1877, already sick and clearly tired of the turbulent political life. On the right bank of the Sava, there is still an area called *razlagovina*, where he farmed and grew fruit. His last job as a castle caretaker was in the castle that today houses the Posavje Museum Brežice.



Slika / Figure 32 Odkritje plošče z napisom Dr. Jakob Radoslav Razlag / Rodoljub, pesnik, pisec, odvetnik, prvi slovenski glavar dežele Kranjske, narodni buditelj, glasnik Zedinjene Slovenije. / Radoslavci, 12. 7. 1826 – Brežice, 5. 6. 1880 / Ob 140. obletnici njegove smrti, 5. 6. 2020. na Mestni hiši v Brežicah, 5. 6. 2020. Foto: Arhiv Posavskega muzeja Brežice. / Unveiling of a plaque with the inscription Dr Jakob Radoslav Razlag / Patriot, poet, writer, lawyer, first Slovenian governor of Carniola, national awakener, herald of united Slovenia. / Radoslavci, 12 July 1826 – Brežice, 5 June 1880 / On the 140th anniversary of his death, 5 June 2020 at the Town Hall in Brežice, 5 June 2020. Photo: Archive of the Posavje Museum Brežice.

Maks Pleteršnik was born on 3 December 1840 to Franc Pleteršnik, a teacher in a private school at Pišce Castle, which

was founded with his own funds by the progressive baron Anton Albert Moscon (1782–1822). Maks Pleteršnik attended four grades at the folk school in Pišce, and the gymnasium in Celje between 1851 and 1859, where he was always among the best students. At the University of Vienna, he completed his studies in classical philology and Slavic linguistics under professor Fran Miklošič (1813–1891). After his studies, he worked as a professor at various gymnasiums. From 1863 he taught at the gymnasium in Maribor, and at the gymnasium in Celje from 1864. In 1865, he was appointed to the gymnasium in Kranj. The same year he started teaching Slovenian at the gymnasium in Gorica, from where he was transferred in 1867 to the gymnasium in Trieste. In 1871, he was transferred to the First State Gymnasium in Ljubljana, where he taught until his retirement in 1900 (Breznik 2013).

Pleteršnik's life's work is the publication of *Great Slovenian–German Dictionary*, which he edited between 1883 and 1895. He became involved in the preparation of the dictionary very early, and in 1883 he became the editor of the already collected material. The dictionary was published in 23 bundles, and it took its final form in two books, published in 1894 and 1895. He also helped with the printing of *Old Slovene–Greek–Latin Lexicon* (Vienna 1862–1865), with the preparation of Rožko's *Latin–Slovene Dictionary* for the 3rd and 4th gymnasium grades (published in 1882), where he did more than one fifth of the work

and reviewed and prepared the entire manuscript for printing (Breznik 2013).

Maks Pleteršnik was also very active in various societies. The Posavje Museum Brežice holds, among other things, the document awarded to Maks Pleteršnik in 1871 as a founding member of the Slovene Society in Ljubljana in 1864. For some time he was the vice-president of Slovene Society, and his greatest work at the Society was collecting Slovenian place names. He collected a huge amount of material, but the work was never completed and published (Documentation of the Posavje Museum Brežice).



Slika / Figure 33 Listina, podeljena Maksu Pleteršniku kot ustanovnemu članu Slovenske matice v Ljubljani leta 1871. Hrani Posavski muzej Brežice. / The document awarded to Maks Pleteršnik in 1871 as a founding member of the Slovene Society in Ljubljana. Kept by Posavje Museum Brežice.

Posavje Museum Brežice keeps his notebook, in which he wrote down lists of students, their grades, timetables, and some notes in German Gothic script. After retirement, he lived in Ljubljana and

Pišece. He died on 13 September 1923 in Pišece, where he is also buried (Documentation of the Posavje Museum Brežice).

From 1887 to 1893, Maks Pleteršnik collaborated with botanist Alfonz Paulin (1853–1942), who edited all the material relating to natural history for the *Great Slovenian–German Dictionary* (Piskernik, 1935). It is interesting that the two were born quite close to each other, Paulin in Upper Carniola, only 20 km away from Pleteršnik in Styria. Both exceptional men were important scientists and educators in their time, who with their very active lives contributed greatly to science with professional writing and to education with their active work. Alfonz Paulin was an important writer of textbooks; among others, Franc Dolžan adapted the textbook *Botany for 1st and 2nd Grade of Secondary School* in 1939 from Paulin's work. Both Paulin and Pleteršnik were professors at the Ljubljana Gymnasium (Paulin 1881–1910, Pleteršnik 1871–1900) and were also awarded the Knight's Cross of the Order of Franz Joseph for their exceptional work (Paulin 1910, Pleteršnik around 1900).



Slika / Figure 34 Maks Pleteršnik med gimnazijskimi dijaki, ok. 1900, Ljubljana. Hrani Posavski muzej Brežice. / Maks Pleteršnik among gymnasium students, circa 1900, Ljubljana. Kept by Posavje Museum Brežice.

Both spent some time of their initial working period in Trieste. Pleteršnik taught at the local gymnasium, while Paulin studied marine flora and fauna. Maks Pleteršnik also translated literary works from German into Slovenian (*California Stories*, *Right Eye of the Commander*, *Mr Thompson's Prodigal*). Similarly, Paulin also translated the 1901 *Zoologijski atlant* (*Zoological Atlas*)

compiled by Heinrich Leutemann, a book aimed at youth and explaining animal species (Breznik 2013, Piskernik 1935).

Conclusion

The exceptional co-creators of the 19th century and the beginning of the 20th century together shaped the area where Alfonz Paulin was born, and their work reached far and wide with Paulin, and is still visible in the 21st century.

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Šesto letno poročilo deške meščanske šole s kmetijskim značajem v Krškem 1886/7. Dodatek: Načrt šolskega vrta. Hrani Slovenski šolski muzej.

Celostni razstavno- raziskovalni projekt Mestnega muzeja Krško: Alfonz Paulin (1853–1942)

Nina Sotelšek, Klaudija Cigole, Anita Radkovič, Mestni muzej
Krško (enota Kulturnega doma Krško)

Ob 170. obletnici rojstva Alfonza Paulina smo v Mestnem muzeju Krško v sklopu *Paulinovih dni* 14.–15. septembra 2023 v partnerstvu priredili niz dogodkov. Njegovo življenje in delo je bilo podrobno prikazano na enodnevnem simpoziju *Botanik Alfonz Paulin (1853–1942)*, na katerem so z referati sodelovali predstavniki Botaničnega vrta Univerze v Ljubljani, Ustanove Slovenska znanstvena fundacija, Zavoda za varstvo kulturne dediščine Slovenije OE Novo mesto, Slovenskega šolskega muzeja, Prirodoslovnega muzeja Slovenije, Posavskega muzeja Brežice, Botaničnega društva Slovenije, Biološkega inštituta Jovana Hadžija ZRC SAZU, Univerze v Novi Gorici in Kulturnega društva Leskovec pri Krškem.

Simpoziju je sledilo odprtje *muzejske vitrine Botanik Alfonz Paulin (1853–1942)* avtoric Klaudije Cigole, Nine Sotelšek in Anite Radkovič. Program odprtja so s kratkim prizorom iz Paulinovega otroštva z naslovom *Ko bom velik, bom gledal rože* sooblikovali člani Kulturnega društva Leskovec pri Krškem, ki so naslednji dan v OŠ Leskovec pri Krškem z igranim prizorom *Kako so živeli na gradu* predstavili tudi rodbino Auersperg in družino Alfonza Paulina (Mestni muzej Krško 2023a).

Mestni muzej Krško je eden najmlajših muzejev v Sloveniji in je na poti, ko se vzpostavlja v okolju svojega delovanja, gradi zbirke in dokumentira znanje. S holističnim pristopom k varovanju, ohranjanju in komuniciranju snovne in nesnovne kulturne dediščine kot vrednote življenja se navezuje na interpretacijo preteklega življenja od prazgodovine do danes v geografskih okvirih občinskih meja (Šola 2003). Muzejska zbiralna politika je zato usmerjena v zbiranje materialne in nesnovne dediščine in drugega gradiva, ki so ga uporabljali ali ustvarjali tu živeči posamezniki in skupnosti. Kot splošni muzej raziskuje in zbira gradivo, vezano na 20. stoletje, in se pri izpolnjevanju svojega poslanstva osredotoča na razumevanje potreb sodobne družbe (Sečnik, Sotelšek 2021). Za ta namen vzpostavlja in trajno vzdržuje komunikacijo s člani svoje dediščinske skupnosti.

Pobude za raziskovanje posameznega segmenta lokalne zgodovine po navadi podajo muzejski strokovnjaki in so oblikovane glede na programske zahteve muzeja in vizijo razvoja

zbirk. Lahko pa so, v okviru izpolnjevanja zahtev sodobnega muzealstva, ki promovira možnost sodelovanja javnosti v kontekstu participativne dediščinske paradigme, pobudniki tudi posamezniki in društva, ki prepoznavajo dediščino kot pomemben identitetni tvornik kraja (Simon 2011). Taki primeri so redki, vendar dragoceni in so kazalnik uspešno vzpostavljene vezi z lokalno skupnostjo in s tem uresničevanja muzejskega poslanstva.

Temo, ki se navezuje na raziskovanje življenja in dela Alfonza Paulina, so predlagali lokalni prebivalci, ki so prepoznali, da je muzej prostor, ki je primeren za predstavljanje tovrstne dediščine. Za muzejske strokovne delavce je takšno sodelovanje nenadomestljivo, saj člani lokalne skupnosti posredujejo informacije pri posameznih raziskovalnih projektih in sodelujejo pri dopolnjevanju muzejskih zbirk (Sotelšek, Sečnik 2023, Sotelšek 2021). Tako smo tudi v okviru razstavnega projekta o botaniku in raziskovalcu Alfonzu Paulinu pridobili predmete, jih umestili v muzejsko zbirko in prikazali na razstavi.

Raziskovanje za pripravo muzejske razstave je hkrati sprožilo mreženje z drugimi dediščinskimi ustanovami, tj. knjižnicami in muzeji, saj prepoznavamo, da brez sodelovanja in soustvarjanja s sorodnimi institucijami in strokovnjaki ni mogoče upravičiti standarda sodobnega muzeja. Paulinova dela hranijo specializirane knjižnice in so večinoma namenjena le za čitalniško konzultacijo. Izposodili smo si njegov izvirni učbenik

botanike, pisan v slovenščini, *Prirodopis rastlinstva*. Za nižje razrede srednjih šol, ki je izšel leta 1898 in je bil osnova za mnoge kasnejše učbenike botanike (Praprotnik 1993, Praprotnik 2015).

Alfonz Paulin je svoje raziskovalno delo, podkrepljeno s terenskimi raziskavami po vsej Kranjski, v obdobju 1895–1917 objavljaj v strokovnem in znanstvenem tisku (Praprotnik et al. 2021). Eden od strokovnih prispevkov, v katerem obravnava praproti z območja Kranjske, je *Die Farne Krains*, objavljen leta 1906. Njegovo sodelovanje z mednarodnimi strokovnjaki predstavlja knjiga o rastlinstvu Kamniških Alp – *Flora der Sanntaler Alpen (Steiner Alpen)* iz leta 1907, ki jo je napisal skupaj z avstrijskim botanikom Augustom von Hayekom. Obe knjigi sta del muzejske postavitve, pri kateri smo sodelovali tudi z Botaničnim vrtom Univerze v Ljubljani, ki je prispeval fotografije iz Botaničnega vrta.

Največje Paulinovo delo je herbarijska zbirka *Flora Exsiccata Carniolica*, ki jo hrani Prirodoslovni muzej Slovenije. Posodili so nam botanikovo herbarijsko škatlo z napisom »Paulin *Flora Exsiccata Carniolica*«, v kateri so bile hranjene herbarijske pole tega znanstveno najvišje ovrednotenega dela, ki po mnenju strokovnjakov predstavlja temeljni kamen novejšje slovenske floristike. V obdobju 35 let je izšlo 20 centurij, ki so jih spremljale shede, v publikaciji izdane tiskane ali ročno pisane etikete. Ena od tiskanih etiket, iz leta 1902, je ravno tako del razstave (Praprotnik 1993, Praprotnik 2015, Praprotnik et. al 2021).

V Mestnem muzeju Krško hranimo dve znamki, povezani z Alfonzom Paulinom in njegovim delom, in smo ju ob tej priložnosti pokazali javnosti. Leta 2003, ob 150. obletnici Paulinovega rojstva, je Pošta Slovenija spomnila na njegov prispevek k botaniki z izdajo priložnostne poštne znamke in ovitka prvega dne s poštnim žigom 8273 Leskovec pri Krškem (Marinček 2003). Druga znamka in ovitek prvega dne iz leta 2020 sta izšla ob 100. obletnici Spomenice za varstvo narave, dokumenta, v katerem so vidni naravoslovci, med njimi tudi Paulin, zahtevali zavarovanje ogrožene narave. V *Spomenici* so povzeta Paulinova spoznanja s področja rastlinstva, zapisana v njegovem neobjavljenem rokopisu (Skoberne 2020a, Skoberne 2020b).

Pomen življenja in dela Alfonza Paulina je bil predstavljen v oddaji Na vrtu, ki jo ustvarja Regionalni RTV center Maribor – TV Maribor. Oddaja, ki je nastajala tudi na razstavi v Mestnem muzeju Krško, bo na rednem programu TV Slovenija v letu 2024.

S tem in podobnimi projekti se v muzej stekajo znanje in predmeti, ki na simbolni ravni pričajo o ustvarjalnih ljudeh in izstopajočih dogodkih v našem okolju. Temu na novo pridobljenemu vedenju in materialnemu gradivu je s standardiziranimi dokumentacijskimi postopki zagotovljeno, da bosta ostala fiksirana in s tem trajno dostopna zainteresiranim uporabnikom (Maroević 2020). To pa je jamstvo, da bodo muzeji

tudi v prihodnje zaupanja vredne javne ustanove, ki ponujajo več kot potrošniška industrija.



Slika / Figure 35 Paulinova predstavitev v Mestnem muzeju Krško Foto: Nina Sotelšek
/Exhibition of Alfons Paulin in City Museum Krško Photo: Nina Sotelšek

Comprehensive exhibition and research project of the Krško City Museum: Alfonz Paulin (1853–1942)

Nina Sotelšek, Klaudija Cigole, Anita Radkovič Krško City
Museum (unit of the Krško Cultural Centre)

On the 170th anniversary of the birth of Alfonz Paulin, we at the Krško City Museum organised a series of events in partnership as part of the Paulin's Days on 14–15 September 2023. His life and work were presented in detail at the one-day symposium entitled *Botanist Alfonz Paulin (1853–1942)*, where papers were presented by representatives of the University Botanic Gardens Ljubljana, the Slovenian Science Foundation, the Novo mesto Regional Office of the Institute for the Protection of the Cultural Heritage of Slovenia, the Slovenian School Museum, Natural History Museum of Slovenia, Posavje Museum Brežice, Botanical Society of Slovenia, Jovan Hadži Institute of Biology of the Research Centre of the Slovenian Academy of Sciences and

Arts, University of Nova Gorica, and the Leskovec pri Krškem Cultural Society.

The symposium was followed by the opening of the museum display entitled *Botanist Alfonz Paulin (1853–1942)* by Klaudija Cigole, Nina Sotelšek and Anita Radkovič. The opening programme was co-created with a short scene from Paulin's childhood entitled *When I grow up, I will look at flowers* by the members of the Leskovec pri Krškem Cultural Society, who the following day also presented the Auersperg family and Alfonz Paulin's family in Leskovec pri Krškem Primary School with the play *How they lived at the castle* (Krško City Museum 2023a).

The Krško City Museum is one of the youngest museums in Slovenia and is in the process of establishing itself in its environment, building collections and documenting knowledge. With a holistic approach to the protection, preservation and communication of tangible and intangible cultural heritage as a value of life, it connects to the interpretation of life in the past, from prehistoric times to the present day, within the geographical framework of municipal boundaries (Šola 2003). The museum's policy of collection is therefore aimed at collecting tangible and intangible heritage and other materials that were used or created by individuals and communities living here. As a general museum, it researches and collects material related to the 20th century, and in its mission focuses on understanding the needs of modern society (Sečnik, Sotelšek 2021). For this purpose, it is

establishing and permanently maintaining communication with members of its heritage community.

Initiatives to research a particular segment of local history are usually given by museum experts and are designed according to the programme requirements of the museum and the vision of collection development. However, within the framework of meeting the requirements of modern museology, which promotes the possibility of public participation in the context of the participatory heritage paradigm, initiators can also be individuals and associations that recognise heritage as an important factor in forming the identity of a place (Simon 2011). Such cases are rare but valuable, and are an indicator of successfully established ties with the local community and thus the realisation of the museum's mission.

The topic related to the research of the life and work of Alfonz Paulin was proposed by local residents, who recognised that the museum is a suitable place to present this kind of heritage. Such cooperation is irreplaceable for museum experts, as members of the local community provide information for individual research projects and participate in the development of museum collections (Sotelšek, Sečnik 2023, Sotelšek 2021). Thus, as part of the exhibition project on botanist and researcher Alfonz Paulin, we acquired objects, placed them in the museum collection, and displayed them at the exhibition.

Research for the preparation of the museum exhibition simultaneously initiated networking with other heritage institutions, i.e. libraries and museums, as we recognise that it is not possible to justify the standard of a modern museum without cooperation and co-creation with related institutions and experts. Paulin's works are kept by specialised libraries and are mostly intended only for reading consultation. We borrowed his original botanical textbook, written in Slovenian, *Prirodopis rastlinstva. Za nižje razrede srednjih šol* (*Natural History of Flora. For Lower Secondary School Grades*), which was published in 1898 and was the basis for many subsequent botanical textbooks (Praprotnik 1993, Praprotnik 2015).

Alfonz Paulin published his research work, supported by field research throughout Carniola, in expert and scientific printed publications from 1895 to 1917 (Praprotnik et al. 2021). *Die Farne Krains* (*Ferns of Carniola*), published in 1906, is one of the expert articles in which he discusses ferns from the territory of Carniola. His collaboration with international experts is represented by the book on the flora of Kamnik Alps from 1907, *Flora der Sanntaler Alpen* (*Steiner Alpen*), which he wrote together with the Austrian botanist August von Hayek. Both books are part of the museum exhibition, for which we also collaborated with the University Botanic Gardens Ljubljana, which contributed photos from the Botanic Gardens.

Paulin's greatest work is the herbarium collection *Flora exsiccata Carniolica*, which is kept by the Natural History Museum of Slovenia. They lent us the botanist's herbarium box with the inscription "Paulin *Flora exsiccata Carniolica*", which contained herbarium sheets in addition to this work of the highest scientific value that represents, according to experts, the cornerstone of modern Slovenian floristry. Twenty *centuriae* were published in a period of 35 years, accompanied by cards and printed or handwritten labels issued in the publication. One of the printed labels, from 1902, is also part of the exhibition (Praprotnik 1993, Praprotnik 2015, Praprotnik et. al 2021).

The Krško City Museum keeps two stamps related to Alfonz Paulin and his work, which were displayed for the public on this occasion. In 2003, on the 150th anniversary of Paulin's birth, the Post of Slovenia commemorated his contribution to botany by issuing a commemorative postage stamp and a first-day cover with the postmark 8273 Leskovec pri Krškem (Marinček 2003). The second stamp and first-day cover from 2020 were issued on the 100th anniversary of the *Memorandum on the Protection of Nature*, a document in which prominent naturalists, including Paulin, demanded the protection of endangered nature. The *Memorandum* summarises Paulin's findings in the field of botany, written in his unpublished manuscript (Skoberne 2020a, Skoberne 2020b).

The significance of Alfonz Paulin's life and work was presented in a TV show *Na vrtu (In the Garden)*, produced by the Regional RTV Centre Maribor – TV Maribor. The show, which was also filmed at the exhibition in the Krško City Museum, will be broadcast during the regular programme of TV Slovenia in 2024.

With this and similar projects, knowledge and objects that symbolically tell the tale of creative people and important events in our environment flow into the museum. Standardised documentation procedures ensure that this newly acquired knowledge and material remains fixed and thus permanently accessible to interested users (Maroević 2020). This represents a guarantee that museums will continue to be trustworthy public institutions that offer more than the consumer industry.

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Sodelovanje Paulina z Augustom Hayekom

prof. in znan. svet dr. Andraž Čarni, Biološki inštitut Jovana Hadžija in Univerza v Novi Gorici

V nadaljevanju bomo osvetlili sodelovanje med Paulinom in Augustom Hayekom, dunajskim botanikom in zdravnikom, ki se je rodil leta 1871 na Dunaju in tam tudi umrl leta 1928. Bil je sin naravoslovca Gustava von Hayeka in oče ekonomista in Nobelovega nagrajenca Friedricha Hayeka.

Hayek je 1895 je doktoriral na dunajski univerzi in se kmalu zaposlil na občinskem ministrstvu za zdravje. Doktoriral je leta 1905. Od leta 1922 je poučeval na Hochschule für Bodenkultur na Dunaju, od leta 1926 pa je bil izredni profesor na tej univerzi (Vierhapper 1929).

Hayek pa je pomemben za botanične raziskave v Avstro-Ogrski, raziskoval je razvoj flore vzdolž vzhodnega in jugozahodnega obrobja Alp, zlasti na Štajerskem. Na področju sistematike rastlin se je specializiral za vrste glavincev (*Centaurea*), s celega podočja monarhije.



Slika / Figure 36 August Hayek (1872-1928). Foto: Fayer / August Hayek (1872-1928). Photo: Fayer

S Paulinom, skupaj sta napisal knjigo *Flora der Sanntaler Alpen* leta 1907 (Hayek & Paulin 1905). Sanntaler Alpen so Kamniško-Savinjske Alpe, ki jih delimo na Steiner Alpen oziroma Kamniker Alpen (Kamniške Alpe) in Sulzbacher Alpen (Olševa) oziroma Savinjske Alpe.

V delu sta naštela okoli 700 vrst na tem območju, ki rastejo na Kranjskem, Štajerskem in Koroškem. Za vsako vrsto sta navedla

ime in njeno rastišče, habitat, kjer se pojavljanja in zvezno deželo, kot so Koroška, Štajerska in Koroška.



1. **Trollius europaeus** L. Europäische Trollblume. Ausdauernd; Wurzelstock kurz, reichfaserig. Stengel aufrecht, 1–3-blütig, bis 50 cm hoch, kahl. Blätter handförmig 5–7-teilig, mit rhombischen, dreispaltigen, tief lappig gesägten Zipfeln, oben dunkelgrün, glänzend, unten heller, kahl, die unteren lang gestielt, die oberen sitzend. Perigonblätter 5–15, breit eiförmig, bis 2,5 cm lang, kugelig zusammenschließend, zitrongelb. Honigblätter gelb, viel kürzer als das Perigon. Balgfrüchte 10–14 mm lang, mit aufrechten, etwa 3 mm langem Schnabel. Same schwarz, glänzend, 1,5 mm lang. Mai, Juni, auf den Alpen später.

Trollius europaeus L. Sp. pl. Ed. 1. 556 (1753); Koch Syn. Ed. 2. 21 (1843); Mey Fl. Steierm. 186 (1868); Strobl Fl. Admont II. 31 (1882).

Auf feuchten Wiesen, stets gesellig. Häufig in den Tälern der nördlichen Kalkalpen bis in die Krummholtzregion; im Murtales und seinen Seitentälern bei Judenburg, Pöls, Leoben, Bruck, auf dem Semmering. In den Niederen Tauern in den Wölzer Tauern häufig, ferner in der kleinen Bult, am Gnadenbach bei Seckau, auf dem Hohenwarth, dem Hochschwab bei Rottenmann. Bei Turrach am Aufstieg auf den Eisenhut und auf dem Gegerhock. Bei Lobming nächst Voitsberg, Deutsch-Landsberg. In der Umgebung von Graz auf dem Schöckel, bei Tal, Rein, auf dem Pleschkogel, bei Judendorf, Güting, beim Spielhof ober Hausmannstetten, zwischen Bierbaum und Fürstentfeld. In Untersteiermark sehr zerstreut bei Bad Neuhans, Cilli, in den Sanntaler Alpen.

Die Alpenform ist:

b. **humilis** (Cr.) DC. Stengel niedrig, 10–20 cm hoch. Blüthenblätter kürzer, nur 10–13 mm lang, die äußeren außen grün, innen gelb.

Trollius humilis Cr. Rörp. Austr. Ed. 1. II. 123 (1763). *Trollius europaeus* var. *humilis* DC. Syst. I. 313 (1818); Strobl Fl. Admont II. 32 (1882); Zick Fl. N.-Öst. I. 395 (1890).

In der Krummholtz- und Hochalpenregion (bis 2300 m) der Kalkalpen. Auf dem Kabling, Pyrgas, Scheibstein, dem Hochschwab, auf der Schnee- und Raxalpe; in der Koroška der Sanntaler Alpen.

Slika / Figure 37 Naslovna dela Flora von Steiermark z opisom vrste Trollius europaeus, ki ga je avtor povzel po delu o Kamniško-Savinjskih Alpah. / The cover of the Flora von Steiermark with a description of the species Trollius europaeus, which the author summarized from the book Flora der Sanntaler Alpen.

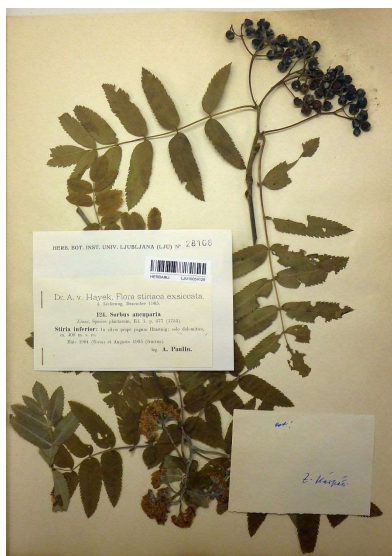
Hayek je nahajališča, ki sta jih skupaj objavila s Paulinom v Kamniško-Savinjskih Alpah, vključil v delo *Flora von Steiermark* (Hayek 1908-1911), ki sistematično obravnava praproti in cvetnic, ki rastejo samoniklo ali v večjem obsegu v vojvodini Štajerski, skupaj s fitogeografskim opisom dežele, ki je

izhajalo od leta 1908 do 1911. Žal pa je Hayek ni uspel objaviti še drugega dela, ki obsega enokaličnice in je tako njegov rokopis izšel v letu 1956. Tako je to delo, tudi s prispevkom Paulina pomemben prispevek k poznavanju rastlinstva na Slovenskem.

Od Hayekovih kasnejših del velja omeniti *Prodromus Florae peninsulae Balcanicae*, ki ga je sestavil in napisal Hayek po razpadu skupne države in je izšel med letoma 1924 in 1932 v treh zvezkih. Vidimo, da je Hayek preusmeril svoje znanstveno zanimanje na območje Balkanskega polotoka in tako s Paulinom v tem obdobju nista intenzivno sodelovala. Medtem ko je Hayek prva dva zvezka Prodromusa izdal za časa svojega življenja, je bil 3. zvezek po dokončanju in končnem urejanju Friedricha Markgrafa objavljen posthumno. Delo, skupno na skoraj 3000 straneh, je monumentalna flora, ki obsega vse tedaj znane taksone vaskularnih rastlin z Balkanskega polotoka. Zagotavlja ključne za določanje, sinonimijo in distribucijo na področju Balkana za vse taksone do podvrst. Delo se še danes uporablja za določanje rastlin v jugovzhodni Evropi.

Paulin je, poleg s herbarijsko zbirko kranjske flore (*Flora exsiccata Carniolica*), o kateri smo že pisali, sodeloval tudi pri drugih herbarijskih zbirkah, ki so nasajale na ozemlju bivše monarhije, in sicer pri zbirki *Flora exsiccata Austro-Hungarica* in *Flora exsiccata Stiriaca*. Eksikatna zbirka je urejena zbirka posušenih suhih rastlin (herbarijev), ki so opremljene z etiketami in so navadno izdelani v majhnem številu primerkov, in si jih

raziskovalne inštitucije oz. raziskovalci izmenjujejo, lahko pa se tudi prodajajo. Tako so zbirke nastajale že od 15. stoletja in so bile osnova za delo sistematskih botanikov. Pomembne so tudi, ker jih je določil izkušen botanik in je zato določitev bolj ali manj zanesljiva. Pogosto so bile na tak način opisane nove vrste, vendar pa je potrebno od leta 1953 vrsto opisati z veljavno objavo.



Slika / Figure 38 Herbarijska pola vrste *Sorbus aucuparia* v zbirki *Flora stiriaca exsiccata* iz Herbarija oddelka za biologijo, Biotehniške fakultete Univerze v Ljubljani. Foto: Nejc Jogan. / Herbarium specimen of the species *Sorbus aucuparia* in the *Flora stiriaca*

exiccata collection from the Herbarium of the Department of Biology, Faculty of Biotechnology, University of Ljubljana. Photo: Nejc Jogan.

Tako je na koncu 19. stoletja začela nastaja *Flora exiccata Austro-Hungarica* (1881-1913), katerih pripravo sta vodila Anton Kerner in Karl Fritsch. To delo je vzpodbudilo druge botanike v monarhiji, ki so začeli pripravljati herbarijske zbirke posameznih dežel, tako je na Štajrskem nastala *Flora Stiriaca exiccata* (1904-1912), ki jo je urejal August Hayek. V pripravo teh zbirk se je vključil tudi Paulin in prispeval v zbirko *Flora exiccata Austro-Hungarica* 47 taksonov in v zbirko *Flora Stiriaca exiccata* 5 vrst.

O njunem skupnem delu lahko sklepamo na podlagi skupnih objav, sodelovanja pri zbiranju herbarijskih zbirk in tudi iz njunega dopisovanja. Žal so ohranjena samo pisma Hayeka Paulinu, ne pa tudi Paulinova Hayeku.

Hayekova pisma si lahko ogledamo v rokopisnem arhivu Slovenske akademije znanosti in umetnosti, kjer je ohranjena obsežna korespondenca Paulina s več kot 160 raziskovalci, predvsem iz območja bivše monarhije, med katerimi najdemo vodilne botanike tistega časa, kot so Richard Wettstein iz Prage in Dunaja, Vince Borbas iz Cluj-Napoce, Karel Fritz iz Gradca in Lujo Adamović iz Beograda (Srbija). Pisma so večinoma napisana v nemščini, ki je bila takrat komunikacijski jezik v srednji Evropi do konca prve svetovne vojne. Potem pa uporaba nemščine ni bila več sprejemljiva. Wraber ravno v tem išče razlog, zakaj Paulin po koncu prve vojne skoraj ni objavljial

(Wraber 2008). Seveda pa so pisma, ki jih je pisal Slovencem v slovenščini.

Njun odnos nam osvetijo pisma. Iz pisem lahko sklepamo, da sta si botanika v spoštljivem tonu izmenjavala podatke o pojavljanju rastlin. Original pisma, ki ga navajamo je v prilogi.

"Spoštovani gospod profesor!

Predvsem se vam moram zahvaliti za prijazno poslane herbarijske etikete (schedae), ki so zame izjemno dragoceni in nudijo veliko zanimivih podatkov. Morali mi boste oprostiti, da vam z zamudo odgovarjam, ker sem trenutno tako obremenjen z delom, da nikamor ne pridem.

Opazil sem, da navajate, da vrste *Cirsium spinosissimum* niste videli v Kamniško-Savinjskih Alpah. Ta vrsta raste v velikem številu na štajerski strani na Korošici, in ravno v tolikšni meri na kranjski strani. Žal prej tej vrsti nisem posvečal toliko pozornosti, ker sem mislil, da je to običajna vrsta na celotnem območju."

Seveda sta avtorja vrsto *Cirisum spinosissium* vključila v flora Kamniško-Savinjskih Alp, kjer jo navajata tudi za Kranjsko.

Zahvala

Zahvaljujem se Biblioteki SAZU, ki mi je omogočila pregled Paulinove zapuščine, kuratorju herbarijske zbirke na oddelku za

biologijo, BF, Univerze v Ljubljani za sliko herbarijske pole in
Magdaleni Zagode-Babič za pomoč pri prevodu nemškega teksta.

Paulin's collaboration with August Hayek

Research Counsellor & prof. dr. Andraž Čarni, Jovan Hadži
Institute of Biology and University of Nova Gorica

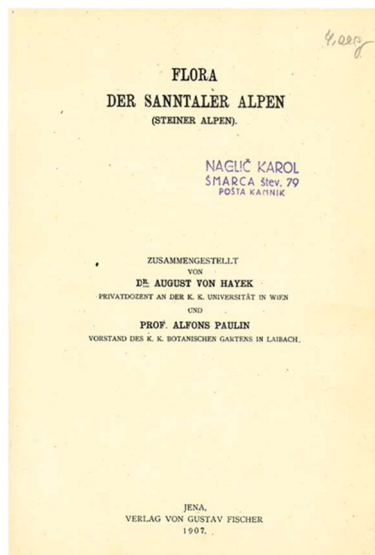
In the following, we will examine the collaboration between Paulin and August Hayek, a Viennese botanist and doctor who was born in Vienna in 1871 and died there in 1928. He was the son of the natural scientist Gustav von Hayek and the father of the economist and Nobel Prize winner Friedrich Hayek.

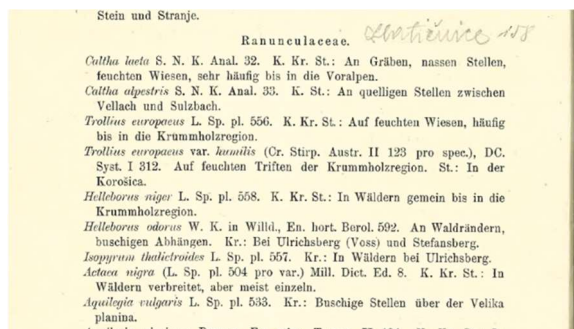
Hayek graduated from the University of Vienna in 1895 and was soon employed at the city's Ministry of Health. He received his doctorate in 1905, taught at the Hochschule für Bodenkultur (University of Natural Resources and Life Sciences) in Vienna from 1922 and was an associate professor at this University from 1926 (Vierhapper, 1929).

Hayek was important botanist in Austria-Hungary. He studied flora along the eastern and southwestern edge of the Alps, especially in Styria. In the field of plant systematics, he specialized in the *Centaurea* species from the entire area of the monarchy.

Together with Paulin, he wrote the book Flora der Sanntaler Alpen in 1907 (Hayek & Paulin 1907). The Sanntaler Alpen are the Kamnik-Savinja Alps, which are subdivided into Steiner Alpen or Kamniker Alpen (Kamniške Alpe) and Sulzbacher Alpen (Olševa) or Savinjske Alps.

In their work, they listed around 700 species in this area, which grow in Carniola, Styria and Carinthia. For each species they gave the name and its site, the habitat where it occurs and the province, such as Carinthia, Styria and Carinthia.





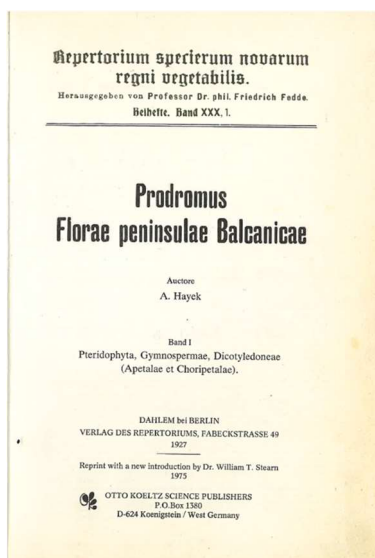
Slika / Figure 39 Naslovnica knjige *Flora der Sanntaler Alpen in podatek o vrsti Trollius europaeus.* / Cover of the book *Flora der Sanntaler Alpen and information on the species Trollius europaeus.*

Hayek included the sites in the Kamnik-Savinja Alps published together with Paulin in the work *Flora von Steiermark* (Hayek 1908-1911), which systematically deals with the ferns and spermatophytes growing indigenous or on a larger scale in Styria, together with a phytogeographical description of the region, published from 1908 to 1911. Unfortunately, Hayek did not manage to publish another part dealing with monocotyledons, so his manuscript was not published until 1956. This work, together with Paulin's contribution, is therefore an important contribution to our knowledge of the flora of Slovenia.

Among Hayek's later works, we should mention *Prodromus Florae peninsulae Balkanicae*, which Hayek compiled and wrote after the dissolution of the Monarchy and which was published in three volumes between 1924 and 1932. We see that Hayek shifted his scientific interest to the area of the Balkan Peninsula, and so he and Paulin did not work together intensively during this period. While Hayek published the first two volumes of the *Prodromus* during his lifetime, volume 3 was published posthumously after its completion and final editing by Friedrich Markgraf. The work, which comprises a total of almost 3,000 pages, is a monumental flora containing all known taxa of the vascular plants of the Balkan Peninsula at the time. It contains keys to identification, synonymy and distribution in the Balkans for all taxa down to subspecies. The work is still used today to identify plants in south-eastern Europe.

In addition to the herbarium collection of Carniolan flora (*Flora exsiccata Carniolica*), which we have already written about, Paulin also collaborated with other herbarium collections established on the territory of the former monarchy, namely the *Flora exsiccata Austro-Hungarica* and *Flora exsiccata Stiriaca*. An *exsiccata* collection is an organized collection of dried plants (herbaria), which are labeled and usually produced in a small

number of specimens and can be used for exchange and also sold by research institutions or researchers. Collections have been created in this way since the 15th century and formed the basis for the work of systematic botanists. They are also important because they have been identified by an experienced botanist and the identification is therefore more or less reliable. New species have often been described in this way, but since 1953 it has been necessary to describe the species with a valid publication.



Slika / Figure 40 Prva stran knjige Prodromus Florae peninsulae Balcanicae. / The first page of the book Prodromus Florae peninsulae Balcanicae.

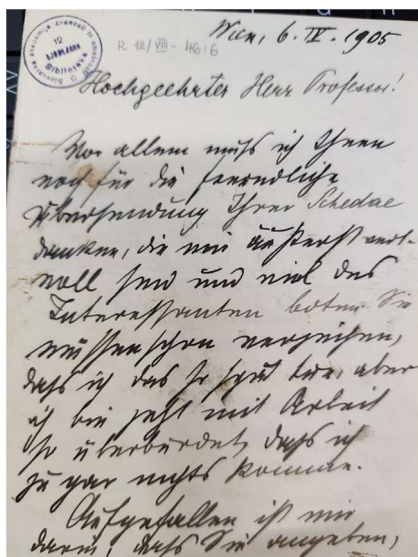
Thus, at the end of the 19th century, the creation of *Flora exiccata Austro-Hungarica* (1881-1913) began, the preparation of which was led by Anton Kerner and Karl Fritsch. This work inspired other botanists in the monarchy, who began to prepare herbarium collections of individual lands, thus *Flora Stiriaca exiccata* (1904-1912) was created in Styria, edited by August Hayek. Paulin was also involved in the preparation of these collections and contributed 47 taxa to the *Flora exiccata Austro-Hungarica* collection and 5 species to the *Flora Stiriaca exiccata* collection.

We can assess their collaboration on the basis of joint publications, their cooperation in collecting herbarium specimens and their correspondence. Unfortunately, only the letters from Hayek to Paulin have survived, but not the letters from Paulin to Hayek.

Hayek's letters can be viewed in the manuscript archive of the Slovenian Academy of Sciences and Arts, where Paulin's extensive correspondence with more than 160 researchers, mainly from the territory of the former monarchy, is kept, including the leading botanists of the time, such as Richard Wettstein from Prague and Vienna, Vince Borbas from Cluj-Napoca, Karel Fritz from Graz and Lujo Adamović from Belgrade (Serbia). Most of the letters are written in German, which was the language of communication in Central Europe at the time until the end of the First World War. After that, the use of German was no longer acceptable. Wraber is looking for the reason why Paulin

published almost nothing after the end of the First World War (Wraber 2008). The letters he wrote to the Slovenes are of course in Slovenian.

Their relationship is illuminated by letters. From the letters we can conclude that the two botanists exchanged information about the occurrence of plants in a respectful tone. The original letter, which we quote here, can be found in the appendix.



Slika / Figure 41 Izsek pisma Hayeka Paulinu z dne 6. 4. 1905. Original hrani Biblioteka SAZU. / Excerpt from a letter from Hayek to Paulin dated April 6, 1905, the original of which is kept by the Bibioteka SAZU.

"Dear professor!

Above all, I must thank you for the kindly sent herbarium labels (schedae), which are extremely valuable to me and provide a lot of interesting information. You will have to excuse my late reply as I am so busy with work at the moment that I can't get anywhere.

I noticed that you state that you have not seen *Cirsium spinosissimum* in the Kamnik-Savinja Alps. This species grows in large numbers on the Styrian side of Korošica, and just as much on the Carniola side. Unfortunately, I didn't pay much attention to this species before because I thought it was a common species in the whole area."

Of course, the authors included the species *Cirisum spinosissium* in the flora of the Kamnik-Savinja Alps, where they also list it for Carniola.

Acknowledgements

I would like to thank the Biblioteka SAZU, which allowed me to examine Paulin's legacy, the curator of the herbarium collection at the Department of Biology, BF, University of Ljubljana Nejc Jogan for the photo of the herbarium specimen, and Magdalena Zagode-Babič for her help with the translation of the German text.

Reference / References

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Wraber T. 2008. Pisna zapuščina botanika Alfonza Paulina v Biblioteki SAZU. V: Koman, D. (ur.), & al. Sedemdeset let Biblioteke Slovenske akademije znanosti in umetnosti. Slovenska akademija znanosti in umetnosti. Str. 199–236.

Ko bom velik, bom rože gledal

Mirjana Marinčič

Osebe:

Grof Anton Aleksander Auersperg – Anton Petrovič

Grofica Marija Attems Auersperg – Vesna Šinko

Neža (kuharica, služkinja) – Alenka Volčjak

Nace (ribič, služabnik) – Boštjan Arh, Filip Černelč

Alfonz Paulin – sin oskrbnika grajskega posestva Augusta Paulina (Svit Koretič)



Slika / Figure 42 Igrani prizor iz dela *Ko bom velik, bom rože gledal* Foto: J. Bavcon / Scene of *When I grow up, I will look at flowers* Photo: J. Bavcon

Približno 1861, mali Alfonz Paulin je na počitnicah po prvem razredu ljudske šole. Na prizorišču slika Marija. Obrnjena je k sliki. V bistvu je na sliki lahko samo rob oziroma nekaj pripravljenega, da bo začela slikati šopek. Od strani jo opazuje mali Paulin. Nepremično čepi in strmi.

Ko zasliši kašelj, se splaši in plane pokonci, ampak priteče ravno grofu v naročje.

ANTON: *(narejeno strogo)* Poglej, poglej, koga imamo tukaj! Nekakšnega zajca, al koštruna! Al so te kar škrtali z Gorjancev spodili? *(Mali skloni glavo in je kar zadihan ...)*

ANTON: Mar nimaš jezika?

ALFONZ: Imam, gospod imam. Samo strašno sem se prestrašil.

ANTON: No, tako hud, da bi z menoj otroke plašili, pa le nisem. Čigav pa si, pobič?

ALFONZ: Paulinov sem, gospod.

ANTON: In kako ti je ime?

ALFONZ: Za Alfonza so me krstili. Mama me včasih pokličejo Fonzi, pa oče tega nič kaj radi ne slišijo. Pa tudi v šoli me kličejo Alfonz.

ANTON: Ja, poglej ti njega, kako se je razgovoril. Ja prav lepo. Marija nisi opazila, da imaš občudovalca. V travi je bil skrit, kot tak majhen zajček.

MARIJA: Zakaj si pa čepel tukaj, dragi fantek?

ALFONZ: Oh, gospa oprostite, da sem vas zmotil. Res mi je žal. Tako ste bili zatopljeni v svoje delo, da sem komaj upal dihati. Zanimalo me je, kaj gledate.

MARIJA: Rože sem gledala. Rada slikam rože.

ALFONZ: Tudi jaz rad gledam rože. Samo naslikati jih pa ne znam tako lepo.

ANTON: To se boš že še v šoli naučil. Že hodiš v šolo?

ALFONZ: O, hodim, hodim. Sedaj sem na počitnicah. Drugače sem v šoli v Ljubljani. Letos bom šel že v drugi razred.

MARIJA: Te nihče ne pogreša? Mamo gotovo skrbi zate. Veliko je že pretrpela. Ne smeš je še ti jeziti. Če boš doma prej povedal, lahko še kdaj v parku gledaš rože.

ANTON: Povej, Alfonz. Ti je v šoli všeč? (*Alfonz samo skomigne z rameni.*) Kaj pa boš, ko boš velik? Če se boš zgledoval po očetu, boš trden, delaven mož.

AFONZ: Jaz bi rad v tako šolo hodil, kjer bi vse rože na svetu spoznal. Ja, ko bom velik, bom rože gledal.



Slika / Figure 43 Igrani prizor iz dela *Ko bom velik, bom rože gledal* Foto: J. Bavcon / Scene of *When I grow up, I will look at flowers* Photo: J. Bavcon

ANTON: A, tako. No, glej Nace te bo odpeljal k mami. (*Nace od strani vleče nekšno šavje, al pa koš, al pa fosn ...*) Naceee, pridi, odpelji gospodiča Paulina k njegovi materi. Gotovo jo neznansko skrbi zanj. Ko to opraviš, pa le pridi k meni. Bom že v pisarni.

(*Nace mu poda roko, Alfonz se malo prikloni, še enkrat se ozre v sliko in vidi se, da bi rad še gledal ... Tudi Nace da klobuk z glave in s telesom pokaže pozdrav.*)

ALFONZ: Na svidenje, gospod. Na svidenje, gospa. (*Z Nacetom odideta.*)

NACE: Ja pob prelubi, kuga ti je pa blo, da si šou gospoda pa gospo motit. Veš, de mata unedva svoje skrbi, pa se nimata cajt z nam drugim ubadat.

ALFONZ: Sej sem se hotu umaknit, pa so me gospod vse sorte izprašal.

NEŽKA: No, Nace! Maš novo službo? Boš varuška?

ALFONZ: Jaz pa že ne rabim varuške. Jaz sem Paulinov in sem že velik!! (*Užaljeno steče proč.*)

NEŽKA: Hu, ta bo pa hud! Kej si ga pa najdu?

NACE: Ah, tam je bil, koker gospa rišejo pa malajo. Ne vem, kuk so se najdl, sam gospod so mi rekli, naj ga odpelem materi, da se nau sekirala, kej da je. Zdej je pa tko sam zbejžu damu.

NEŽKA: Ja, boga Paulinova. Ne govor!

NACE: Aja, zgleda, da ti spet že neki veš, kaj st na vem.

NEŽKA: Res je Nace. Velik žalosti so pretrpel. Štir otroke sa zgubil. Si lah tu sploh zamisliš? Bulš de ne!

NACE: Ka pol mada sam tega pobčka?

NEŽKA: Ne, sa poli še mel. Je pa on zdej najstari. Pa sej jim bo bog še kazga dal. Nej bo atruk, sej jih boja lah prehranl. Ni neč hudu fajn, če je en sam, ku naš Teodorček ...

NACE: Neža, ne se mi razjokat. Bejžma midva sak po svojem posli. Jst morm h gospodu, je mrbit že tam u svoji sobi. Ajt, bok!

NEŽKA: Bok!



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FROM FISHERMAN TO NOBLEMAN



KULTURNO DRUŠTVO
LESKOVEC PRI KRŠKEM

When I grow up, I will look at flowers

Mirjana Marinčič

Characters:

Count Anton Aleksander Auersperg – Anton Petrovič

Countess Marija Attems Auersperg – Vesna Šinko

Neža (cook, servant) – Alenka Volčjak

Nace (fisherman, servant) – Boštjan Arh, Filip Černelč

Alfonz Paulin – the son of the castle estate caretaker, Augustus Paulinus (Svit Koretič)

Around 1861, young Alfonz Paulin is on vacation after the first grade of primary school. Marija is painting on the scene. She is facing the canvas. Basically, the canvas can only have an edge or something ready for her to start painting the bouquet. Young Paulin watches her from the side. He squats motionless and stares.

When he hears a cough, he gets scared and jumps up, but runs right into the Count's arms.



Slika / Figure 44 Igrani prizor iz dela Ko bom velik, bom rože gledal Foto: J. Bavcon / Scene of When I grow up, I will look at flowers Photo: J. Bavcon

ANTON: (pretending to be stern) Look, look who we have here! Some kind of rabbit or a ram! Did the dwarves chase you out of the mountains? (*Alfonz lowers his head and is out of breath ...*)

ANTON: Don't you have your tongue?

ALFONZ: I have, sir, I have. I just got really scared.

ANTON: Well, I'm not so bad that I would scare children. Whose are you, boy?

ALFONZ: Paulin's, Sir.

ANTON: And what's your name?

ALFONZ: I was given the name Alfonz at my baptism. My mother sometimes calls me Fonzi, but my father doesn't like to hear that at all. At school they call me Alfonz.

ANTON: Yes, look at him, how talkative he became. Yes, very nice. Marija, you didn't notice that you had an admirer. He was hiding in the grass, like a small rabbit.

MARIJA: Why were you crouching here, dear boy?

ALFONZ: Oh madam, forgive me for disturbing you. I am truly sorry. You were so engrossed in your work that I hardly dared to breathe. I was wondering what you were looking at.

MARIJA: I was looking at flowers. I like painting flowers.

ALFONZ: I also like looking at flowers. I just don't know how to paint them so nicely.

ANTON: You will learn that in school. Are you already in school?

ALFONZ: Oh yes, I am. I am on vacation now. I go to a school in Ljubljana. This year, I am going to second grade.

MARIJA: Isn't someone going to miss you? Your mothers must be worried about you. She has suffered a lot. You shouldn't cause her any grief. If you ask beforehand, you can come to the park and look at flowers again.

ANTON: Tell me, Alfonz. Do you like it at school? (*Alfonz just shrugs.*) What will you be when you grow up? If you follow your father's example, you will be a strong, hard-working man.

ALFONZ: I would like to go to a school where I would learn about all the flowers in the world. Yes, when I grow up, I will look at flowers.

ANTON: Is that so? Well, look, Nace will take you to your mother. (*Nace is pulling some kind of brushes from the side, or a basket, or a board ...*) Nace, come, take young Paulin to his mother. She must be incredibly worried about him. When you're done, come see me. I'll be in my office.

(*Nace reaches for his hand, Alfonz bows a little, looks at the painting again, and you can see that he would like to look at it again ... Nace also takes his hat off and gestures in greeting.*)

ALFONZ: Goodbye, sir. Goodbye, madam. (*Alfonz and Nace leave.*)

NACE: Well, you cheeky boy, what made you go disturb the count and countess? You know they both have their own worries, and don't have the time to deal with us.

ALFONZ: I tried to get out of their way, but the count asked me all kinds of questions.

NEŽKA: Well, Nace! Do you have a new job? Are you a babysitter?

ALFONZ: I don't need a babysitter. I am Paulin's and I am already big! (*Runs away offended.*)

NEŽKA: Huh, this one is going to be tough! Where did you find him?

NACE: Ah, he was there where the Countess draws and paints. I don't know how they found him, but the Count told me to take him to his mother so that she wouldn't be worried about him. And now he ran home anyway.

NEŽKA: Well, poor mother Paulin. Don't say a word.

NACE: Aha, it seems that you know something I don't.

NEŽKA: It's true, Nace. They suffered great sorrows. They lost four children. Can you even imagine? You don't want to!

NACE: So they have only this boy?

NEŽKA: No, they have others. But he is now the oldest. Well, God will give them another. Hope they have many children, they can take care of them. It's not very nice if there's only one, like our Teodorček ...

NACE: Neža, don't get sentimental now. Let's go about our business. I have to go to the Count, he may already be in his office. See you, bye!

NEŽKA: Bye!

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- 88. *Alnus glutinosa* (L.) Gaertner XX-0-LJU-G-555-640

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- 89. *Anchusa officinalis* L. 2022 XX-0-LJU-G-555-260
- 90. *Cerinthe minor* L. 2022 SI-0-LJU-G-019-1622
- 91. *Echium vulgare* L. SI-0-LJU-G-001-409
- 92. *Lithospermum officinale* L. XX-0-LJU-G-555-2278
- 93. *Nonea lutea* (Desr.) DC. in Lam.& DC. XX-0-LJU-G-555-989
- 94. *Symphytum officinale* L. XX-0-LJU-G-555-738

Brassicaceae

- 95. *Alyssoides sinuata* Medik. XX-0-LJU-G-555-313
- 96. *Alyssoides utriculata* (L.) Medicus ME-0-LJU-G-001-314
- 97. *Alyssum montanum* L. SI-0-LJU-G-003-315
- 98. *Alyssum montanum* L. subsp. *pluscanescens* (Raim. ex J.Baumg.) Trpin SI-1-LJU-G-000-316
- 99. *Alyssum ovirense* Kerner XX-0-LJU-G-555-2263
- 100. *Alyssum petraeum* Ard. XX-0-LJU-G-555-2264
- 101. *Arabis glabra* (L.) Bernh. XX-0-LJU-G-555-1618
- 102. *Fibigia clypeata* (L.) Medicus HR-0-LJU-G-555-420
- 103. *Isatis tinctoria* L. XX-0-LJU-G-555-481
- 104. *Lunaria rediviva* L. SI-0-LJU-G-555-500

Bromeliaceae

- * 105. *Puya mirabilis* (Mez) L.B.Sm. XX-0-LJU-G-555-1641

Buxaceae

106. *Sarcococca saligna* Müll. Arg. XX-0-LJU-G-555-2289

Calycanthaceae

107. *Sinocalycanthus chinensis* Cheng & S.Y.Chang XX-0-LJU-G-555-597

Campanulaceae

108. *Campanula justiniana* Witasek SI-0-LJU-G-555-347

109. *Campanula patula* L. SI-0-LJU-G-555-348

110. *Campanula thyrsoides* L. SI-0-LJU-G-009-2035

111. *Lobelia siphilitica* L. XX-0-LJU-G-555-498

Carpinaceae

112. *Carpinus orientalis* Mill. XX-0-LJU-G-555-653

Caryophyllaceae

113. *Agrostemma githago* L. XX-1-LJU-G-555-300

114. *Dianthus armeria* L. SI-1-LJU-G-000-395

115. *Dianthus barbatus* L. XX-0-LJU-G-555-663

116. *Dianthus deltoides* L. XX-1-LJU-G-555-2043

117. *Dianthus tergestinus* (Rchb.) Kerner SI-1-LJU-G-555-400

118. *Lychnis coronaria* (L.) Desr. XX-0-LJU-G-555-691

119. *Lychnis flos-cuculi* L. SI-0-LJU-G-555-501

120. *Petrorhagia saxifraga* (L.) Link SI-0-LJU-G-555-543

121. *Saponaria ocymoides* L. XX-0-LJU-G-555-2053

Celastraceae

122. *Celastrus orbiculatus* Thunb. XX-0-LJU-G-555-265
123. *Euonymus europaeus* L. SI-0-LJU-G-555-417

Cichoriaceae

124. *Crepis biennis* L. 2022 XX-0-LJU-G-555-2040
125. *Hieracium aurantiacum* L. XX-0-LJU-G-555-457
126. *Hieracium lanatum* Vill. XX-0-LJU-G-555-459
127. *Hieracium pilosella* L. SI-0-LJU-G-001-460
128. *Leontodon hispidus* L. subsp. *brumatii* (Rchb.) T. Wraber
SI-0-LJU-G-555-488
129. *Tragopogon balcanicus* Velen. RS-0-LJU-G-998-615
130. *Tragopogon pratensis* L. XX-0-LJU-G-555-1018
131. *Tragopogon pratensis* L. subsp. *orientalis* (L.) Čelak SI-0-LJU-G-555-1019
132. *Tragopogon pterodes* Pančić RS-0-LJU-G-998-616

Cistaceae

133. *Helianthemum nummularium* (L.) Mill. XX-0-LJU-G-555-451

Convallariaceae

134. *Convallaria majalis* L. SI-1-LJU-G-555-377
135. *Danaë racemosa* (L.) Medicus XX-0-LJU-G-555-389
136. *Maianthemum bifolium* L. SI-0-LJU-G-000-2279

137. *Polygonatum latifolium* (Jacq.) Desf. XX-1-LJU-G-555-549

Convolvulaceae

138. *Ipomoea purpurea* (L.) Roh. RO-0-LJU-G-002-2277

Cornaceae

139. *Cornus mas* L. SI-0-LJU-G-555-380

Crassulaceae

140. *Sedum hispanicum* L. XX-0-LJU-G-555-2292

141. *Sedum maximum* Suter SI-1-LJU-G-555-587

142. *Sedum sexangulare* L. SI-0-LJU-G-555-588

Cucurbitaceae

143. *Bryonia dioica* Jacq. XX-0-LJU-G-555-2266

Datisceae

144. *Datisca cannabina* L. XX-0-LJU-G-555-390

Dioscoreaceae

145. *Dioscorea balcanica* Košanin SI-0-LJU-G-555-402

Dipsacaceae

146. *Cephalaria gigantea* (Ledeb.) Bobrov XX-0-LJU-G-555-361

- 147. *Dipsacus fullonum* L. SI-0-LJU-G-555-403
- 148. *Scabiosa graminifolia* L. SI-0-LJU-G-555-582
- 149. *Scabiosa hladnikiana* Host. XX-0-LJU-G-555-2291
- 150. *Scabiosa lucida* Vill. SI-0-LJU-G-555-583
- 151. *Succisa pratensis* Moench XX-0-LJU-G-555-2296
- 152. *Succisella inflexa* (Kluk) G.Beck SI-1-LJU-G-020-1647

Elaeagnaceae

- 153. *Elaeagnus multiflora* Thunb. 2022 XX-0-LJU-G-555-667

Euphorbiaceae

- 154. *Euphorbia lathyris* L. XX-0-LJU-G-555-2273
- 155. *Ricinus communis* L. XX-0-LJU-G-555-724

Fabaceae

- 156. *Desmodium canadense* (L.) DC. XX-0-LJU-G-555-271
- 157. *Laburnum alpinum* (Mill.) Presl. XX-0-LJU-G-555-983
- 158. *Laburnum alschingeri* (Vis.) K. Koch SI-1-LJU-G-555-483
- 159. *Laburnum anagyroides* Medik SI-0-LJU-G-555-484
- 160. *Spartium junceum* L. XX-0-LJU-G-555-2294

Fumariaceae

- 161. *Corydalis cava* (L.) Schweigg. & Körte SI-0-LJU-G-555-381
- 162. *Corydalis solida* (L.) Clairv. subsp. *solida* SI-0-LJU-G-555-382

Gentianaceae

163. *Gentiana asclepiadea* L. SI-0-LJU-G-003-1245

Geraniaceae

164. *Erodium cicutarium* (L.) L'Hér. SI-0-LJU-G-555-971
165. *Geranium macrorrhizum* L. SI-0-LJU-G-555-433
166. *Geranium pratense* L. XX-0-LJU-G-555-2274
167. *Geranium robertianum* L. SI-0-LJU-G-555-436

Ginkgoaceae

168. *Ginkgo biloba* L. XX-0-LJU-G-555-439

Globulariaceae

169. *Globularia cordifolia* L. XX-0-LJU-G-555-2275
170. *Globularia punctata* Hegetschw. SI-0-LJU-G-003-442

Hyacinthaceae

171. *Bellevalia romana* (L.) Reichenb. SI-1-LJU-G-555-335
* 172. *Bowiea volubilis* Harv. XX-0-LJU-G-555-341
173. *Muscari comosum* (L.) Miller SI-1-LJU-G-555-519
174. *Prospero elisae* Speta SI-0-LJU-G-555-1004

Hypericaceae

175. *Hypericum calycinum* L. XX-0-LJU-G-555-2276
176. *Hypericum olympicum* L. XX-0-LJU-G-555-464

177. *Hypericum perforatum* L. SI-0-LJU-G-555-676
178. *Hypericum tetrapterum* Fries SI-0-LJU-G-555-466

Iridaceae

179. *Crocus weldenii* Hoppe IT-0-LJU-G-001-388
180. *Gladiolus illyricus* Koch SI-1-LJU-G-555-1246
181. *Iris graminea* L. SI-1-LJU-G-555-476
182. *Iris pseudacorus* L. 2022 SI-1-LJU-G-555-478

Juglandaceae

183. *Pterocarya fraxinifolia* (Lam.) Spach. XX-0-LJU-G-555-557

Lamiaceae

184. *Ballota rupestris* (Biv.) Vis. XX-1-LJU-G-555-334
185. *Betonica officinalis* L. SI-0-LJU-G-555-336
186. *Betonica officinalis* L. subsp. *serotina* (Host) Hayek SI-0-LJU-G-555-337
187. *Clinopodium vulgare* L. XX-0-LJU-G-555-2268
188. *Horminum pyrenaicum* L. XX-1-LJU-G-555-675
189. *Lavandula angustifolia* Mill. SI-0-LJU-G-555-487
190. *Lycopus europaeus* L. SI-0-LJU-G-555-503
191. *Melissa officinalis* L. SI-0-LJU-G-555-278
192. *Mentha aquatica* L. XX-0-LJU-G-555-695
193. *Mentha pulegium* L. SI-0-LJU-G-555-510
194. *Micromeria dalmatica* Benth XX-0-LJU-G-000-512

195. *Origanum vulgare* L. subsp. *vulgare* subsp. *vulgare* SI-0-LJU-G-555-991
196. *Salvia sclarea* L. SI-1-LJU-G-555-576
197. *Salvia verticillata* L. SI-0-LJU-G-555-577
198. *Satureja montana* L. subsp. *variegata* (Host.) P.W.Ball SI-0-LJU-G-555-580
199. *Satureja subspicata* Bartl. ex Vis. subsp. *liburnica* Šilić XX-0-LJU-G-555-2290
200. *Scutellaria altissima* L. SI-1-LJU-G-555-586
201. *Stachys germanica* L. XX-0-LJU-G-555-736
202. *Stachys sylvatica* L. XX-0-LJU-G-555-2295
203. *Teucrium arduini* L. XX-0-LJU-G-555-612
204. *Teucrium chamaedrys* L. SI-0-LJU-G-555-613
205. *Teucrium hircanicum* L. XX-0-LJU-G-555-741

Liliaceae

206. *Hosta ventricosa* (Salisb.) Stearn XX-O-LJU-G-555-981

Lythraceae

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

Malvaceae

- * 208. *Gossypium arboreum* L. XX-0-LJU-G-555-446
- * 209. *Gossypium hirsutum* L. XX-0-LJU-G-555-445
- * 210. *Hibiscus coccineus* Walter XX-O-LJU-G-555-455
- * 211. *Lagunaria patersonia* (Andrews) G.Don. xx-GZU-83-

110127

Mimosaceae

* 212. *Leucaena leucocephala* (Lam.) de Wit xx-GZU-yy-110257

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

Moraceae

214. *Maclura pomifera* (Raf.) Schneid. XX-0-LJU-G-555-692

Myrtaceae

* 215. *Callistemon citrinus* (Curtis) Skeels XX-0-LJU-G-555-1619

* 216. *Myrtus communis* L. SI-1-LJU-G-555-522

* 217. *Psidium cattleianum* Sabine xx-GZU-yy-110137

Oleaceae

218. *Ligustrum ibota* Sieb. & Zucc. XX-0-LJU-G-555-1630

219. *Syringa villosa* Vahl. XX-0-LJU-G-555-2297

Onagraceae

220. *Circaea lutetiana* L. XX-0-LJU-G-555-2267

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

Paeoniaceae

222. *Paeonia officinalis* L. subsp. *officinalis* SI-1-LJU-G-555-

535

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

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

Papaveraceae

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

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

227. *Glaucium flavum* Crantz XX-0-MJG-19--69540

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

Passifloraceae

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

Plumbaginaceae

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

Poaceae

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

232. *Phragmites australis* (Cav.) Trin. ex Steud. SI-0-LJU-G-008-1639

233. *Sesleria autumnalis* F. W. Schultz SI-0-LJU-G-009-590

Primulaceae

234. *Lysimachia vulgaris* L. XX-0-LJU-G-555-504

235. *Primula denticulata* Smith. XX-0-LJU-G-555-2283

Punicaceae

* 236. *Punica granatum* L. var. *nana* XX-0-LJU-G-555-2286

Ranunculaceae

237. *Actaea spicata* L. SI-0-LJU-G-019-2261

238. *Anemone apennina* L. XX-0-LJU-G-555-1229

239. *Anemone hupehensis* Lemoine XX-0-LJU-G-555-319

240. *Caltha palustris* L. SI-1-LJU-G-555-959

241. *Clematis integrifolia* L. XX-0-LJU-G-555-1238

242. *Clematis recta* L. SI-0-LJU-G-555-374

243. *Consolida ajacis* (L.) Schur. XX-0-LJU-G-555-2037

244. *Helleborus dumetorum* Waldst. & Kit. SI-1-LJU-G-555-1248

245. *Nigella damascena* L. XX-0-LJU-G-555-701

246. *Pulsatilla grandis* Wenderoth SI-1-LJU-G-001-559

247. *Pulsatilla halleri* (All.) Willd. subsp. *slavica* (G. Reuss)
Zamels XX-0-LJU-G-555-560

248. *Pulsatilla montana* (Hoppe) Rehb. XX-1-LJU-G-555-2284

249. *Pulsatilla nigricans* Ströck. XX-1-LJU-G-555-2285

250. *Ranunculus arvensis* L. XX-0-LJU-G-555-722

251. *Ranunculus millefoliatus* Vahl XX-0-LJU-G-555-564

252. *Thalictrum minus* L. SI-0-LJU-G-555-1017

Rhamnaceae

* 253. *Paliurus spina-christi* Mill. XX-0-LJU-G-555-2280

Rosaceae

254. *Crataegus pedicellata* Sarg. XX-0-LJU-G-555-385

255. *Filipendula ulmaria* (L.) Maxim. SI-0-LJU-G-555-421

* 256. *Rhaphiolepis umbellata* Makino var. *umbellata* xx-GZU-yy-110258

257. *Rhodotypos scandens* (Thunb.) Mak. XX-0-LJU-G-555-565

258. *Rosa arvensis* Huds. SI-0-LJU-G-555-1007

259. *Rosa canina* L. SI-0-LJU-G-013-2287

260. *Rosa gallica* L. SI-0-LJU-G-555-567

261. *Rosa glauca* Pourr. SI-0-LJU-G-555-568

262. *Rosa pendulina* L. SI-0-LJU-G-555-569

263. *Rosa rubiginosa* L. SI-0-LJU-G-017-1642

264. *Rosa rugosa* Thunb. XX-0-LJU-G-555-571

265. *Rosa sempervirens* L. SI-0-LJU-G-555-572

266. *Stephanandra tanakae* Franch. & Sav. XX-0-LJU-G-555-605

Rutaceae

267. *Poncirus trifoliata* (L.) Raf. XX-0-LJU-G-555-550

268. *Zanthoxylum americanum* Mill. XX-0-LJU-G-555-2059

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

Scrophulariaceae

270. *Digitalis grandiflora* Miller XX-0-LJU-G-555-401
271. *Digitalis laevigata* Waldst. & Kit. XX-0-LJU-G-555-2270
272. *Digitalis lutea* L. RU-0-LJU-G-022-2271
273. *Erinus alpinus* L. XX-0-LJU-G-555-412
274. *Verbascum thapsus* L. XX-0-LJU-G-555-2298
275. *Veronicastrum virginicum* (L.) Farw. XX-0-LJU-G-555-625

Solanaceae

276. *Datura metel* L. f. *inermis* XX-0-LJU-G-555-392
277. *Lycium chinense* Mill. XX-0-LJU-G-555-502
278. *Nicandra physalodes* (L.) Gaertner XX-0-LJU-G-555-525
279. *Nicotiana rustica* L. SI-0-LJU-G-003-526
280. *Nicotiana tabacum* L. XX-0-LJU-G-555-527
281. *Scopolia carniolica* Jacq. SI-0-LJU-G-555-585
282. *Solanum sisymbriifolium* Lam. XX-0-BRAUN-7818550

Staphyleaceae

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

Styracaceae

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

Typhaceae

285. *Typha latifolia* L. SI-0-LJU-G-555-619

Ulmaceae

286. *Zelkova carpinifolia* (Pall.) K. Koch XX-0-LJU-G-555-288

Urticaceae

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

Valerianaceae

288. *Valeriana officinalis* L. XX-0-LJU-G-555-745

Verbenaceae

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

290. *Callicarpa japonica* Thunb. XX-0-LJU-G-555-651

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

292. *Vitex agnus-castus* L. XX-1-LJU-G-555-629

* Semina plantarum in caladariis cultarum.

Horti praefectus: dr. Jože Bavcon

Seminum Curator, hortulana: Janja Makše

Plantae Curator: dr. Blanka Ravnjak

Semina e plantis spontaneis in loco natali anno 2023

Jože Bavcon, Igor Dakskobler, Ljudmila Dakskobler, Janja Makše, Blanka Ravnjak

293. *Achnatherum calamagrostis* (L.) P. Beauv - Hudajužna-Zapojlar, 2023, L. & I. D., SI-0-LJU-N-023-2060
294. *Acinos arvensis* (Lam.) Dandy - Otlica, 2023, J. B., B. R., SI-0-LJU-N-023-2061
295. *Aconitum lycoctonum* L. em. Koelle - Porezen (lovska koča), 2023, J. B., B. R., SI-0-LJU-N-023-2062
296. *Allium carinatum* L. - Sočerga, 2023, J. B., B. R., SI-0-LJU-N-023-2063
297. *Allium ericetorum* Thore - Kucelj, 2023, J. B., B. R., SI-0-LJU-N-023-2064
298. *Allium saxatile* Bieb. subsp. *tergestinum* (Gand.) Bedalov & Lovrić - Škocjanske jame, 2023, I. D., B. V. & J. P., SI-0-LJU-N-023-2065
299. *Allium sphaerocephalon* L. - kraška planota nad Grižnikom, 2023, L. & I. D., SI-0-LJU-N-023-2069
300. *Allium sphaerocephalon* L. - Lukovec, 2023, L. & I. D., SI-

0-LJU-N-023-2068

301. *Allium sphaerocephalon* L. - Prešnica, 2023, J. B., B. R., SI-0-LJU-N-023-2067

302. *Allium sphaerocephalon* L. - Sočerga, 2023, J. B., B. R., SI-0-LJU-N-023-2066

303. *Anthericum ramosum* L. - Roje, 2023, M. T., K. M., SI-0-LJU-N-023-2070

304. *Anthyllis jacquinii* Kern. - Kucelj, 2023, J. B., B. R., SI-0-LJU-N-023-2071

305. *Anthyllis vulneraria* L. - Breginjski Stol, 2023, J. B., B. R., SI-0-LJU-N-023-2072

306. *Arabis pauciflora* (Grimm) - Breginjski Stol, 2023, J. B., B. R., SI-1-LJU-N-023-2073

307. *Arabis sagittata* (Bertol.) DC. - Kucelj, 2023, J. B., B. R., SI-0-LJU-N-023-2075

308. *Arabis sagittata* (Bertol.) DC. - Sočerga, 2023, J. B., B. R., SI-0-LJU-N-023-2074

309. *Arabis turrita* L. - Kucelj, 2023, J. B., B. R., SI-0-LJU-N-023-2076

310. *Artemisia alba* Turra - Otlica, 2023, J. B., B. R., SI-0-LJU-N-023-2077

311. *Artemisia vulgaris* L. - Resevna, 2023, J. B., B. R., SI-0-LJU-N-023-2078

312. *Asphodelus albus* Mill. - Sveto (Bate), 2023, J. B., B. R., K. M., M. T., SI-1-LJU-N-023-2079

313. *Astragalus carniolicus* Kern. - Kucelj, 2023, J. B., B. R.,

SI-0-LJU-N-023-2080

314. *Astrantia major* L. - Roje, 2023, J. B., B. R., SI-0-LJU-N-023-2081

315. *Betonica officinalis* L. - Pogorje, 2023, J. B., B. R., SI-0-LJU-N-023-2082

316. *Betonica serotina* Host - Lukovec, 2023, L. & I. D., SI-0-LJU-N-023-2083

317. *Bromopsis erecta* (Huds.) Fourr. - Roje, 2023, J. B., B. R., SI-0-LJU-N-023-2084

318. *Buphthalmum salicifolium* L. - Dragonja, 2023, J. B., SI-0-LJU-N-023-2085

319. *Buphthalmum salicifolium* L. - Porezen, 2023, J. B., B. R., SI-0-LJU-N-023-2086

320. *Bupleurum petraeum* L. - Porezen, 2023, J. B., B. R., SI-0-LJU-N-023-2087

321. *Campanula cespitosa* Scop. - Porezen, 2023, J. B., B. R., SI-0-LJU-N-023-2088

322. *Capparis spinosa* L. - Piran, 2023, J. K., SI-1-LJU-N-023-2089

323. *Cardamine enneaphyllos* (L.) Crantz - Ledenica, 2023, J. B., B. R., K. M., M. T., SI-0-LJU-N-023-2090

324. *Carlina acaulis* L. - Otlica, 2023, J. B., B. R., SI-0-LJU-N-023-2091

325. *Carpinus orientalis* Mill. - Škocjanske jame, 2023, I. D., B. V. & J. P., SI-0-LJU-N-023-2092

326. *Centaurea scabiosa* L. - Roje, 2023, J. B., B. R., SI-0-LJU-

N-023-2093

327. *Chamaecytisus hirsutus* (L.) Briq. - Banjšice, 2023, J. B., B. R., SI-0-LJU-N-023-2094

328. *Cirsium arvense* (L.) Scop. - Kucelj, 2023, J. B., B. R., SI-0-LJU-N-023-2095

329. *Cirsium oleraceum* (L.) Scop. - Resevna, 2023, J. B., B. R., SI-0-LJU-N-023-2096

330. *Cirsium pannonicum* (L.f.) Link - Roje, 2023, J. B., B. R., SI-0-LJU-N-023-2097

331. *Clematis alpina* (L.) Mill. - Smrekova draga, 2023, L. & I. D., SI-0-LJU-N-023-2098

332. *Clematis vitalba* L. - Pogorje, 2023, J. B., B. R., SI-0-LJU-N-023-2099

333. *Cnidium silaifolium* Fiori.& Paol. - Grižnik, 2023, L. & I. D., SI-0-LJU-N-023-2100

334. *Colutea arborescens* L. - Sočerga, 2023, J. B., B. R., SI-0-LJU-N-023-2101

335. *Convallaria majalis* L. - Porezen, 2023, J. B., B. R., SI-1-LJU-N-023-2102

336. *Cotinus coggygria* Scop. - Fiesa, Piran, 2023, J. K., SI-0-LJU-N-023-2103

337. *Cotinus coggygria* Scop. - Sočerga, 2023, J. B., B. R., SI-0-LJU-N-023-2104

338. *Crataegus monogyna* Jacq. - nad Želimljami, 2023, J. B., B. R., SI-0-LJU-N-023-2105

339. *Crataegus monogyna* Jacq. - Pogorje, 2023, J. B., B. R., SI-

0-LJU-N-023-2106

340. *Crithmum maritimum* L. - Izola, 2023, J. B., SI-0-LJU-N-023-2107

341. *Cypripedium calceolus* L. - Ravenska kočna, 2023, B. D., SI-1-LJU-N-023-2108

342. *Dactylorhiza fuchsii* (Druce) Soo - Smrekova draga, 2023, I. D., SI-0-LJU-N-023-2109

343. *Daucus carota* L. - Dragonja, 2023, J. B., SI-0-LJU-N-023-2110

344. *Dianthus sanguineus* Vis. - Pogorje, 2023, J. B., B. R., SI-1-LJU-N-023-2111

345. *Dianthus tergestinus* (Rchb.) Kerner - Sočerga, 2023, J. B., B. R., SI-1-LJU-N-023-2112

346. *Digitalis laevigata* Waldst. & Kit. - Škocjanske jame, 2023, I. D., B. V. & J. P., SI-0-LJU-N-023-2113

347. *Dorycnium germanicum* (Gremli) Rouy. - Kucelj, 2023, J. B., B. R., SI-0-LJU-N-023-2114

348. *Dorycnium germanicum* (Gremli) Rouy. - Otlica, 2023, J. B., B. R., SI-0-LJU-N-023-2115

349. *Echinops ritro* L. subsp. *ruthenicus* - Čaven, 2023, J. B., B. R., SI-0-LJU-N-023-2116

350. *Epipactis atrorubens* (Hoffm.) Besser - Kamni grič, 2023, B. D., SI-1-LJU-N-023-2117

351. *Epipactis atrorubens* (Hoffm.) Besser - Kucelj-Čaven, 2023, J. B., B. R., SI-1-LJU-N-023-2118

352. *Epipactis helleborine* (L.) Crantz - Čaven, 2023, J. B., B.

R., SI-1-LJU-N-023-2121

353. *Epipactis helleborine* (L.) Crantz - Kamni grič, 2023, B. D., SI-1-LJU-N-023-2119

354. *Epipactis helleborine* (L.) Crantz - Porezen (lovska koča), 2023, J. B., B. R., SI-1-LJU-N-023-2120

355. *Erigeron glabratus* Hoppe & Hornsch. - Porezen, 2023, J. B., B. R., SI-0-LJU-N-023-2122

356. *Eryngium alpinum* L. - Porezen, 2023, J. B., B. R., SI-1-LJU-N-023-2123

357. *Eryngium amethystinum* L. - Podgorje, 2023, J. B., B. R., SI-0-LJU-N-023-2124

358. *Erysimum sylvestre* Scop. - Kucelj, 2023, J. B., B. R., SI-0-LJU-N-023-2125

359. *Euonymus europaeus* L. - Otlica, 2023, J. B., B. R., SI-0-LJU-N-023-2126

360. *Euonymus europaeus* L. - Roje, 2023, J. B., SI-0-LJU-N-023-2127

361. *Eupatorium cannabinum* L. - Kucelj-Čaven, 2023, J. B., B. R., SI-0-LJU-N-023-2128

362. *Ferulago galbanifera* Koch - Beka, 2023, L. & I. D., SI-0-LJU-N-023-2130

363. *Ferulago galbanifera* Koch - Pogorje, 2023, J. B., B. R., SI-0-LJU-N-023-2129

364. *Filipendula vulgaris* Moench. - Dragonja, 2023, J. B., SI-0-LJU-N-023-2131

365. *Filipendula vulgaris* Moench. - Roje, 2023, J. B., B. R., SI-

0-LJU-N-023-2132

366. *Frangula alnus* Mill. - Medvedce, 2023, J. B., B. R., SI-0-LJU-N-023-2133

367. *Galeopsis angustifolia* Ehrh. - Otlica, 2023, J. B., B. R., SI-0-LJU-N-023-2134

368. *Genista tinctoria* L. - Banjšice, 2023, J. B., B. R., SI-0-LJU-N-023-2135

369. *Gentiana asclepiadea* L. - Brezje pri Dobravi, 2023, J. K., SI-0-LJU-N-023-2137

370. *Gentiana asclepiadea* L. - Medrce (Porezen), 2023, J. B., B. R., SI-0-LJU-N-023-2136

371. *Gentiana pannonica* Scopoli - Porezen, 2023, J. B., B. R., SI-1-LJU-N-023-2138

372. *Gladiolus illyricus* Koch - Roje, 2023, J. B., B. R., SI-1-LJU-N-023-2139

373. *Gladiolus illyricus* Koch - Roje, 2023, M. T., K. M., SI-1-LJU-N-023-2140

374. *Gladiolus palustris* Gaudin - Banjšice, 2023, J. B., B. R., SI-1-LJU-N-023-2141

375. *Gladiolus palustris* Gaudin - Na brdi, Gorenja Trebuša, 2023, L. & I. D., SI-1-LJU-N-023-2142

376. *Globularia cordifolia* L. - Breginjski Stol, 2023, J. B., B. R., SI-0-LJU-N-023-2143

377. *Globularia cordifolia* L. - Kucelj, 2023, J. B., B. R., SI-0-LJU-N-023-2144

378. *Globularia punctata* Hegetschw. - Žadovinec, 2023, J. B.,

SI-0-LJU-N-023-2145

379. *Globularia punctata* Hegetschw. - Pogorje, 2023, J. B., B. R., SI-0-LJU-N-023-2147

380. *Globularia punctata* Hegetschw. - Senožeče, 2023, J. B., B. R., SI-0-LJU-N-023-2146

381. *Gymnadenia conopsea* (L.) R. Br. - Banjšice, 2023, J. B., B. R., SI-1-LJU-N-023-2148

382. *Gymnadenia conopsea* (L.) R. Br. - Korada, 2023, L. & I. D., SI-1-LJU-N-023-2149

383. *Helianthemum grandiflorum* (Scop.) Lam. & DC. - Stanov rob, 2023, L. & I. D., SI-0-LJU-N-023-2150

384. *Helianthemum nummularium* (L.) Mill. - Kucelj, 2023, J. B., B. R., SI-0-LJU-N-023-2151

385. *Helianthemum ovatum* (Viv.) Dunal - Podbela (Nadiža), 2023, J. B., B. R., SI-0-LJU-N-023-2152

386. *Heliosperma alpestre* Rchb. - Velika planina, 2023, J. B., B. R., SI-0-LJU-N-023-2153

387. *Hypochoeris maculata* L. - Sveto (Bate), 2023, J. B., B. R., K. M., M. T., SI-0-LJU-N-023-2154

388. *Inula conyza* L. - nad Želimljami, 2023, J. B., B. R., SI-0-LJU-N-023-2155

389. *Inula ensifolia* L. - Grižnik, 2023, L. & I. D., SI-0-LJU-N-023-2157

390. *Inula ensifolia* L. - Kucelj, 2023, J. B., B. R., SI-0-LJU-N-023-2156

391. *Inula hirta* L. - Čaven, 2023, J. B., B. R., SI-0-LJU-N-023-

2158

392. *Inula hirta* L. - Kucelj, 2023, J. B., B. R., SI-0-LJU-N-023-2159

393. *Inula salicina* L. - Špik (Libušnje), 2023, L. & I. D., SI-0-LJU-N-023-2160

394. *Inula spiraeifolia* L. - Sočerga, 2023, J. B., B. R., SI-0-LJU-N-023-2161

395. *Lactuca saligna* L. - Modrej, 2023, L. & I. D., SI-0-LJU-N-023-2162

396. *Laserpitium latifolium* L. - Čaven, 2023, J. B., B. R., SI-0-LJU-N-023-2164

397. *Laserpitium latifolium* L. - Porezen, 2023, J. B., B. R., SI-0-LJU-N-023-2163

398. *Laserpitium peucedanoides* L. - Veliki Golak, 2023, L. & I. D., SI-0-LJU-N-023-2165

399. *Lathyrus latifolius* L. - Banjšice, 2023, J. B., B. R., SI-0-LJU-N-023-2166

400. *Leontodon hispidus* L. - Resevna, 2023, J. B., B. R., SI-0-LJU-N-023-2167

401. *Libanotis sibirica* (L.) C. A. Mey - Porezen, 2023, J. B., B. R., SI-0-LJU-N-023-2168

402. *Libanotis sibirica* (L.) C. A. Mey subsp. *pyrenaica* - Bovec, 2023, L. & I. D., SI-0-LJU-N-023-2169

403. *Ligustrum vulgare* L. - Roje, 2023, J. B., SI-0-LJU-N-023-2170

404. *Lilium martagon* L. - Velika planina, 2023, J. B., B. R., SI-

1-LJU-N-023-2171

405. *Linum viscosum* L. - Roje, 2023, J. B., B. R., SI-0-LJU-N-023-2172

406. *Lunaria rediviva* L. - Kucelj-Čaven, 2023, J. B., B. R., SI-0-LJU-N-023-2173

407. *Lycopus europaeus* L. subsp. *europaeus* - Beka, 2023, L. & I. D., SI-0-LJU-N-023-2174

408. *Lysimachia vulgaris* L. - Medvedce, 2023, J. B., B. R., SI-0-LJU-N-023-2175

409. *Marrubium incanum* Desr. - Sočerga, 2023, J. B., B. R., SI-0-LJU-N-023-2176

410. *Melica ciliata* L. - Lukovec, 2023, L. & I. D., SI-0-LJU-N-023-2178

411. *Melica ciliata* L. - Modrejce, 2023, L. & I. D., SI-0-LJU-N-023-2177

412. *Molinia caerulea* (L.) Moench - Resevna, 2023, J. B., B. R., SI-0-LJU-N-023-2179

413. *Muscari comosum* (L.) Miller - Dragonja, 2023, J. B., SI-1-LJU-N-023-2180

414. *Mycelis muralis* Dumort. - Kucelj-Čaven, 2023, J. B., B. R., SI-0-LJU-N-023-2181

415. *Myrrhis odorata* (L.) Scop. - Porezen, 2023, J. B., B. R., SI-0-LJU-N-023-2182

416. *Nigella damascena* L. - Dragonja, 2023, J. B., SI-0-LJU-N-023-2183

417. *Omalotheca sylvatica* (L.) Schultz Bip. & F.W. Schultz in

- F.W.Schultz - Porezen, 2023, J. B., B. R., SI-0-LJU-N-023-2184
418. *Orchis purpurea* Huds. - Dragonja, 2023, J. B., SI-1-LJU-N-023-2185
419. *Origanum vulgare* L. - nad Želimljami, 2023, J. B., SI-0-LJU-N-023-2186
420. *Origanum vulgare* L. - Zadlaz-Čadrg, Perbla, 2023, L. & I. D., SI-0-LJU-N-023-2187
421. *Ornithogalum pyrenaicum* L. - Banjšice, 2023, J. B., B. R., SI-0-LJU-N-023-2189
422. *Ornithogalum pyrenaicum* L. - Roje, 2023, J. B., B. R., SI-0-LJU-N-023-2188
423. *Ostrya carpinifolia* Scop. - Stanov rob, 2023, L. & I. D., SI-0-LJU-N-023-2190
424. *Paeonia officinalis* L. - Grižnik, 2023, L. & I. D., SI-1-LJU-N-023-2191
425. *Paliurus spina-christi* Mill. - Dragonja, 2023, J. B., SI-0-LJU-N-023-2192
426. *Pedicularis verticillata* L. - Porezen, 2023, J. B., B. R., SI-0-LJU-N-023-2193
427. *Peucedanum oreoselinum* (L.) Moench - Špik (Libušnje), 2023, L. & I. D., SI-0-LJU-N-023-2195
428. *Peucedanum oreoselinum* (L.) Moench - Roje, 2023, M. T., K. M., SI-0-LJU-N-023-2194
429. *Peucedanum schottii* Besser ex DC. - Čaven, 2023, J. B., B. R., SI-0-LJU-N-023-2196
430. *Peucedanum schottii* Besser ex DC. - Špik (Libušnje),

- 2023, L. & I. D., SI-0-LJU-N-023-2197
431. *Peucedanum verticillare* (L.) Koch - Porezen, 2023, J. B., B. R., SI-0-LJU-N-023-2198
432. *Platanthera bifolia* (L.) L.C.Rich - Kamni grič, 2023, B. D., SI-1-LJU-N-023-2199
433. *Polygonatum odoratum* (Mill.) Druce - Čaven, 2023, J. B., B. R., SI-0-LJU-N-023-2200
434. *Polygonatum verticillatum* All. - Kucelj-Čaven, 2023, J. B., B. R., SI-0-LJU-N-023-2201
435. *Primula auricula* L. - Plešivec nad Trento, 2023, L. & I. D., SI-1-LJU-N-023-2202
436. *Prunella grandiflora* (L.) Scholler - Banjšice, 2023, J. B., B. R., SI-0-LJU-N-023-2203
437. *Prunus spinosa* L. - Dragonja, 2023, J. B., SI-0-LJU-N-023-2204
438. *Pulsatilla nigricans* Ströck. - Žadovinec, 2023, J. B., SI-1-LJU-N-023-2205
439. *Quercus cerris* L. - Modrejce - Bučenica, 2023, L. & I. D., SI-0-LJU-N-023-2206
440. *Rhamnus cathartica* L. - Otlica, 2023, J. B., B. R., SI-0-LJU-N-023-2207
441. *Rosa pendulina* L. - Porezen, 2023, J. B., B. R., SI-0-LJU-N-023-2208
442. *Rosa rubiginosa* L. - Porezen, 2023, J. B., B. R., SI-0-LJU-N-023-2209
443. *Rosa sempervirens* L. - Dragonja, 2023, J. B., B. R., SI-0-

LJU-N-023-2210

444. *Ruscus aculeatus* L. - Dragonja, 2023, J. B., B. R., SI-1-LJU-N-023-2211

445. *Ruta divaricata* Ten. - Škocjanske jame, 2023, I. D., B. V. & J. P., SI-0-LJU-N-023-2214

446. *Ruta divaricata* Ten. - Otlica, 2023, J. B., B. R., SI-0-LJU-N-023-2213

447. *Ruta divaricata* Ten. - Sočerga, 2023, J. B., B. R., SI-0-LJU-N-023-2212

448. *Salvia glutinosa* L. - med Kucljem in Čavnom, 2023, J. B., B. R., SI-0-LJU-N-023-2215

449. *Salvia pratensis* L. - Štanjel, 2023, J. B., SI-0-LJU-N-023-2216

450. *Salvia pratensis* L. - Sveto (Bate), 2023, J. B., B. R., K. M., M. T., SI-0-LJU-N-023-2217

451. *Salvia verticillata* L. - Čaven, 2023, J. B., B. R., SI-0-LJU-N-023-2218

452. *Satureja subspicata* Bartl. ex Vis. subsp. *liburnica* - Kucelj, 2023, J. B., B. R., SI-0-LJU-N-023-2219

453. *Scabiosa graminifolia* L. - Čaven, 2023, J. B., B. R., SI-0-LJU-N-023-2220

454. *Sempervivum tectorum* L. - Škocjanske jame, 2023, I. D., B. V. & J. P., SI-1-LJU-N-023-2223

455. *Sempervivum tectorum* L. - Kucelj, 2023, J. B., B. R., SI-1-LJU-N-023-2222

456. *Senecio abrotanifolius* L. - Plešivec nad Trento, 2023, L. &

- I. D., SI-0-LJU-N-023-2224
457. *Senecio ovatus* (Gaertn., Mey. & Scherb.) Willd. - Porezen, 2023, J. B., B. R., SI-0-LJU-N-023-2225
458. *Silene nutans* L. - Breginjski Stol, 2023, J. B., B. R., SI-0-LJU-N-023-2226
459. *Silene nutans* L. - Porezen, 2023, J. B., B. R., SI-0-LJU-N-023-2227
460. *Solidago virgaurea* L. - Banjšice, 2023, J. B., B. R., SI-0-LJU-N-023-2228
461. *Solidago virgaurea* L. - Poljane pri Mirni Peči, 2023, J. M., SI-0-LJU-N-023-2230
462. *Solidago virgaurea* L. - Resevna, 2023, J. B., B. R., SI-0-LJU-N-023-2229
463. *Solidago virgaurea* L. - Za Kurnikom (Vrsno), 2023, L. & I. D., SI-0-LJU-N-023-2231
464. *Sorbus aria* (L.) Crantz. s. lat. - Kurnik (Vrsno), 2023, L. & I. D., SI-0-LJU-N-023-2233
465. *Sorbus aria* (L.) Crantz. - Pogorje, 2023, J. B., B. R., SI-0-LJU-N-023-2232
466. *Sorbus domestica* L. - Piran, 2023, J. K., SI-0-LJU-N-023-2234
467. *Sorbus hungarica* (Bornm.) Kárpáti - Ocizla, 2023, L. & I. D., SI-0-LJU-N-023-2235
468. *Spartium junceum* L. - Fiesa, Piran, 2023, J. K., SI-0-LJU-N-023-2236
469. *Spartium junceum* L. - Piran, 2023, J. K., SI-0-LJU-N-023-

2237

470. *Stachys sylvatica* L. - Kucelj-Čaven, 2023, J. B., B. R., SI-0-LJU-N-023-2238

471. *Tamus communis* L. - nad Želimljami, 2023, J. B., SI-0-LJU-N-023-2239

472. *Tanacetum vulgare* L. - Medvedce, 2023, J. B., B. R., SI-0-LJU-N-023-2240

473. *Telekia speciosa* (Schreb.) Baumg. - Brkini, Suhorica, 2023, L. & I. D., SI-0-LJU-N-023-2241

474. *Teucrium montanum* L. - Kucelj, 2023, J. B., B. R., SI-0-LJU-N-023-2242

475. *Thalictrum minus* L. - Čaven, 2023, J. B., B. R., SI-0-LJU-N-023-2243

476. *Thalictrum minus* L. - Kucelj, 2023, J. B., B. R., SI-0-LJU-N-023-2244

477. *Thlaspi arvense* L. - Štanjel, 2023, J. B., SI-0-LJU-N-023-2245

478. *Tragopogon pratensis* L. - Senožče, 2023, J. B., B. R., SI-0-LJU-N-023-2247

479. *Trapa natans* - Medvedce, 2023, J. B., B. R., SI-1-LJU-N-023-2248

480. *Trifolium aureum* Pollich - Za Kurnikom (Vrsno), 2023, L. & I. D., SI-0-LJU-N-023-2249

481. *Trifolium montanum* L - Banjšice, 2023, J. B., B. R., SI-0-LJU-N-023-2251

482. *Trifolium montanum* L - Roje, 2023, J. B., B. R., SI-0-LJU-

N-023-2250

483. *Trifolium rubens* L. - Banjšice, 2023, J. B., B. R., SI-0-LJU-N-023-2253

484. *Trifolium rubens* L. - Dragonja, 2023, J. B., SI-0-LJU-N-023-2252

485. *Typha latifolia* L. - Medvedce, 2023, J. B., B. R., SI-0-LJU-N-023-2254

486. *Veronica barrelieri* Schott ex Roem. & Schult. - Kucelj, 2023, J. B., B. R., SI-0-LJU-N-023-2256

487. *Veronica barrelieri* Schott ex Roem. & Schult. - Lukovec, 2023, L. & I. D., SI-0-LJU-N-023-2257

488. *Veronica barrelieri* Schott ex Roem. & Schult. - Otlica, 2023, J. B., B. R., SI-0-LJU-N-023-2255

489. *Veronica jacquinii* Baumg. - Kucelj, 2023, L. & I. D., SI-0-LJU-N-023-2258

490. *Viburnum lantana* L. - nad Želimljami, 2023, J. B., SI-0-LJU-N-023-2259

491. *Viburnum lantana* L. - Roje, 2023, J. B., SI-0-LJU-N-023-2260

Collectors of the wild seeds:

dr. Jože Bavcon (J. B.)

dr. Igor Dakskobler (I. D.)

Ljudmila Dakskobler (L. D.)

Janja Makše (J. M.)

dr. Blanka Ravnjak (B. R.)

A few seed species are collected by:

Branko Dolinar (B. D.)

Jure Kališnik (J. K.)

Katja Malovrh (K. M.)

dr. Jože Pungerčar (J. P.)

Maja Tomšič (M. T.)

dr. Branko Vreš (B. V.)

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Semina in horto alpino Juliana Museum historiae naturalis Sloveniae anno 2023 lecta

Špela Pungaršek, Martina Tekavec in Klemen Završnik

- 492. *Adenophora liliifolia* (L.) A. DC.
- 493. *Allium ericetorum* Thore
- 494. *Allium lusitanicum* Lam.
- 495. *Angelica sylvestris* L.
- 496. *Aquilegia nigricans* Baumg.
- 497. *Aruncus dioicus* (Walter) Fernald
- 498. *Asphodelus albus* Mill.
- 499. *Aster amellus* L.
- 500. *Astrantia carniolica* Wulfen
- 501. *Astrantia major* L. subsp. *major*
- 502. *Athamanta turbith* Brot.
- 503. *Betonica officinalis* L.
- 504. *Buphthalmum salicifolium* L.
- 505. *Calluna vulgaris* (L.) Hill

506. *Campanula spicata* L.
507. *Carduus defloratus* L.
508. *Carex flacca* Schreb.
509. *Centaurea dichroantha* A.Kern.
510. *Centaurea nigrescens* subsp. *vochinensis* (Bernh. ex Rchb.)
Nyman
511. *Centaurea scabiosa* subsp. *fritschii* (Hayek) Hayek
512. *Centaurea scabiosa* L. subsp. *scabiosa*
513. *Genista sagittalis* L.
514. *Cirsium erisithales* Scop.
515. *Cirsium oleraceum* (L.) Scop.
516. *Clematis recta* L.
517. *Coronilla coronata* L.
518. *Crepis alpestris* (Jacq.) Tausch
519. *Dianthus barbatus* L. subsp. *barbatus*
520. *Dianthus carthusianorum* L. subsp. *carthusianorum*
521. *Dictamnus albus* L.
522. *Digitalis grandiflora* Mill.
523. *Dryas octopetala* L.
524. *Echinops exaltatus* Schrad.
525. *Epilobium montanum* L.
526. *Erinus alpinus* L.
527. *Eryngium alpinum* L.
528. *Euonymus latifolius* (L.) Mill.
529. *Eupatorium cannabinum* L.
530. *Filipendula ulmaria* (L.) Maxim.

- 531. *Frangula rupestris* (Scop.) Schur
- 532. *Galium verum* L.
- 533. *Genista radiata* (L.) Scop.
- 534. *Gentiana angustifolia* Vill.
- 535. *Gentiana asclepiadea* L.
- 536. *Gladiolus palustris* Gaudin
- 537. *Globularia cordifolia* L.
- 538. *Heliosperma alpestre* (Jacq.) Rchb.
- 539. *Hemerocallis lilioasphodelus* L.
- 540. *Hieracium umbellatum* L.
- 541. *Hippocrepis emerus* (L.) Lassen
- 542. *Horminum pyrenaicum* L.
- 543. *Hypericum perforatum* L.
- 544. *Hypochaeris maculata* L.
- 545. *Inula ensifolia* L.
- 546. *Iris pseudacorus* L.
- 547. *Iris sibirica* L. subsp. *sibirica*
- 548. *Laserpitium latifolium* L.
- 549. *Lathyrus laevigatus* subsp. *occidentalis* (Fisch. & C. A. Mey.) Breistr.
- 550. *Lathyrus vernus* (L.) Bernh. subsp. *vernus*
- 551. *Leontodon incanus* (L.) Schrank subsp. *incanus*
- 552. *Seseli libanotis* (L.) W. D. J. Koch
- 553. *Linum flavum* L.
- 554. *Lithospermum officinale* L.
- 555. *Lomelosia graminifolia* (L.) Greuter & Burdet

556. *Lotus germanicus* (Gremli) Peruzzi
557. *Lunaria rediviva* L.
558. *Lythrum salicaria* L.
559. *Mentha longifolia* (L.) L. subsp. *longifolia*
560. *Myrrhis odorata* (L.) Scop.
561. *Paeonia officinalis* L.
562. *Petasites paradoxus* (Retz.) Baumg.
563. *Peucedanum oreoselinum* (L.) Moench
564. *Peucedanum schottii* Besser ex DC.
565. *Peucedanum verticillare* (L.) W.D.J.Koch ex DC.
566. *Prenanthes purpurea* L.
567. *Rhododendron hirsutum* L.
568. *Rhodothamnus chamaecistus* (L.) Rchb.
569. *Ruta divaricata* Ten.
570. *Salvia glutinosa* L.
571. *Sanguisorba officinalis* L.
572. *Jacobaea abrotanifolia* Moench subsp. *abrotanifolia*
573. *Sibiraea croatica* Degen
574. *Silene latifolia* subsp. *alba* (Mill.) Greuter & Burdet
575. *Silene nutans* L.
576. *Solidago virgaurea* L. subsp. *virgaurea*
577. *Taxus baccata* L.
578. *Telekia speciosa* (Schreb.) Baumg.
579. *Tephrosieris longifolia* subsp. *pseudocrispa* (Fiori) Greuter
580. *Thalictrum minus* L.
581. *Tofieldia calyculata* (L.) Wahlenb.

582. *Trifolium rubens* L.
583. *Veratrum nigrum* L.
584. *Veronica longifolia* L. subsp. *longifolia*
585. *Veronica urticifolia* Jacq.
586. *Vicia oroboides* Wulfen
587. *Vincetoxicum hirundinaria* Medik. subsp. *hirundinaria*

Curator: Špela Pungaršek

Hortulani: Martina Tekavec, Klemen Završnik

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