

Botanični vrt Univerze v Ljubljani – 200 let

University botanic gardens Ljubljana – 200 years

Jože Bavcon

Botanični vrt Univerze v Ljubljani, Oddelek za biologijo, Biotehniška fakulteta, Ižanska cesta 15, 1000 Ljubljana, Slovenija
University Botanic Garden, Ljubljana, Department of Biology, Biotechnical Faculty, Ižanska cesta 15, 1000 Ljubljana, Slovenia, E-mail naslov: joze.bavcon@guest.arnes.si

Izvleček: V delu je obravnavana zgodovina botaničnega vrta v Ljubljani. Predstavljeno je nekaj novo odkritih arhivskih dokumentov. Osvetljene in primerjalno so podane Paulinove in Vossove ocene vrta za obdobje po F. Hladniku (1834) do prihoda A. Paulina (1886), ki so primerjane še z zapisi iz arhivskih dokumentov vrta za to obdobje, ki do sedaj še niso bili predstavljeni. Po teh primerjavah se kaže, da je vrt kljub vsemu preko celotnega svojega obdobja delovanja, ohranjal kontinuiteto dela, kot je potrebna za botanični vrt. V zadnjem delu je opisano še novejšo obdobje vrta.

Ključne besede: botanični vrt, visoke šole, Ilirske province, F. Hladnik, J. Biatzovsky, A. Fleischmann, A. Paulin, J. Lazar, V. Strgar

Abstract: The present work deals with the history of the Ljubljana Botanic Garden. It brings to light some newly discovered archive documents. It provides a closer examination and comparison of Paulin's and Voss's assessments of the Garden for the period after F. Hladnik (1834) till the arrival of A. Paulin (1886), which are further compared with the so far undisclosed archive documents on the relevant Garden period. These comparisons reveal that the Botanic Garden has never failed to maintain continuity of work such as expected in a botanic garden. The final part covers the Botanic Garden in the recent times.

Key words: botanic garden, colleges, Illyrian Provinces, F. Hladnik, J. Biatzovsky, A. Fleischmann, A. Paulin, J. Lazar, V. Strgar. Running title, University botanic gardens

Prvi vrtovi na Slovenskem

Po dokumentiranih podatkih za prve večje vrtove na slovenskem veljajo vrtovi v Dolu pri Ljubljani. Od leta 1716 do 1758 so bili v lasti Janeza Benjamina Erberga. Po letu 1740 so jih začeli spreminjati pod vplivom tedaj prevladujočega francoskega sloga. Vrhunec so dosegli po letu 1783 in ga obdržali vse do leta 1843, ko je bil lastnik Jožef Kalasanc Erberg. Henrik Freyer (1840) je vrtove, znane kot Erbergov botanični vrt, natančno popisal. Morda so prav omenjeni vrtovi

The First Gardens in Slovenia

According to the documented sources the first larger Slovenian gardens were those at Dol near Ljubljana. Between 1716 and 1758 they were in possession of Janez Benjamin Erberg. After 1740 they began to undergo changes under the influence of the then dominating French style. They were at their height between 1783 and 1843, when owned by Jožef Kalasanc Erberg. These gardens known as Erberg's Botanic Gardens were minutely catalogued by H. Freyer (1840). They may have

do neke mere vplivali na leta 1810 ustanovljeni botanični vrt v Ljubljani (Strgar 1991). V Dolu je do današnjih dni ohranjena osrednja os s paviljonom in drevoredom. (Pergovnik Cotič 2009).

Nekateri kot prvi botanični vrt omenjajo vrt Karla Zoisa (1754–1799) na Brdu pri Kranju. Za letnico ustanovitve vrta navajajo leto 1785 (Petkovšek 1960), Dobrilovič & Kravanja (2003) pa za ustanovitev na temelju arhivskega gradiva navajata letnico 1781. Vrt je slovel po drevesnih vrstah in alpskih rastlinah, med njimi še posebno po endemiti. V njem je raslo tudi mnogo tujih vrst (Petkovšek 1960, Praprotnik 1988, 2004, Dobrilovič in Kravanja 2003). Čeprav se je vrt spreminjal, je ostal do današnjih dni. Od leta 2008 je posestvo zavarovano kot kulturni spomenik državnega pomena, že od leta 1991 pa služi kot protokolarni objekt Republike Slovenije (Koruza 2009).

Poleg prvih omenjenih vrtov so bili tedaj na zdajšnjem ozemlju Slovenije še drugi parki in vrtovi (Jernejec Babič s sod. 2009). Tudi v Ljubljani je bilo v tistem času kar nekaj parkov in vrtov (Andrejka 1934, Dobrilovič in Kravanja 2003.) Kljub temu se je leta 1809 v tedanji Ljubljani začelo zelo intenzivno vrtno dogajanje, ki je potekalo kar na nekaj lokacijah. Vsaj dve sta si bili zelo blizu. Leta 1809 je bila odprta Zoisova aleja, ki je bila na zemljišču utrdbenega jarka. Kot navaja Voss (1885, ponatis 2009), je bila verjetno na zdajšnji Zoisovi cesti. Prav tako je bil v tistem času že zasajen licejski vrt, ki ga je zasadil Franc Hladnik na dvorišču licejske zgradbe, kar je bilo v nekdanjem frančiškanskem samostanu, ki je bil v letih 1788 na zdajšnjem Vodnikovem trgu, kjer je zdaj tržnica (Ciperle 2001). Po potresu leta 1895 so stavbo zaradi velikih poškodb podrli in pridobili prostor za tržnice (Kajzer 1995, Ciperle 2001). Vodnikov spomenik, ki še vedno stoji tam, pa so postavili že prej (Ciperle 2001). Na omenjenem vrtu je Hladnik za potrebe študija na liceju gojil nekatere rastline, ki so rasle na Kranjskem (Pintar 1939).

Hladnikovo obdobje (1810–1834)

Po podpisu mirovne pogodbe v Schönbrunnu 14. oktobra 1809 je Napoleon še isti dan z dekretom Napoleona ustanovil Ilirske province, ki

exerted some influence on the foundation, in 1810, of the Botanic Garden in Ljubljana (Strgar 1991). What has survived of them is their central axis with a pavilion and an avenue planted with trees on both sides (Pergovnik Cotič 2009).

Contrary to this, other researchers consider that the first botanic garden was that of Karl Zoiss (1754–1799). According to Petkovšek (1960) it was founded in 1785 whereas Dobrilovič and Kravanja (2003) state 1781 as the year of its foundation. The garden was famous for its arboreal species and Alpine plants, most particularly endemic flora, as well as numerous foreign species (Petkovšek 1960, Praprotnik 1988, 2004, Dobrilovič and Kravanja 2003). In spite of having undergone changes the garden has survived. In 2008 the estate was proclaimed a cultural monument of national importance. It has since 1991 been used as the central protocol venue of the Republic of Slovenia (Koruza 2009).

In addition to the abovementioned gardens there were some other parks and gardens in the territory of present-day Slovenia (Jernejec Babič et al. 2009), among them also in Ljubljana (Dobrilovič and Kravanja 2003). In 1809 the horticultural scene of Ljubljana became very lively in various locations. At least two of them were quite close to each other. The year 1809 saw the opening of Zoiss's alley running over a moat area. According to Voss (1885, reprint 2009), this was most probably the present-day Zoisova cesta road. F. Hladnik had by then planted the garden in the courtyard of the Lyceum building, i.e. a former Franciscan monastery which in 1788 stood in the present-day Vodnikov trg, now the open central Ljubljana market (Ciperle 2001). The building was badly damaged in the earthquake of 1895 and pulled down to make space for the market halls (Kajzer 1995, Ciperle 2001). The Vodnik Memorial, which is still in place, had been erected before (Ciperle 2001). Hladnik used the Lyceum garden to cultivate some Carniolan plants for educational purposes (Pintar 1939).

Hladnik's Period (1810–1834)

The signing of the Treaty of Schönbrunn on October 14, 1809 was followed, on the very same day, by Napoleon's decree on the foundation of



Slika 1: Karta mesta Ljubljane in okolice z označenimi cerkvami, javnimi zgradbami (sedeži francoskih oblasti, šol, vojašnic) ter prebivališči znanih ljubljanskih oseb. Ljubljana, 1811 ARS, AS 1068, Zbirka načrtov, 5/96.

Figure 1: A map of Ljubljana and its surroundings, indicating churches, public buildings (headquarters of the French authorities, schools, barracks) and homes of well-known Slovenian figures. Ljubljana, 1811 ARS, AS 1068. Map collection, 5/96.

so imele veliko samostojnost (Šumrada 1999a, Cvirm 2001). Ljubljana je postala glavno mesto tako imenovane tamponske države, ki je segala od Tirolske ter vse do Dubrovnika in je Habsburško monarhijo odrezala od morja (Šumrada 1998). Kot prvi glavni guverner je bil imenovan maršal Auguste-Frédéric Viesse de Marmont (1774–1852) (Granda 2001). Delovale so do leta 1813 (Žmuc 2009, Polajnar 2009, Dular in sod. 2010). Dvestoletnice Ilirskih provinc, ki so tedaj pomenile

the Illyrian Provinces which enjoyed considerable independence (Šumrada 1998, 1999a, Cvirm 2001). Ljubljana became the capital of the so-called buffer state extending from Tyrolia as far as Dubrovnik, cutting the Habsburg monarchy off the sea. The first governor of the Provinces became Marshal Auguste-Frédéric Viesse de Marmont (1774–1852) (Granda 2001). 1813 marked the end of the Illyrian Provinces (Žmuc 2009, Polajnar 2009, Dular and al. 2010). In 2009 Slovenia celebrated the

pravi narodni preporod zaradi uvedbe slovenskega jezika v javne ustanove, smo se v Sloveniji spominjali v letu 2009.

Kot navaja Voss (1885) je Hladnik z že omenjeno ustanovitvijo Ilirskih provinc kmalu dobil novo zemljišče, ob Karlovški cesti ob Gruberjevem prekopu. Kot navajajo, je bilo to zemljišče – njiva, že prej namenjeno za potrebe vojske (Pintar 1939) in so na njem gojili krompir (Lazar 1954). V nekaterih zapisih o zgodovini vrta (Lazar 1954, 1960, Strgar 1973), in tudi v nekaterih starih časopisnih člankih navajajo, da je imel Hladnik na voljo dve možnosti: lokacijo na območju današnjega Tivolija in to ob prekopu. V nekem mlajšem časopisnem viru (Slovenec 1942) namreč navajajo kot dodatno dejstvo še, da se je F. Hladnik veliko ukvarjal z vrbami in tukaj naj bi rastle posebna vrsta vrbe, tako je bil to eden izmed vzrokov, da je sprejel to zemljišče. Glede na razmere v svetu in na nastanek mnogih botaničnih vrtov se zdi verjetnejša druga trditev, da je šlo za državno zemljo, ki jo je bilo najlažje dati v ta namen. Po Evropi so botanični vrtovi velikokrat nastajali na zemlji, ki jo je imel v lasti kak vladar ali pa so podarili kako manj vredno zemljišče.

Glede na to, da je bila tukaj že prej njiva, delitev na posamezne gredice ni bila težka. Tudi to, da je bil botanični vrt naveden v Marmontovi odredbi, je pomenilo, da je potrebno hitro vsaj nekaj narediti. Prav zaradi tega se zdi izbor tega zemljišča logičen. Francosko šolstvo je po mnogih poskusih revolucionarnih vlad temeljilo na odredbi narodnega konventa (narodni konvent – ljudsko predstavništvo: 1792–1795) iz leta 1795 o ustanovitvi centralnih šol, v katerih naj bi se poučevalo vse znanosti in umetnosti. Kot obvezen sestavni del je bil tudi botanični vrt (Polec 1929). Tudi Marmontova odredba iz 4. julija 1810 se nanaša nanjo. V 9. členu Marmontove odredbe je določeno, naj se poleg knjižnice, fizikalnega in kemičnega kabineta ustanovi še botanični vrt. V veljavo je stopila 1. oktobra 1810 in je visoke šole v Iliriji povzdignila na stopnjo univerzitetne ravni, z razliko od centralnih šol v Franciji, ki niso imele tega statusa (Polec 1929, Pintar 1939, Baras 1984, Šumrada 1999b, Ciperle 2009).

Čeprav v nekaterih virih navajajo, da je bil vrt morda ustanovljen že leta 1809, je to manj verjetno. Ilirske province so bile ustanovljene 14. oktobra 1809, po podpisu že omenjene mirovne

200th anniversary of the Illyrian Provinces which resulted into a real national renaissance due to the introduction of the Slovenian language into public institutions.

Voss (1885) reports that after the foundation of the Illyrian Provinces Hladnik soon obtained a new parcel of land along the Karlovška cesta road by the Gruber Canal. According to the sources, this land, i.e. field, was originally intended for the army (Pintar 1939) and was used for growing potatoes (Lazar 1954). As following from some records on the history of the Garden (Lazar 1954, 1960, Strgar 1973) as well as some old newspaper articles, Hladnik had to choose between two options, a location in the present-day Tivoli and another along the Canal. In a later newspaper article (the Slovenec 1942) an additional fact is mentioned, namely, that F. Hladnik took a great deal of interest in willow trees, a special variety of which was growing in the latter area, and so that was one of the deciding factors in his choice. However, considering the circumstances elsewhere in the world and the foundation of numerous botanic gardens a correct answer might lie with the fact that this was state-owned land which was most easily assigned for such a purpose. In Europe botanic gardens were often laid out on the land owned by some ruler or else some less valuable parcel of land was donated for such a purpose.

Due to the previous existence of the field in the chosen locality, the division into garden beds was not a very difficult task. The explicit mention of the garden in Marmont's decree indicates that it was imperative to take immediate action. This is what makes the choice of this particular parcel of land quite logical. After numerous attempts of the revolutionary governments the French educational system was based on the Convention decree of 1795 (National Convention – people's representation, 1792–1795) on the foundation of central schools dedicated to the teaching of all sciences and arts, and a compulsory part of it was also a botanic garden (Polec 1929). Marmont's decree of July 04, 1810 refers to it; according to Article 9 of the Decree there shall be founded a library, a physics and a chemistry cabinets and a botanic garden. The Decree entered into force on October 01, 1810 and raised the Illyrian colleges to the university level, in contrast to the central schools in France which did not enjoy such a status

pogodbe. Zelo malo verjetno, je da bi se že pred tem francoska oblast ukvarjala z ustanovitvijo botaničnega vrta. Hladnik pa je tudi pred tem, kot je že omenjeno, imel svoj vrt na licejskem dvorišču. Paulin v svojem rokopisu iz leta 1928 prav tako navaja, da je maršal Marmont leta 1809 izročil del sedanjega areala gimnazijskemu prefektu Francu Hladniku. Jeseni je Hladnik že lahko zasadil kako rastlino, vendar je glede na podnebne razmere v Ljubljani, delo novembra in nato decembra najverjetneje stalo in so rastline začeli zasajati šele spomladi. Zato je kot prava letnica otvoritve vrta leto 1810. To potrjuje tudi ohranjeno Hladnikovo v pismu regentu (rektorju) centralnih šol Jožefu Wallandu iz 27. decembra 1810. V njem piše »V ljubljanskem botaničnem vrtu je bilo v mesecu septembru posajenih 447 linnejevskih vrst. Vendar je bil to šele začetek težaškega dela. Potrebno bo še veliko ekskurzij, da bo vrt postal vreden svojega imena. Ker je ljubljanska flora že skoraj izčrpana, se bo treba podati na daljna potovanja. Stroški zanje se bodo v letu 1811 povzpeli na 900 frankov« (ZAL, LJU 184). Iz leta 1811 z datumom 8. junija obstaja še eno pismo rektorja glavnemu šolskemu inšpektorju Zelliju, kjer navaja Hladnikovo pismo za poravnava stroškov najema pašnika (v višini 129 frankov 29 centimov in 29 milimov) za potrebe botaničnega vrta (ZAL, LJU 184). Iz 22. junija leta 1811 pa obstoji Hladnikovo pismo, kjer pravi, da so v prvem tri-mestru stroški za botanični vrt dosegli vsoto 110 frankov 59 centimov in 60 mil. Prosi, da bi celotno vsoto 500 frankov namenjenih pouku botanike na semester, nemudoma plačali. Brez takojšnje učinkovite pomoči bo drugače to leto za botanični vrt izgubljeno (ZAL, LJU 184). Iz leta 1811 obstoji tudi zemljevid Ljubljane, ki so ga narisali študentje matematike na centralnih šolah (ARS, AS 1068) kjer je že vrisan botanični vrt – jardin botanique.

V starih časopisnih virih se do današnjih dni vedno pojavlja kot datum odprtja botaničnega vrta – Vrta domovinske flore, kot so ga imenovali, 11. julij 1810. Kljub iskanju različnih raziskovalcev, ki so pripravljali gradivo o Ilirskih provincinah, mojemu osebnemu pregledovanju dokumentov Arhiva Republike Slovenije in ZAL za to obdobje, tega dokumenta do sedaj še ni nihče našel. Edino Strgar (1973) navaja kasnejši dokument datiran 10. 3. 1814, ki omenja 11. julij 1810 kot

(Polec 1929, Pintar 1939, Baras 1984, Šumrada 1999b, Ciperle 2009).

Although some sources state that the Garden may have been established already in 1809, this is doubtlessly wrong. As the Illyrian Provinces were established after the mentioned peace treaty on October 14, 1809, it is highly unlikely that the French authorities would concern themselves with the foundation of a botanic garden so well in advance. We know that Hladnik had a garden in the Lyceum courtyard. In his manuscript of 1928 Paulin states that in 1809 Marshal Marmont handed over a part of the present area to gymnasium prefect Franc Hladnik. Hladnik may have planted some plants in the autumn of that year, however, considering the Ljubljana climate, any activities must have come to a halt in November or December, and the planting actually started in the spring of 1810. This follows also from a letter of December 27, 1810, in which Hladnik reports to Jožef Walland, rector of the central schools, »In September 447 Linnaean species were planted in the Ljubljana Botanic Garden. This, however, was just the beginning of hard work. Much effort remains to be invested before the Garden becomes worthy of its name. As the flora of Ljubljana is almost exhausted, distant travels will have to be undertaken. The travel expenses for 1811 will amount to 900 francs.« (ZAL, LJU 184). In a letter of June 08, 1811 that the rector writes to chief school inspector Zelli he cites Hladnik's letter concerning the settlement of the costs of hiring a pasture adjacent to the Botanic Garden (in the amount of 129 francs 29 centimes and 29 mil.) (ZAL, LJU 184). There exists another letter dated June 22, 1811 in which Hladnik says that in the course of the first trimester the expenses of the Botanic Garden have arisen 110 francs 59 centimes and 60 mil., so he voices an urgent request that the total of 500 francs as anticipated on account of the first term be paid without delay. He adds that »without an immediate and efficacious help this year will be lost for the Botanic Garden.« (ZAL, LJU 184). A preserved map of Ljubljana drawn in 1811 by the Central Schools students of mathematics of (ARS, AS 1068) already features the Botanic Garden – *le jardin botanique*.

Older as well as more recent newspaper sources continue to refer to July 11, 1810 as the inauguration date of the Botanic Garden – or the

najpoznejši datum za odprtje vrta. Vendar tudi tega dokumenta v ustreni mapi v arhivu RS ni. Je pa del objavljen v vodniku po botaničnem vrtu iz leta (Strgar 1973). Časopis *Télégraphe officiel des provinces Illyriennes iz tedanjega časa*, ki bi o tem lahko poročal, je začel izhajati kasneje, 3. 10. 1810, in je izhajal do 26. 9. 1813. Maršal Marmont v svojih spominih (prevod in priredba Baras 1984) omenja le ljubljanski licej. Navaja, da je licej v rokah sposobnih ljudi, tako da je le nadaljeval z izboljšanjem izobraževanja na njem in mu dodelil še botanični vrt. Pred tem omenja še ustanovitev visokih šol v Ljubljani in Zadru. Hladnik v do sedaj najdenih pisnih tega datuma ne omenja. V kasnejših arhivskih rokopisnih zapisih se najde podatek, da naj bi maršal Marmont ob otvoritvi vrta zasadil kar osem dreves, nekateri drugi starejši časopisni članki pa navajajo lipo in brest (Juvan 1942), ki je padel le dve leti zatem (Wraber T. 1944; risba). Nekateri časopisni članki ob 100 letnici delovanja vrta (30. december 1911) celo navajajo, da so rastline začeli saditi šele leta 1811 in 1812. Te trditve zanesljivo lahko ovržemo na osnovi, Hladnikovega pisma iz 27. 12. 1810. Res pa je, da v njem Hladnik kritično zapiše, da bo potrebno še veliko dela, preden bo vrt res pravi botanični vrt.

Že iz leta 1812 je ohranjen seznam rastlin, ki ga je najverjetneje, gotovo po Hladnikovih predlogah zapisal v seznamu podpisani Michel Tušek. Do nedavnega še neznani seznam je odkrila v Arhivu Republike Slovenije raziskovalka zgodovine botanike na Slovenskem N. Praprotnik (2009) in ga s komentarjem in danes veljavnimi imeni objavila (Praprotnik 2010). Do sedaj so bili najstarejši najdeni podatki le iz zapisov H. Freyerja (1829). Iz čitljivo napisanega rokopisnega seznama je razvidno, da so že tedaj bile v vrtu poleg zelo dobro zastopanih domačih rodov kot je *Anemone*, ki je na primer predstavljena kar z več vrstami pri nas rastočih predstavnikov (*A. trifolia*, *A. pratensis*, *A. ranunculoides*, *A. nemorosa* in *A. hepatica* tudi še druge tuje vrste, ki so jih zanesljivo gojili tudi po tedanjih vrtovih, saj so mnogi, ki so vrtove ustvarjali, naročali rastline tudi od drugod iz različnih koncev sveta (Andrejka 1934, Dobrilovič & Kravanja 2003). Tako na seznamu rastlin že tedaj najdemo vrste *Aster novae-angliae*, *Aster novi-belgii*, *A. chinensis*, *Asclepias syriaca*, *Carthamus tinctorius*, *Mirabilis*

National Flora Garden as it was known at the time. However, none of the researchers studying the material on the Illyrian Provinces has found any related document, neither did I when searching through the documents kept in the Archives of the Republic of Slovenia, department of the Historical Archives of Ljubljana for the period under scrutiny. Strgar alone (1973) refers to a later document dated March 10, 1814 which indicates the date of July 11, 1810 as the latest possible date of the opening of the Garden. No such document, however, exists in the file of the Archives of Slovenia, though a part of it is published in the guide through the Botanic Garden of... (Strgar 1973). The then newspaper *Télégraphe officiel des Provinces Illyriennes* that would have reported such an event started to be issued at a later date, namely, from October 03, 1810 to September 26, 1813. In his memoirs (translation and adaptation by Baras 1984) Marshal Marmont mentions only the Ljubljana Lyceum. He remarks that the Lyceum is in the hands of capable people so he further contributed towards the improvement of the Lyceum education by allotting it also a botanic garden. He mentions the foundation of colleges in Ljubljana and Zadar while Hladnik does not refer to this date in any of his letters. Even so, the subsequent archive records claim that on the occasion of inaugurating the Botanic Garden Marshal Marmont planted no less than eight trees, but some later articles specify a linden and an elm (Juvan 1942) which fell down after only two years (Wraber 1944, drawing). A hundred years later (December, 30, 1911) some newspapers even state that the Garden began to be planted only in 1811 and 1812, which can be disproved on the basis of Hladnik's letter of December 27, 1810. It is true, however, that in it Hladnik adds a critical comment that much work will have to be done before the Garden actually becomes a real botanic garden.

A 1812 list of plants is preserved, signed by catechist Michel Tušek who most probably compiled it according to Hladnik's material. This until recently unknown list was discovered in the Archives of Slovenia by N. Praprotnik engaged in botany history research (2009). A facsimile accompanied by her comments is published in the jubilee issue – *200 Years of the Botanic Garden* (Praprotnik 2010). The oldest data found to date go back to the records of H. Freyer (1829). As

jalapa, in *Rudbeckia laciniata*, če naštejemo samo nekatere. Kot je razvidno iz arhivov, je Hladnik za leto 1811 kot profesor na visokih šolah za november 1811 prejel 130 frankov, kot navaja stroškovnik visokih šol. V tem rangu so se gibale plače tudi drugih profesorjev (ZAL, LJU 184). Po virih sodeč je bilo za materialne izdatke knjižnice, fizikalnega in kemičnega kabineta ter botaničnega vrta predvideno 3000 frankov (Polec 1929). Po drugih virih navajajo, naj bi tretjino tega, to je 1000 frankov, dobil botanični vrt (Lazar 1960). V proračunu je posebej naveden strošek za slugo v botaničnem vrtu, ki znaša 500 frankov letno. Vendar je Hladnik sam zapisal v pismu regentu (rektorju) 27. decembra 1810, da bo v prihodnjem letu samo nabiranje rastlin za vrt (potni stroški) stalo 900 frankov. Po rastline bo treba iti v druge kraje, ker jih v ljubljanski okolici ni, tako da je teh sredstev premalo (ZAL, LJU 184).

Franc de Paula Hladnik je bil rojen 29. marca 1773 v Idriji, kjer je tedaj že več kot 200 let deloval najmočnejši rudnik živega srebra v tedanji habsburški monarhiji. Bil je sin rudniškega nadzornika Matije in matere Doreteje. Ker je v Idriji rudnik prinašal kruh vsemu prebivalstvu v tej kotlini, kjer je bilo obdelovalne zemlje malo, je bilo povsem logično, da ga je oče spočetka uvajal v praktično rudarstvo. Vendar sin ni kazal nagnjenja k temu, ampak k študiju. Oče je bil očitno dovolj prosvetljen kot nadzornik, da ga je dal najprej v osnovno šolo, ki je bila v Idriji in nato v gimnazijo v Ljubljano, ki jo je leta 1789 končal z odličnim uspehom. Nadaljeval je filozofske študije na liceju 1790 do 1791 in jih prav tako končal z odličnim uspehom. Nato je vstopil v teologijo in bil 19. junija 1795 posvečen v duhovnika. Zaradi šibkega zdravja pa ga za duhovniško službo niso uporabili (Rechfeld 1849, Voss 1884, Praprotnik 1994). Še istega leta je postal skriptor v ljubljanski licejski knjižnici. 8. oktobra 1796 so ga imenovali za učitelja četrtega razreda normalke, nato 1800 za izrednega učitelja na mehanični šoli v Ljubljani, 21. junija je postal začasni in 5. januarja 1803 redni ravnatelj normalke v Ljubljani. Leta 1807 je zasedel mesto gimnazijskega prefekta.

Po delih, ki jih je opravljal, se vidi, da je bil zelo sposoben, saj je hitro napredoval, ne glede na to, da je bil v mesto priseljen. Njegovo znanje in uspešno upravljanje zaupanega mu dela mu je pomagalo, da je lahko napredoval. V času

following from a well legible handwritten list, the Garden displayed not only such native genera as *Anemone*, represented by several species growing in our country (*A. trifolia*, *A. pratensis*, *A. ranunculoides*, *A. nemorosa*, and also *A. hepatica*) but also foreign species such as doubtlessly bred in the contemporary gardens since many garden designers ordered plants from various parts of the world (Andrejka 1934, Dobrilovič and Kravanja 2003). The list already includes *Aster novae-angliae*, *Aster novi-belgii*, *A. chinensis*, *Asclepias syriaca*, *Carthamus tinctorius*, *Mirabilis jalapa*, *Nigella damascena*, *Rudbeckia laciniata*, to cite just some of them. As evident from the archives, Hladnik, as a college professor of botany, received in 1811 an amount of 130 francs, determined by the then school statement of expenditure. The salaries of other professors were within the same range (Historic Archives of Ljubljana 226). Judging from the sources, 3000 francs were reserved for material expenses of the library, physics and chemistry cabinet and the Botanic Garden (Polec 1929). According to some other sources the Botanic Garden received a third of this amount, i.e. 1000 francs (Lazar 1960). The budget specifically refers to the costs of keeping a manservant in the Botanic Garden, amounting to 500 francs per year. But in the letter of December 27, 1810 that Hladnik addresses to the regent (rector) he states that the collecting of plants alone – travelling costs – will amount to 900 francs. And the plants will have to be brought from abroad as the flora in the environs of Ljubljana is not rich enough, meaning that the abovementioned financial means were inadequate (ZAL, LJU 184).

Franc de Paula Hladnik was born in Idrija on March 29, 1773. Idrija was widely known for its 200 year tradition of exploiting the richest mercury mine in the Habsburg monarchy. Hladnik was the son of Matija, a mine supervisor, and Doroteja. As the Idrija mine provided work for all the inhabitants in this basin which had little tillable land, it was quite logical that the father soon acquainted him with the practical aspects of mining. The son, however, showed no interest in mining but in study. The father must have been enlightened enough to send him first to the local elementary school and thereafter to the grammar school in Ljubljana which he finished with honour in 1789. Between 1790 and 1791 he studied philosophy at

Ilirskih provinc je, kot je razvidno iz arhivskih dokumentov in zapisov (Rechfeld 1849, Voss 1884, Polec 1929, Pintar 1939, Arhiv RS), postal profesor naravoslovja in botanike na visokih šolah. Kljub temu, da so bile Ilirske province 1813 ukinjene in da je imel Hladnik visoko mesto profesorja v tedanjih šolah in vodil botanični vrt, pod obnovljeno habsburško oblastjo ni imel težav. Viri navajajo, da so Avstrijci vohunsko nadzirali tedanje ozemlje provinc, kar pomeni tudi ljudi, ki so sodelovali s Francozi, vendar je bilo pri obnovi oblasti očitno pomembnejše znanje in sposobnosti, ki jih je kdo imel. Kako si drugače razlagati dejstvo, da je dvorna komisija za študije v dekretu 4. decembra 1815 zapisala, da se je gimnazija v dveh letih Hladnikovega vodenja toliko dvignila, da jo je mogoče postaviti ob bok najboljših v avstrijskih provincah. Cesar Franc I. je Hladnika 13. marca leta 1819 odlikoval z veliko zlato medaljo z ušescem in trakom, kot je zapisal Voss (1884). Tudi na ohranjenem portretu Amalije v. Hermannsthal, ki ga hrani Narodni muzej Slovenije, jo nosi na desni strani. Morda je za svoja napredovanja poleg znanja, ki ga je povsem očitno imel zelo veliko, imel še dober čut za organizacijo. Uspel je voditi tako gimnazijo kot vrt in obe ustanovi dvigniti na visok nivo. Takoj po ukinitvi Ilirskih provinc mu je uspelo ohraniti botanični vrt, čeprav je habsburška oblast vse francoske ustanove ukinila. To gre morda pripisati prav karakterju Hladnika, ki ga po Babniggu Voss (1884) opisuje takole: »Njegovo temeljno načelo je bilo poslušati in molčati in med vsemi njegovi darovi pa se je najbolj odlikoval njegov um«.

Prav gotovo ima za ohranitev botaničnega vrta po prihodu stare oblasti zasluge poznanstvo Hladnika z avstrijskim botanikom Hostom. Pintar (1939) ga imenuje kar angel varuh ljubljanskega botaničnega vrta. Hladnik se je z njim dopisoval že od leta 1812 in mu tudi pošiljal rastline. Host je že prej sodeloval z botaniki, ki so delovali na Kranjskem, predvsem s Karlom Zoisom. V Ljubljani je deloval Zoisov krog, ki ga je vodil njegov brat Žiga Zois (Aljančič in. sod. 2001). V njem so delovali tedanji prebuditelji. V pismu, ki ga je Jernej Kopitar, pisec prve znanstvene slovnice slovenskega jezika, v tem času delujoč na Dunaju, poslal Zoisu omenja tudi Hosta. »Botanika Hosta sem nedavno spoznal v njegovem vrtu pri Belvederu (dunajskem botaničnem vrtu),

the Lyceum and finished with excellent results. He went on to study theology and was ordained in 1795. His weak health prevented him from serving as a priest (Rechfeld 1849, Voss 1884, Praprotnik 1994). In the same year he became a scriptor of the Ljubljana Lyceum library. On October 08, 1796 he was appointed a teacher of the fourth grade of the Normal School in Ljubljana, and in 1800 an associated teacher at the Technical School in Ljubljana. On June 21, 1802 he became a temporary and on January 05, 1803 a full headmaster of the Ljubljana Normal School. In 1807 he filled the post of grammar school prefect.

Judging from the duties he was entrusted with, he must have been a very capable man, making swift progress irrespective of his being a newcomer to Ljubljana. His knowledge and successful management of the assigned work helped him to get promoted. The archive documents and records (Rechfeld 1849, Voss 1884, Polec 1929, Pintar 1939, Archives of the Republic of Slovenia) show that in the period of the Illyrian Provinces he became a professor of natural history and botany at the *Ecoles centrales*. Although 1813 marked the end of the Illyrian Provinces, Hladnik retained his high academic position and continued to run the Botanic Garden, obviously experiencing no problems under the restored Habsburg rule. According to the sources, the Austrians had all the while been spying on the territory of the Illyrian Provinces and the people collaborating with the French, however, once they returned to power, they obviously gave precedence to knowledge and abilities of individuals rather than their political convictions. How otherwise explain the fact that in its decree of December 04, 1815 the royal education commission declared that in two years under Hladnik's management the grammar school had made so much progress as to be in line with the best institutions of its kind in the Austrian provinces. Emperor Franz I awarded Hladnik a great gold medal (Voss 1884) to honour his work. In the sole preserved portrait painted by Amalia v. Hermannsthal and stored in the National Museum of Slovenia, Hladnik is seen wearing the medal on the right side of his breast. In addition to his obviously substantial knowledge he seems to have had a fine talent for organisation. He managed to run both the grammar school and the Botanic Garden, raising both of them to an elevated level.

ko sem bil z univerzitetnim bibliotekarjem tam na sprehodu. Sploh nisem vedel, da je Ilir. Prav tedaj je pisal Hladniku«. (Kopitar 1812). Host je bil namreč rojen na Reki v sedanji Hrvaški 6. 3. 1761 in je umrl 1834, zato mu ilirski duh, ki so ga vzpodbudili Francozi, ni bil tuj.

Franca Hladnika je za botaniko najverjetneje navdušil Wulfen, kot navaja Voss (1884), kar dokazuje s pismom z dne 19. marca 1803, kjer se mu Wulfen zahvaljuje. Wulfen je umrl leta 1805, torej dosti prej, kot je Hladnik začel s poučevanjem botanike. Hladnik je kot botanik dobival vedno večji ugled med tedanjimi evropskimi botaniki. S Hostom si je tako od leta 1812 redno dopisoval, leta 1821 sta se srečala tudi v Ljubljani, ko je bil tukaj kongres svete alianse. Host je v Ljubljano prišel tedaj kot zdravnik cesarja Franca I. (Pintar 1939). Tako sta se z Hladnikom, katerega prijatelj je bil, kot je navedeno v rokopisnih zapiskih vrta, verjetno lahko večkrat srečala in pogovarjala. Hladnik je po virih (Voss 1884) prispeval številne prispevke za Hostovo delo *Salices* in *Flora austriaca*.

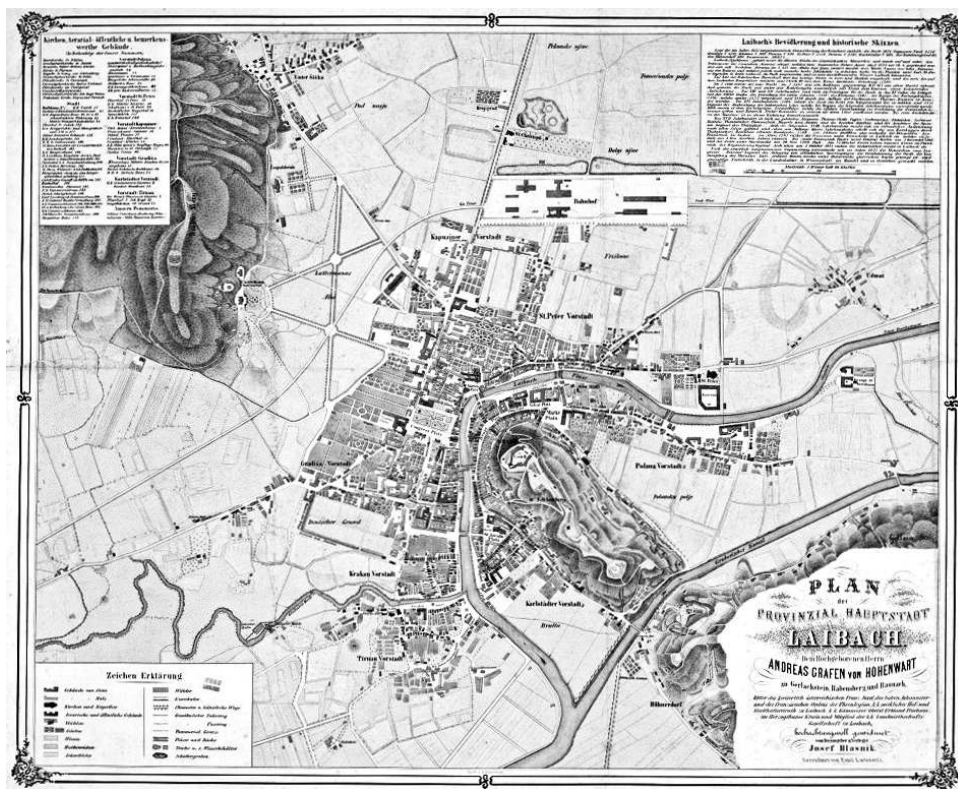
V Hladnikovem času so vrt povečali in morda že 1828 obdali z zidom ter uredili vrtno uto. Kljub temu so že v njegovem času razpravljali o preselitvi vrta bliže centru mesta v Tivoli na prostor med gozdom in Lattermanovim drevoredom, ki je bil glavni drevored Cekinovega gradu. Pintar (1939) še dodaja, da se je tudi sam Hladnik za to zavzemal. Kljub temu do tega tedaj ni prišlo.

Hladnik je vse do leta 1834 imel odmevna predavanja iz botanike. Predavanja iz botanike kot izbirnega predmeta so pomenila prednost Ljubljane v primerjavi s šolstvom v drugih pokrajinskih mestih, kjer tega ni bilo (Pintar 1939, Ciperle 2001). V botaniko je tako uvedel številne nove učence npr. Freyerja, Grafa in Tommasinija. Predvsem Freyerju na začetku predavanj sploh ni dovolil poslušati, ker se je bal, da bi se preveč posvetil botaniki in ne bi končal šole, kasneje pa ga je spodbujal in priporočil svojima dunajskima kolegoma N. T. Hostu (1761–1834) in J. F. Jacquinu (1766–1839) (Wraber 2002). Poleg vrta Domovinske flore, ki je njegovo zanesljivo največje delo in je živi spomenik Hladniku, še vedno na istem mestu do današnjih dni, je ustvaril bogat herbarij Kranjske, v rokopisu je ostal numenklatore, ki šteje 3484 semenk in bogata knjižnica. Herbarij in numenklatore je leta 1836 podaril novo ustanovljenemu muzeju, ki je deloval od 4. oktobra

After the abolition of the Illyrian Provinces he succeeded in preserving the Botanic Garden in spite of the fact that the Habsburgs put an end to all French institutions. This may be put down to Hladnik's character that Voss (1884), citing Babnigg, describes as follows, »His fundamental principle was to listen and keep silent, while the most distinguished of his talents was his intellect.«

Another person who played an important part in the preservation of the Botanic Garden was Austrian botanist Host with whom Hladnik maintained a friendly relation. Pintar (1939) refers to him as a guardian angel of the Botanic Garden. Hladnik had been corresponding with him since 1812. He also sent him plants. Even before that Host had collaborated with the botanists in Carniola, particularly Karl Zois. In Ljubljana a group of enlightened intellectuals were active within the so called Zois's circle headed by Karl's brother Žiga (Sigismund) Zois (Aljančič et al. 2001). In a letter to Zois Jernej Kopitar, an eminent linguist and author of the first scientific grammar of Slovenian, then working in Vienna, mentions Host. »I recently made acquaintance of Host in his garden near Belvedere (*thereby in fact referring to the Vienna Botanic Garden*) while I was taking a walk with the university bibliothecary. I was not at all aware of his being Illyrian. He was right in the midst of writing to Hladnik (Kopitar 1812).« As it, Host was born in Rijeka, in nowadays Croatia, on March 06, 1761 and died in 1834, so he was not indifferent to the Illyrian spirit awakened by the French.

Hladnik most probably became a botany enthusiast thanks to Wulfen, which Voss (1884) claims on the basis of Wulfen's letter of thanks of March 19, 1803. Wulfen died in 1805, i.e. well before Hladnik started teaching botany. Hladnik enjoyed a growing renown amongst the contemporary European botanists. Ever since 1812 he maintained a steady correspondence with Host whom he met for the first time in 1821, on the occasion of the Holy Alliance congress in Ljubljana. Host came to Ljubljana as a physician to Emperor Franz I (Pintar 1939). So it may be assumed that he may have met with and talked to his friend Hladnik on more than one occasion. According to the sources (Voss 1884) Hladnik provided numerous contributions to Host's works *Salices* and *Flora austriaca*.



Slika 2: Zemljevid Ljubljane z vrisanim Botaničnim vrtom, tisk, papir, 62,5 X 76 CM, 1853, Mestni muzej Ljubljana, Inv. št. 510:LJU;036915.

Figure 2: A map of Ljubljana, indicating the Botanic Garden. Print, paper 62,5 X 76 CM, 1853, City Museum of Ljubljana, Inv.No. 510:LJU;036915.

leta 1831 v spodnjih prostorih licejske zgradbe, knjižnico pa licejski knjižnici (Voss 1884), kjer je tudi začel svoje delo.

Z Andrejem Fleischmanom (1804–1867), ki ga je še komaj štirinajstletnega letnega kot vajenca vzel za vrtnarja v botanični vrt, je prehodil številne poti (Wraber 1963, Praprotnik 1993a). Kot navaja Freyer (1829), je rastline prinašal iz različnih koncev tedanje Kranjske. Med njimi navaja: Ljubelj, Korošico, Zelenico, Bohinj, Krn, Črno prst, Porezen, Jelenk, Goljake, Čaven, Nanos, Vremščico. Voss (1884) poleg drugih omenja še dolino Soče in Drave.

Voss (1884) v svoji zgodovini pregleda botanike na Kranjskem razdeli obdobja do leta 1884 na klasično, ki se začne s prihodom Scopolija v Idrijo leta 1754, nato na Hladnikovo, ki traja od

In Hladnik's times the Botanic Garden was enlarged and possibly walled in already in 1828, and a garden shed was added to the premises. Even at that time, however, there were rumours of eventually moving the Garden closer to the town center, to an area of Tivoli between the forest and the Latterman alley, the principal alley leading towards the Cekinov grad castle. Pintar (1939) also adds that such options were considered already during Hladnik's era and that Hladnik himself was in favour of such a project which, however, was not realized.

Hladnik continued giving well-attended botany lectures as late as 1834. Botany lectures as an optional subject clearly meant an advantage that Ljubljana had over the educational system in the other provincial towns that were left without

1801 do 1852 in na obdobje zadnjih trideset let. Vsekakor je tako, kot je prvo obdobje povezano s Scopolijem, povsem upravičeno tudi drugo imenovano po Hladniku, čeprav sega preko njegove smrti leta 1844 (Bleiweis 1844). Morda bi ga bilo smiselno zaključiti z A. Fleischmannom, ki je nadaljeval Hladnikovo delo, čeprav je morda taka delitev upravičena, ker se je tudi Fleischmann v drugem delu že precej posvečal praktični botaniki, sadjarstvu in vrtnarstvu (Praprotnik 1993a).

Biatzovski – Fleischmannovo obdobje (1834–1867)

Po Hladnikovi prošnji za upokožitev in upokojitvi leta 1834 je vodstvo vrta in botanična predavanja na gimnaziji prevzel zdravnik Janez Nepomuk Biatzovsky (1801–1863). V Ljubljano je prišel kot profesor fizike, kemije in botanike na mediko-kirurško šolo leta 1833, vendar je bil za rednega profesorja imenovan šele leta 1839. Potrdilo o dokončni nastavitvi pa je dobil še pozneje, čez deset let (1843) (Pintar 1939). Tako kot Hladnik je tudi Biatzovsky imel precejšnjo vlogo pri vzgoji mladega botaničnega rodu (Praprotnik 1993a, Arhiv vrta). Vrt je uspešno vodil vse do leta 1850, ko so ga premestili v Salzburg. Po Hladniku je imenoval volčič *Scopolia hladnikiana*, danes poimenovan *S. carniolica* f. *hladnikiana* (Biatz. & Fleischm.) E. Mayer. V njegovem času leta 1842 so vrt povečali in je tako dosegel površino 76 arov. Biatzovsky je po premestitvi na mediko-kirurško šolo v Salzburg tam preuredil stari botanični vrt in mu dal več znanstvene vsebine. Uvedel je tudi mednarodno izmenjavo semen (Pintar 1939).

Po odhodu Biatzovskega je vodstvo vrta prevzel Andrej Fleischmann. Prevzel je tudi botanična predavanja na gimnaziji, ki so veljala kot izbirni predmet in jih je vpeljal Hladnik. Poleg tega je na pripravljalnem tečaju in poljedelski šoli poučeval sadjarstvo, ki je tedaj dobilo zelo veliko vlogo. Fleischmann je leta 1844 izdal delo Pregled Kranjske flore – *Übersicht der Flora Krains*, ki med botaniki sicer ne velja za ravno najbolj zanesljivo delo. Fleischmann je vrt uspešno vodil, nadaljeval je popularizacijo rastlin in vrta, to kar je začel že Hladnik. Njegova predavanja so tako poslušali različni dijaki, kasneje pomembni

it (Pintar 1939, Ciperle 2001). He inspired new pupils such as Freyer, Graf, Tommasini to take up botany. He initially even prevented Freyer to come to botany lectures for fear that he might devote too much time to it and as a result fail to finish his studies, but later on he encouraged him and recommended him to his Viennese colleagues N. T. Host (1761–1834) and J. F. Jacquin (1766–1839) (Wraber 2002). In addition to the National Flora Garden, which is doubtlessly his greatest achievement and continues to represent a living monument to his work, Hladnik compiled a rich herbarium collection of Carniola; he left behind a nomenclator in manuscript, including 3484 seed plants, and a fine library. In 1836 he donated the herbarium and the nomenclator to the newly established museum which had since October 04, 1831 been in operation in the ground floor rooms of the Lyceum building, and he left the library to the the Lyceum library (Voss 1884) where he had begun his career.

Accompanied by Andrej Fleischmann (1804–1867), whom he took on as a fourteen year old gardening apprentice for the Botanic Garden, he wandered through numerous parts of the homeland (Wraber 1963, Praprotnik 1993). As stated by Freyer (1829), he was bringing plants from different parts of Carniola. He mentions, amongst others, Ljubelj, Korošica, Zelenica, Bohinj, Krn, Črna prst, Porezen, Jelenk, Goljake, Čaven, Nanos, Vremščica. Voss (1884) mentions also the Soča and the Drava valleys.

In his historical survey of botany in Carniola Voss (1884) defines the time till 1884 as the classical period starting with the arrival of Scopoli to Idrija in 1754, the time from 1801 to 1852 as the Hladnik period, and the period of the subsequent thirty years. He is perfectly justified in referring to the first period as that of Scopoli and the second as that of Hladnik, although the latter period actually extends well beyond the year of Hladnik's death in 1844 (Bleiweis 1844). It might make sense to conclude it with A. Fleischmann who carried on Hladnik's work although Voss's division is nonetheless acceptable because in the second part of his career Fleischmann devoted much of his work to practical botany, fruit growing and horticulture (Praprotnik 1993a).

možje – F. Erjavec, I. Tušek, J. Šafer, imel pa je tudi vodstva po vrtu. Za botanični vrt je veljalo, da je bil popoldan dostopen javnosti, če le ni bilo deževno vreme. Kot navaja Praprotnik (1993a), je Fleischmann za razliko od Hladnika veliko pisal in objavljaj. Poleg že navedenega dela je objavljaj v Carniolia 1838–1843, v revijah *Flora in Verhandlungen des zoologisch-botanischen Vereins in Wien*. V slovenščini pa je začel pisati leta 1844 v Bleiweisovih Novicah. Ukvarjal se je s sadjarstvom in je kot ocenjevalec sodeloval na razstavah. Leta 1839 je postal dopisni član Bavarskega botaničnega društva in leta 1841 član Kranjske Kmetijske družbe. Fleischmann je bil priučen, kot je razvidno iz Hostovega pisma Hladniku, ko mu le ta obljubljaj, da bi Fleischmanna dal na Dunaju učiti vrtnarstva in nemščine. Vendar tja zaradi dela v vrtu, kar mu omenjaj Hladnik v pismu, najverjetneje ni odšel (Rechfeld 1849). Ne glede na pomanjkljivo strokovno izobrazbo je Fleischmann v svojem času vrt zelo populariziral v javnosti. V časopisu *Carniolia* je objavljaj, katere rastline v vrtu cvetijo od začetka maja do konca avgusta 1839 (Praprotnik 1993a).

Primerjalne ocene za obdobje (1834–1886)

Čprav v vseh pregledih zgodovine do sedaj navajaj, da je po Fleischmannu sledilo manj uspešno obdobje in da je vrt nazadoval (Paulin 1929, Lazar 1960, Strgar 1973 te vire sem tudi sam povzel (Bavcon 1996, 1998, 2000)), bi iz Vossovega (1885) opisa tedanjega vrta in arhivskih nepodpisanih pisnih virov iz vrtnega arhiva, ki navajaj starejšaj letna poročilaj o delovanju vrta, temu le težko pritrtilaj. Potrebno je dodati, da je bilo to obdobje, ko se je sadjarstvo in vrtnarstvo zelo pospeševalo; s tem je začel že Fleischmann, Konschegg in vrtnar Rulitz sta to nadaljevalaj. Konschegg je po rokopisnih virih, ki obstajaj v botaničnem vrtu, prišel v Ljubljano 16. oktobra 1854 iz Maribora, da bi poučeval na gimnaziji. Leta 1862 je postal začasni direktor nove nižje gimnazije v Kranju, vendar je že leta 1863 prišel nazaj v Ljubljano. Leta 1866 navajaj vir, da že zopet uči prirodopis in 17. junijaj 1867, le 12 dni po smrti Fleischmanna (5. junijaj 1867), je bil imenovan za vodjaj vrta.

The Period of Biatzovsky and Fleischmann (1834–1867)

After Hladnik applied for retirement and retired in 1834 the management of the Botanic Garden and the botany lectures were taken over by physician Janez Nepomuk Biatzovsky (1801–1863). He had come to Ljubljana in 1833 and worked as a professor of physics, chemistry and botany at the school of medicine and surgery where he obtained the status of a regular professor only in 1839. An attestation on his employment status was issued to him much later, only in 1843 (Pintar 1939). Similarly as Hladnik, Biatzovsky played an important part in the education of the new generation of botanists ((Praprotnik 1993a, Garden Archives). He successfully headed the Garden till 1850 when he was transferred to Salzburg. He paid tribute to Hladnik by naming *Scopolia hladnikiana* after him, its current name being *S. carniolica f. hladnikiana* (Biatz. and Fleischm.) E. Mayer. In 1842 the Garden premises were enlarged to 76 ares. After being transferred to the Salzburg medicine and surgery school, Biatzovsky redesigned the old local botanic garden and endowed it with a more scientific intent, also initiating an international exchange of seeds (Pintar 1939).

After Biatzovsky's departure the management of the Garden was entrusted to Andrej Fleischmann. He also took over the botany lectures at the grammar school where botany was an optional subject introduced by Hladnik. He conducted preparatory courses and taught at the school of agriculture, his major subject being fruit growing which was then considered very important. In 1844 Fleischmann published his *Übersicht der Flora Krains – A Survey of Carniolan Flora* that the botanists do not credit as a completely reliable work. Not only was Fleischmann a successful head of the Garden but he also continued Hladnik's work in making it popular with the general public. His lectures were attended by various important men – F. Erjavec, I. Tušek, J. Šafer. He organized Garden tours. Weather permitting, the Botanic Garden was open to the general public every afternoon. Praprotnik (1993a) comments that, contrary to Hladnik, Fleischmann was a more prolific author. Beside the abovementioned work he published in the Carniolia 1838–1843, the *Flora* and the *Verhandlungen des zoologisch-botanischen Vereins in*

Ko beremo zgledni opis vrta v njegovem obdobju, je ta podoba povsem drugačna. Rokopisni vir iz vrta navaja, da je bila drevesnica leta 1868 zasajena v še nerabljenem delu vrta, kjer so bile zasajene še druge kulturne rastline. Navedeno je še, da je proračun vrta v letu 1868/1869 znašal 420 goldinarjev in imel je še 210 goldinarjev subvencije za plačevanje vrtnarja. Dodaja, da je nedavno vrt dobil novo pridobitev – alpinetum. V rokopisnem viru je za leto 1871/72 je navedeno, da je botanični vrt obogaten za 150 vrst večinoma alpskih rastlin, ki so jih darovali tedanji župan Deschmann, prof. Linhart, Tušek in Wurner. V letih 1872/73 so drevesnico dopolnili s 100 vrstami. Za leto 1873/74 pa navaja, da je brez snežna zima zelo škodila alpskim rastlinam in da bo škodo možno nadomestiti šele v prihodnjem letu, kar se je v letih 1875/76 res zgodilo. Za leti 1878/79 zopet navaja, da so na griču posadili še 105 alpskih rastlin. V letih 1882/83 pa dodaja, da drevesnica v bodoče odpade.

Poleg teh rokopisnih dokumentov, ki sicer poleg ostalih rastlin vsako leto omenjajo tudi drevesnico, kar morda kaže tudi na to, da so za to dobivali sredstva, je še zgledno urejen tloris vrta, opis in rastline, ki jih našteva Voss (1885). Oba vira ne kažeta na tako klavno podobo, kot jo navaja kasneje v rokopisnem poročilu Paulin (1928). Res pa je, da to slabše stanje navaja tudi časopisni članek v Slovincu iz leta 1942, kjer Franc Juvan kot vodja vrta razlaga avtorju, da je za časa Konška vrt propadal. Morda vsa ta slabša podoba vrta v omenjenem obdobju izhaja iz navedenega Juvanovega poročila za časopis, vir pa je najverjetneje Paulinovo poročilo. Verjetno ni daleč od resnice, če zapišemo, da so se tedanji trendi pospeševanja sadjarstva poznali tudi na vrtu.

Paulin je vrt zopet približal Hladnikovemu duhu in tedanjim botaničnim vrtovom v Evropi. Morda je tako kritičen Paulinov pristop imel vzrok tudi v temu, da je lažje izposloval kredit za vrt in za ekskurzije, ki jih je začel delati v različne dele tedanje Kranjske. Težko bi bilo namreč verjeti, da bi bil vrt leta 1885 v delu tako lepo prikazan, leto kasneje pa popolnoma opuščen in zanemarjen. Še posebej pa čudi dejstvo, da Paulin vrtnarja Rulitza ni kar takoj odpustil. Z njim je delal še veliko let. Kasnejše Paulinovo poročilo o izgradnji hiše 1897 porušen leta 1895 pa kaže morda na to, da je bil Paulin zelo kritičen in ni bil takoj zadovoljen z

Wien. In 1844 he started writing in Slovenian for Bleiweis's *Novice*. He was engaged in fruit growing and acted as an assessor at exhibitions. In 1839 he became a corresponding member of the Bavarian Botanical Society and in 1841 a member of the Carniolan Agricultural Society. Fleischmann was apprenticed; as evident from one of Host's letters to Hladnik, the latter was promising him to send Fleischmann to Vienna to learn gardening and German. However, as following from another of Hladnik's letters, Fleischmann was too busy in the Botanic Garden to ever leave it (Rechfeld 1849). Irrespective of his imperfect professional education Fleischmann did a great job in popularizing the Garden with the public. In the 1839 Carniolia he even published the information which plants bloomed in the Botanic Garden from May till the end of August (Praprotnik 1993a).

Comparative Assessment of the Period from 1834 to 1886

All to-date historical surveys report that the Fleischman era was followed by a less successful period and that the Garden regressed, and I myself used to cite those sources (Paulin 1929, Lazar 1960, Strgar 1973, Bavcon 2000). However, judging from Voss's description (1885) of the Botanic Garden and the unsigned written sources from the Garden archives which refer to older annual reports, I would now find it very hard to agree with such an assessment. It should be noted that this was a period when fruit growing and horticulture were getting much attention, their major promotor being Fleischmann who was followed in his tracks by Konschegg and gardener Rulitz. According to the manuscripts found in the Botanic Garden, Konschegg left Maribor for Ljubljana on October 16, 1854. He was to teach at the Ljubljana grammar school. In 1862 he became a provisional director of the new lower grammar school in Kranj but returned to Ljubljana already in 1863. According to a 1866 source, he is again teaching natural history. On June 17, 1867, just 12 days after Fleischmann's death, he is appointed head of the Botanic Garden.

Perusing the exemplary description of the Garden in his time, we get an entirely new insight. A handwritten Garden source indicates

narejenim. V zapisih namreč piše, da so leta 1897 zgradili novo vrtno hišo, ki pa je neuporabna. Lazar (1954) navaja, da so hišo postavili jeseni 1897 leta, da je bila večja od prejšnje, vendar pa zaradi nezadostnih sredstev za polovico manjša, kot je bilo predvideno.

Povsem drugače o vrtu piše Paulin (1912, 1928). Še posebej je kritičen v rokopisu iz 20. decembra 1928 kjer podaja kratko zgodovino botaničnega vrta od Hladnika do omenjene letnice. Paulin piše: » Po Fleischmanovi smrti leta 1867 je prevzel vodstvo vrta gimnazijski profesor V. Konschegg, za vrtnarja pa je bil postavljen J. Rulitz. Po letu 1886 izvršeni upokojitvi pa navaja, da je deželna vlada njega, kot pisca teh vrstic, imenovala za predstojnika vrta in mu pozneje, leta 1910 kot pomožno znanstveno moč, dodelila gimnazijskega profesorja Fr. Verbica. Med tem je bil leta 1907 upokojen vrtnar Rulitz in istega leta za vrtnarja imenovan Fr. Juvan. Paulin v nadaljnjem piše: »Kar se v tem razdobju stanja vrta tiče, je omeniti, da je po Hladnikovem odstopu vrt bolj in bolj propadal. Tako so leta 1868 na vrtu ustanovili v svrhu poduka učiteljskihnikov o sadjereji drevesnico sadnega drevja, zasadili so prav donosen sadovnjak in v precejšnji množini gojili razne zelenjadne vrste ter glavno pozornost obračali tem nasadom. Tako je prišlo, da sem jaz pri prevzemu vrtnega vodstva leta 1886 zabeležil na vrtu v vsem le 312 vrst navadnih domačih dreves, grmičev, steblik in enoletnih zelišč«. Potrebno je dodati da je Paulin to zapisal dosti pozneje, po dobrih 42 letih vodenja vrta.

Paulinovo poročilo je tako povsem v nasprotju z zapisom Vossa (1885), kjer o vrtu zelo pohvalno piše, Paulin pa, razen Hladniku, njegovim naslednikom, ne namenja prav veliko pohvale. Morda je za to kriva že oddaljenost tistega, kar je prevzel tedaj in drugačen pogled na obdobje in vrt, morda je v njem prisotna kritika, ki se nanaša na ne botanično vrtnarstvo v vrtu v omenjenem obdobju.

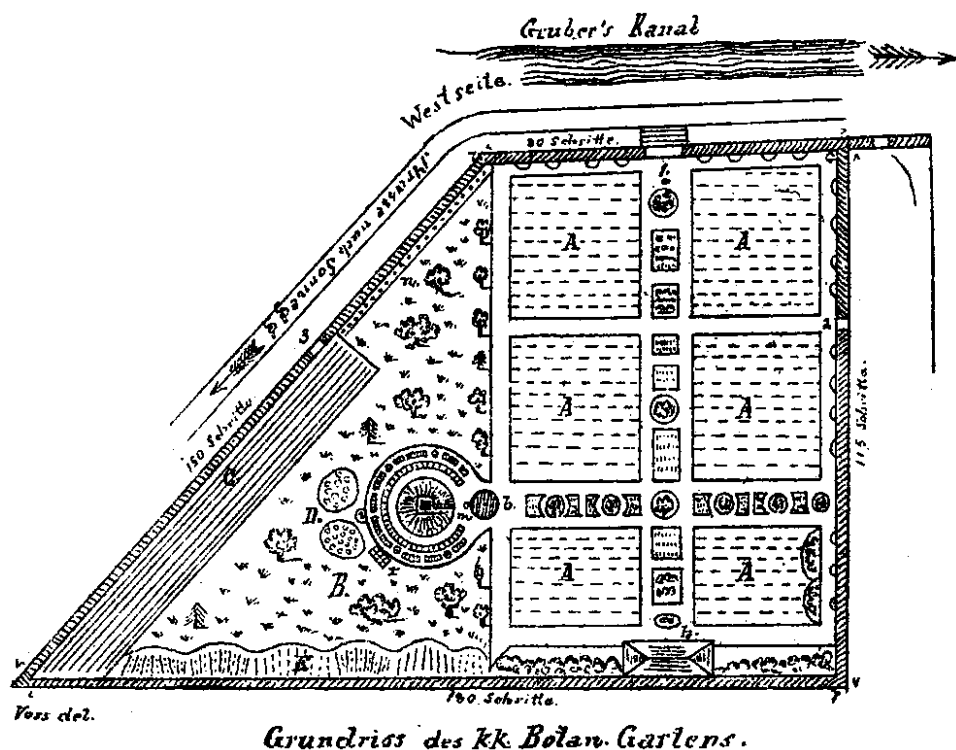
Paulinovo obdobje (1886–1931)

Iz rokopisnih virov botaničnega vrta za leto 1886 je razvidno, da je Paulin res že prvo leto izposloval poleg že omenjen redne dotacije in subvencije 105 goldinarjev, ki jo je dala občina še

that in 1868 a tree nursery was planted in an as yet unused part of the Garden where some space was reserved also for several other cultivated plants. We also learn that the 1868/1869 budget of the Garden amounted to 420 florins and that the Garden received a subvention of 210 florins to pay the gardener. The source mentions that a new acquisition has recently been added to the Garden, namely, an alpinetum. According to a manuscript of 1871/1872, the Botanic Garden has been enriched with 150 species of predominantly Alpine plants donated by the then mayor Deschmann, Professor Linhart, Tušek and Wurner. In the years 1872/73 100 new species were added to the tree nursery. The period of 1873/74 seems to have been marked by a snowless winter badly affecting the Alpine plants so according to the source, the damages will have to be repaired in the year to come, which actually happens in 1875/76. The lost Alpine plants were replaced in the years 1875/76. The 1878/79 report indicates that further 105 Alpine plants were planted on the hillock. But the 1882/83 report indicates that the tree nursery will be given up.

The mentioned handwritten documents refer not only to plants but regularly mention also the tree nursery, which seems to indicate a regular inflow of funds for it. Additionally, we are also in possession of an exemplarily designed ground plan and a fine description of the Garden, and of a list of plants, all of these by Voss (1885). The image of the Garden as revealed by the two sources is by no means as poor as later described in a handwritten report by Paulin (1928). It is true, however, that this deteriorated state is mentioned also in an article published in the newspaper Slovenec in 1942, in which Franc Juvan, head of the Botanic Garden, affirms that under Konschegg the Garden was let to regress. This unflattering image of the Garden might be associated with Juvan's report to the newspaper, but the source was most probably Paulin's report. It may not be very far from the truth if we say that the trends of promoting fruit growing made themselves felt also in the Botanic Garden.

Under Paulin the Garden regained Hladnik's spirit and became closer to the other botanic gardens in Europe. Paulin's critical attitude might have made it easier for him to negotiate a loan for the Garden and excursions on which he began going



Slika 3: Vossov načrt botaničnega vrta iz leta 1885.
Figure 3: Voss's ground plan of the Botanic Garden of 1885.

100 goldinarjev od deželnega zbora. Dodaja, da je bilo s tem mogoče prinesiti večje število rastlin iz narave in da so navezali stike z botaničnimi vrtovi, kjer so dobili 400 semen različnih rastlin. V letu 1887/1888 je to delo nadaljeval, nakupil je 600 alpskih rastlin, tako da se je število dvignilo na 2000. Za leto 1888/1889 pa navaja, da je prvič izdal seznam semen – *Index seminum*, ki so ga zamenjali s 30 vrtovi, število vrst pa je doseglo številko 2829. V letu 1892 do 93 so dotacijo pomembno zvišali iz 210 na 420 goldinarjev in ohranili še 105 goldinarjev subvencije mestne občine. Navaja še, da so stike tedaj imeli z 78 vrtovi. Posebej dodaja, da je bila izmenjava zelo uspešna, ker je vrt nudil v zamenjavo številne žive rastline. Navaja uspešno ekskurzijo na Velebit (kjer je v oklepaju naveden Rulitz.), kar je zelo obogatilo fond rastlin. Šele za leto 1893/94 navaja, da se je sprostilo nekaj več prostora, ker so opustili drevnico in mestna občina je dodala poleg običajne subvencije 105

to various parts of Carniola. It would be hard to accept that the Garden was presented in such a fine light in 1885 to be described just a year later as perfectly uncared-for and neglected. It is also surprising that, if all this were true, he did not fire the gardener right away. On the contrary, he continued to work with Rulitz a great many years to come. A later report on the construction of the Garden house in the period after the earthquake may reveal Paulin as an extremely critical man not easily pleased with whatever was being done. Thus, in a record the new Garden house which was built in 1897 is described as useless. Lazar (1954) states that the house was built in autumn 1897, that it was bigger than the previous one but by half smaller than planned because less funds than foreseen were actually available.

Paulin (1912, 1928) writes about the Garden in a completely different way. He is particularly critical in his manuscript of December 20, 1928,

goldinarjev še dodatnih 100 goldinarjev. Dodaja, da so začeli preurejati celotni vrt in alpinetum so povečali na 17 gričkov. Kljub temu, da o drevesnici Paulin piše dokaj podcenjevalno, jo je očitno obdržal še dobrih osem let. Najverjetneje je zanjo še dobival nekaj sredstev, čeprav to ni nikjer izrecno navedeno.

V letu 1894 in 1895 rokopisni vir navaja, da se je v mestnem zastopstvu pojavila misel, da bi vrt prenesli v Tivoli. Zato je zastalo nadaljnje preurejanje vrta. Ljubljanski potres 1895 je podrl zid in močno poškodoval hišico. Zapisano je še, da se gradnja nove hiše odloži zaradi morebitne preselitve vrta. To preselitev je omenjal že Voss (1885) in v tem obdobju je bila ideja zopet prisotna. Za leto 1896 in 1897 navaja, da še ni popravil in da je zamenjava zaradi »neizdaje« seznama semen v tem času zelo zastala. V jeseni 1897 vir že navaja, da je hišica postavljena, a ne v zamišljenem obsegu, zato dodaja, da ne ustreza, in da je bil obnovljen tudi del ograjnega zidu. Misel o preselitvi je opuščena, kar je za obžalovati, dodaja vir, zato bo potrebno nadaljnje preurejanje vrta, ki pa da bo težavnejše, ker je mestna občina nehala dodajati še 100 goldinarjev. Za leto 1898 navaja, da se sistem preureja po tedaj veljavnem Englerjevem sistemu.

Paulin (1928) v rokopisu navaja, da se je ob prevzemu zavedal dejstva, da bo potrebno naporno in dolgotrajno delo, da se vrt povzdigne na stopnjo znanstvenega zavoda. O stanju vrta leta 1911 na kratko poroča Laibacher Zeitung. Obsežnejše je Paulin (1912) vrt opisal v članku za Carniolo. Pravi, da je bil vrt leta 1912 že tako urejen, da se je lahko kosal z marsikaterim univerzitetnim botaničnim vrtom: tega leta je štel 6000 vrst in vseboval malodane vse v kranjski flori zastopane vrste. Do tako bogatega rastlinskega fonda je prišel z zvezami s 96. botaničnimi vrtovi. Dodaja še da je to dosegel predvsem z znanstveno urejenimi tiskanimi seznamami *Indices seminum*. V članku še omenja, da je za 100 letnico vrta (1910) nameraval izdati obsežno, do 150 strani obsegajoče delo o vrtu, ki bi služilo kot temeljit vodnik, vendar za to ni bilo sredstev, zato je to delo opustil. Tudi v tem zapisu je razvidno da so do tedaj vedno kot letnico ustanovitve vrta imeli leto 1810 in ne kake druge kot se omenja v nekaterih starih časopisnih virih.

Paulin je bil leta 1910 kot profesor upokojen, vendar je na željo deželne vlade vodil vrt še naprej

giving a short history of the Botanic Garden since Hladnik till the mentioned year. He writes, »After Fleischmann's death in 1867 the Garden was taken over by grammar school professor V. Konschegg while J. Rulitz was engaged as a gardener.« He reports that after Konschegg's retirement the provincial government appointed him, the author of this writing, head of the Garden and assigned him, in 1910, grammar school professor Fr. Verbic as a scientific assistant. In the meantime (1907) gardener Rulitz retired and was replaced by Fr. Juvan. Paulin then says, »As far as the then state of the Garden is concerned, it had been in decline ever since Hladnik's retirement. In 1868 the Garden got a tree nursery for the purposes of instructing future teachers on fruit growing, a fairly productive orchard was planted, and a considerable number of vegetables were grown there, so that primary attention was devoted to those plantations. So when taking over the management of the Garden in 1886 I recorded just 312 species of common native trees, shrubs, tall forbs and annual herbs.« He wrote this much later, after 42 years of managing the Garden.

Paulin's report is in complete contrast to that of Voss (1885) who is full of praise for the Garden whereas Paulin, though praising Hladnik, expresses little appreciation of any of Hladnik's successors. Paulin's criticism might result from the fact that the period he describes and the perspective from which he sees the Garden as it used to be are now both in the remote past, thence his altered view of those times, or perhaps he might simply be critical of the non-botanic gardening such as practiced in that period.

Paulin's Period (1886–1931)

As evident from the handwritten documents referring to the Botanic Garden of 1886, Paulin, in his very first year, managed to obtain, in addition to the aforementioned grant and the municipal subvention of 105 florins a further amount of 100 florins from the Provincial Assembly. Paulin remarks that this helped them to collect a greater number of plants from nature and to establish contact with other botanic gardens, thus acquiring 400 seeds of different plants. In 1887/1888 he bought 600 Alpine plants so that the total number of

(arhiv vrta). »Med prvo vojno so se zveze ukinile, vrtnar je bil vpoklican v vojno in vrt je mnogo utrpel«, dodaja Paulin (1928) v svojem poročilu. Kljub temu pa je potrebno dodati, da v vrtnem arhivu obstoji zgledno urejen in debel seznam semen *Index seminum* iz leta 1917, kar že zopet kaže na to, da razmere le niso bile tako slabe, oziroma da je Paulin znal težave, ki jih je vojna povzročila, uspešno prebroditi. Zopet se pokaže da je bil Paulin dovolj kritičen, tudi do sebe, ker lično natisnjen seznam semen (*Index seminum*), z res bogatim izborom semen, ki ga hranimo v vrtnem arhivu na to ne kaže.

Alfonz Paulin se je rodil 14. septembra 1853 kot sin oskrbnika turnske graščine v Leskovcu pri Krškem. Osnovno šolo in nižjo gimnazijo je dokončal v Ljubljani, višjo gimnazijo v Novem mestu, kjer je 1873 maturiral. Študij je nadaljeval v Gradcu v letih 1873 do 1878. Kot glavni predmet je poslušal prirodopis, kot stranska pa še matematika in fiziko. Leta 1878 je opravil državni izpit iz prirodopisa. V letu zasedbe Bosne in Hercegovine (1878) s strani Avstroogrške je bil Paulin vpoklican v vojsko. Pri Bosanskem Petrovcu je zbolel tako, da je državni izpit iz matematike in fizike opravil šele čez dve leti. Od leta 1880 do 1910 je poučeval na srednjih šolah v Ljubljani, največ na državni gimnaziji (Petkovšek 1934).

Že leta 1886 je prevzel vodenje Botaničnega vrta. To delo je opravljal 45 let, do leta 1931 in ga lahko enakovredno vzporejamo z njegovim največjim delom – izdajo posušene herbarijske zbirke *Flora exsiccata Carniolica*. Paulin je bil vodilni raziskovalec flore na tedanjem Kranjskem. Poleg izdaje svoje zbirke je sodeloval pri Kernerjevi herbarijski zbirki – *Flora exsiccata Austro-Hungarica*, Hayekovi – *Flora stiriaca exsiccata*, *Flora der Sanntaler Alpen* (Hayek & Paulin 1907) in tudi pri Hegijevem delu – *Illustrierte Flora von Mitteleuropa*. Napisal je okoli dvajset razprav v katerih je med leti 1895 do 1917 objavil nove podatke o novoodkritih in redkih vrstah kranjske flore, opisal nekaj novih taksonov, monografsko je obdelal nekatere skupine kot so lisičjakovke (*Lycopodiinae*), presličevke (*Equisetinae*), praproti (*Filicinae*) in rod platic ali rosnikov (*Alchemilla*), mlečke (*Euphorbia*) i.dr. (Petkovšek 1934). Zavzemal se je tudi za naravovarstvo, vendar je njegov tovrstni spis ostal le v rokopisu, kaže pa na zavestno in strokovno

plants rose to 2000. In connection with 1888/1889 he reports publishing the first seed index – *Index seminum* which was exchanged with 30 botanic gardens while the number of species went up to 2829. Between 1892 and 1893 the grant was increased from 210 florins to 420 florins and the Garden continued to receive the municipal subvention of 105 florins. At that time they had contact with 78 gardens. He particularly points out that the exchange was a great success because the Garden had been offering also numerous live plants in exchange. He reports about a successful excursion to Velebit (Rulitz is indicated in parentheses), which meant a substantial addition to the plant collection. It is only in 1893/94 that he refers to some newly acquired space due to abandoning the tree nursery and also that the Municipality added 100 florins to the usual subvention of 105 florins. He adds that the Garden as a whole is being redesigned and the alpinetum has been enlarged by 17 hillocks. So, while speaking rather deprecatingly of the tree nursery, he nonetheless kept it for more than eight years. He may have been receiving some additional money on this account, although this is not explicitly stated in any report.

In 1894 and 1895 a handwritten source states that the town representatives were considering the idea of transferring the Garden to Tivoli. This is why the new layout of the Garden was momentarily halted. In the Ljubljana earthquake of 1895 the Garden wall broke down, badly damaging the house. According to the source, erection of a new house is to be postponed due to a possible relocation of the Garden. This idea first mentioned already by Voss (1885) was obviously revived. In the course of 1896 and 1897 no repairs had as yet been undertaken, and as the seed index was not issued the seed exchange was seriously reduced. However, in autumn 1897 the house is reported to be in place, though not in the expected dimensions, so the source describes it as unsuitable. A section of the wall is reconstructed. The idea of moving the Garden has by now been obviously abandoned, which according to the source is regrettable because this means that it will be necessary to continue with the rearrangement of the Garden, and such a project will now that the Municipality has stopped adding the extra amount of 100 florins be much more difficult to carry out. In 1898 it is reported that the system is arranged according to the then valid Engler system.

utemeljeno delovanje na Slovenskem (Mayer 1988). Prav tako je v drugem objavljenem poročilu navedel, da bo potrebno barjanske rastline gojiti na nadomestnem rastišču v botaničnem vrtu, ker jih na Ljubljanskem barju kmalu ne bo več (Paulin 1912). Leta 1898 je napisal prvi izvorni učbenik za botaniko (Verčkovnik 1995), v letu 1901 pa še prevedel učbenik (živalstvo). Sodeloval je pri Pleteršnikovem Slovensko nemškem slovarju. Paulin je bil častni član Muzejskega društva za Kranjsko in Prirodoslovnega društva v Ljubljani ter dopisni član Ljubljanske akademije znanosti. Diplomno hranimo v botaničnem vrtu. Leta 1963 so njemu v čast v botaničnem vrtu postavili spomenik (Kapus 1963, Mayer 1963), ob petdesetletnici njegove smrti pa je spomenik dobil še ob turnski graščini v Leskovcu pri Krškem. V letu 50 letnice smrti (1992) je bil organiziran simpozij na čast Paulinu (Jogan & Wraber 1992, Praprotnik 1992a) in razstava v Prirodoslovnem muzeju Slovenije (Praprotnik 1992b, c). Obsežno pisno zapuščino botanika A. Paulina v biblioteki SAZU je obdelal Wraber (2008). V delu so navedeni tudi vsi *Index seminum*, katerih avtor je Paulin in so hranjeni v Botaničnem vrtu Univerze v Ljubljani.

Leta 1920, kot je razvidno iz arhiva Univerze, je od deželne vlade vrt prevzela, leta 1919, novo ustanovljena Univerza v Ljubljani. Na predlog profesorjev Rajka Nahtigala (Filozofska fakulteta) in Karla Hinterlechnerja (Tehnična fakulteta) je univerzitetni svet ljubljanske univerze 12. novembra 1919 sklenil Deželno vlado prositi, da odstopi botanični vrt v Ljubljani v last Univerze (Zapisnik seje univerzitetnega sveta, 12. 11. 1919). Poverjeništvu za uk in bogočastje Deželne Vlade za Slovenijo je z dopisom 13. 2. tej prošnji ustreglo (arhiv vrta, Wraber 2000). Do tedaj je z vrtom upravljala cesarsko-kraljeva gimnazija, ki se je v tem času že preimenovala v I. državno gimnazijo. Kot je razvidno iz listin (arhiv vrta), so nastali nekateri zapleti, saj je bil vrt v lasti dežele Kranjske in del tudi v lasti Kmetijske družbe. Slednja je svoj del vrta že leta 1919 odstopila deželni vladi v zameno za drugo zemljišče. Dežela Kranjska je temu nasprotovala, ker ga je še vedno imela za svojo lastnino. Zato je razveljavila sklep Poverjeništvu za uk in bogočastje z dne 13. 2. 1920, ki je vrt že odstopilo v last univerze. Zahtevala je pogajanja, ki so se v končni fazi iztekla v prid univerze, tako da je bil vrt že leta

Paulin (1928) writes that when taking over the management of the Garden he was well aware of the fact that much toil and continuous effort would be required to raise the Garden to the level of a scientific institution. A brief outline of the state of the Garden in the year 1911 is reported in the *Laibacher Zeitung*. Paulin (1912) contributed a more comprehensive article on the Garden to the *Carniola*. He says that by 1912 the Garden had been regulated to such an extent to compete with many a university botanic garden, in that year it counted 6000 species and harboured almost all representatives of Carniolan flora. The plant fund of such proportions was acquired as a result of the connections that the Garden had established with 96 botanic gardens. He claims to have achieved all this primarily through the scientifically edited printed indexes *Indices seminum*. In the article he also speaks of his plans to celebrate the hundredth anniversary of the Botanic Garden (1910) by publishing a comprehensive work of up to 150 pages about the Botanic Garden that would serve as a detailed guide but he abandoned the project due to insufficient finances. As following from this article, 1810 had been considered the foundation year of the Garden, and not any other year referred to in single old newspaper sources.

Paulin retired from his professorial post in 1910 but at the express wish of the provincial government he retained his post as head of the Garden (Garden archives). »During World War I all the contacts were disrupted, the gardener was conscripted into the army and the Garden was badly affected,« says Paulin in his report. Even so an exemplarily prepared and quite thick *Index seminum* dated 1917 is to be found in the Garden archives, which again indicates that the circumstances were not so very bad and that Paulin was obviously capable of overcoming the difficulties caused by the war. Here is yet another proof of Paulin's fundamentally critical attitude to everything, including himself, for the neatly printed seed index (*Index seminum*) with a rich selection of seeds, kept in the Garden archives, tells a very different story.

Alfonz Paulin was born on September 14, 1853 to a steward of the Turn castle at Leskovec near Krško. He went to elementary school and lower grammar school in Ljubljana and in 1873 passed his school leaving examination at the higher

1920 zajet v njen stroškovnik. Botanični vrt je tako postal sestavni del takrat ustanovljene slovenske univerze v Ljubljani.

Paulin v svojem poročilu pravi: »Z ukazom Njegovega Visočanstva Prestolonaslednika Aleksandra z dne 6. 11. 1920 sem bil imenovan za direktorja Univerzitetnega botaničnega vrta v 6. činovnem razredu, naslednje leto 10 / 10 1921 pa povišan v peti činovni razred.« Univerzitetna uprava je 18. 11. 1920 imenovala Franca Juvana za vrtnarja v 11. činovnem razredu«. Leta 1926 je vrt dobil še laborantko Marijo Župančičevo.

Paulin dodaja, da je takoj po prevzemu vrta s strani Univerze, ponovno pričel z rednimi deli. Vzpostavil je ponovne stike z botaničnimi vrtovi, zopet je izdal tiskan seznam semen. Navaja, da je vrt v letu 1922 in 1923 prejel 3000 semenskih vzorcev in odposlal 5000. Poleg tega je dobil tudi več redkih živih rastlin. Polec (1929) navaja, da je Univerza dobila najbolj urejeno ustanovo, z Alfonzom Paulinom pa še dobrega predavatelja. Čeprav Paulin v nadaljnjem trdi, da ni dovolj denarja za vrt, da ni uspel ponovno natisniti seznama semen, pa pohvali tako vrtnarja Juvana, ki da je izredno prizadeven in tudi novo laborantko ter doda, da je ponovno v vrtu veliko številko domačih planinskih rastlin (Paulin 1928, Praprotnik 1993b).

Paulin je poleg dela v vrtu predaval, vendar navaja, da je predavanja po preteku dveh semestrov (Paulin 1928), iz nekih tehničnih razlogov opustil, le teh ne navaja. Petkovšek (1934) navaja, da se je po dveh letih predavanja sistematske botanike na ljubljanski univerzi, predvsem zaradi neugodnih razmer, ki so vladale na botaničnem inštitutu, temu odpovedal. Paulin (1928) v poročilu obžaluje, da vrt nima rastlinjaka in dodaja, da se univerzitetnega vrta brez vsaj enega steklenika ni mogoče zamisliti. Navaja, da je že leta 1922 predložil podroben načrt gradbenemu ravnateljstvu, a žal brez uspeha.

Veliko delo Alfonza Paulina je poleg drugih objav (Wraber 2008) od leta 1901 do 1936 izhajajoča Posušena herbarijska zbirka kranjske flore *Flora exsiccata carniolica* v 20. stoletjih z 2000 številkami (Wraber 1966). V poročilu iz leta 1928 Paulin navaja, da je do leta 1914 izšla že v desetih stoletjih (štev. 1 do 1000). »Leta 1927 sem izdal XI. in XII. stoletje (štev. 1001 do 1200) in leta 1928, XIII. in XIV. stoletje (štev. 1201–1400), meseca januarja 1929 pa izideta XV. in XVI.

grammar school in Novo mesto. He went on to Graz where he studied from 1873 to 1878. He majored in natural history, his subsidiary subjects being mathematics and physics. In 1878 he passed his state board examination in natural history. In the year of the Austro-Hungarian occupation of Bosnia-Herzegovina (1878) Paulin was conscripted. At Bosanski Petrovac he fell seriously ill, as a result of which he passed his state board examination in mathematics and physics only after two years. Between 1880 and 1910 he taught at various secondary schools in Ljubljana, mostly at the State Grammar School (Petkovšek 1934).

He took over the management of the Botanic Garden already in 1886. He attended to this work for 45 years, till 1931. This period ran in parallel with the making of his greatest work, the publication of a dry herbarium collection entitled *Flora exsiccata Carniolica*. Paulin was the leading researcher of flora in the then Carniola. Besides publishing his own collection he collaborated in compiling Kern's herbarium collection *Flora exsiccata Austro-Hungarica*, Hayek's *Flora stiriaca exsiccata*, *Flora der Sanntaler Alpen* (Hayek and Paulin 1907), and also in Hegi's work *Illustrierte Flora von Mitteleuropa*. He wrote about twenty treatises published between 1895 and 1917, disclosing data on the newly discovered and rare species of Carniolan flora. He described some taxa and wrote monographs on such groups as *Lycopodinae*, *Equisitinae*, *Filicinae*, the genus *Alchemilla*, *Euphorbia* etc. (Petkovšek 1934). He was keen on nature conservation but while the related paper remained in manuscript it reveals his focused and professionally accomplished action in Slovenia (Mayer 1988). In his second published report he also states that the moorland plants will have to be cultivated in a substitute habitat in the Botanic Garden as they will soon have disappeared from Ljubljansko barje moor (Paulin 1912). In 1898 he wrote the first original botany manual (Verčkovnik 1995), and in 1901 translated a zoology manual. He collaborated with Pleteršnik in his work on the Slovenian-German Dictionary. Paulin was a honorary member of the Carniolan Museum Society, the Ljubljana Natural History Society, and a corresponding member of the Ljubljana Academy of Sciences and Arts. The diploma is kept in the Botanic Garden. In 1963 a monument was erected in his honour in the Botanic Garden

centurija (štev. 1400–1600). Pri tem znanstvenem delu so mi bile v primerjalne svrhe jako dobro došle žive rastline našega vrta«, še piše Paulin v omenjenem poročilu.

Da je bil vrt v njegovem času res zgledno urejen in morda tudi v vsej zgodovini vrta z največ različnimi vrstami, dokazuje dokaj natančen Paulinov opis in sezname rastlin, ki obstajajo v vrtnem arhivu. Sistematični nasad, kot imenuje rastlinski sistem, je urejen po Englerjevem sistemu in se sestoji iz 170 gred in gredic na katerih je 75 družin eno in dvokalični s 1800 vrstami. Nadalje navaja štiri večje oddelke za drevesa in grme, kjer je zastopanih sedem družin s 160 vrstami. Še posebej navaja dva večja oddelka za iglavci, kjer je prisotnih 50 vrst. Senčnate rastline so posajene na 13 gredah in vsebujejo do 250 vrst. Doda še, da so bile narejene v letih 1924 in 1925. Leta 1923 so naredili šest gred za praprotnice s 60 vrstami. Potem so tri večje in štiri manjše grede za enoletnice in dvoletnice, kjer je do 200 vrst.

V štirih cementnih koritih za vodne in močvirske rastline je zasajenih 230 vrst. Velik del je zavzemalo 27 iz kamena zgrajenih gričev, od katerih je bilo v letu 1928 devet novo postavljenih. Na njih rastejo: planinske, kraške, pontsko – ilirske in nekatere v zmerni Aziji in Ameriki domače vrste, ki v sistematičnih nasadih ne uspevajo. Skupno tukaj raste 1180 vrst. Pod točko devet navaja eno zidano toplo gredo in pet iz plohov zgrajenih mrzlih gred s 45 okni. V njih so gojili 3800 v lončkih sajenih komadov z okoli 2000 vrstami. Dodaja še: » Med njimi je tudi 350 v južnih pokrajinah domačih tipov, ki se goje v topli gredi, ker ni na vrtu nikakega steklenjaka. Leta 1922 so dobili vodovod, dodaja pod opremo vrta za omenjeno leto. Vrt je po Paulinovem zapisu tedaj meril 72 arov in 43, 9 m² in je bil ograjen s 400 m dolgim 2, 5 do 3m visokim in 50 cm debelim zidom, deloma iz kamnja in deloma iz opeke s strešniki kritim. Obnovili so ga v letu 1927 in 1928, ko so prekrili tudi streho hiše. Iz inventarne opreme še navaja, da se je obsežna knjižnica leta 1921 prenesla na Botanični inštitut v univerzitetno poslopje, kljub temu je nekaj knjig iz tedanjega časa v vrtu še vseeno ostalo.

Ob koncu poročila dodaja: »Za nadaljnje vzdrževanje vrta, da ostane na svoji znanstveni višini in se tudi še naprej razvije, bi bilo razume se, potreba višjih dotacij. Sedanje so bile v vseh

(Kapus 1963, Mayer 1963) and another, on the occasion of the fiftieth anniversary of his death, at the Turn castle at Leskovec near Krško. In the same year a symposium (Jogan and Wraber 1992, Praprotnik 1992a) was organized and an exhibition set up at the Natural History Museum Ljubljana (Praprotnik 1992b,c), both paying tribute to his work. Paulin's rich written legacy, now deposited in the library of the Slovenian Academy of Sciences and Arts, was subject to an in-depth study by Wraber (2008). In his work Wraber cites all seed indices whose author is Paulin and which are kept in the Ljubljana Botanic Garden.

The University archives show that in 1920 the provincial government transferred the authority over the Botanic Garden to the University of Ljubljana established in 1919. On November 12, 1919 the University Council, acting at the suggestion of Professor Rajko Nahtigal (Faculty of Arts) and Professor Karl Hinterlechner (Technical Faculty), decided to apply to the provincial government to assign the Botanic Garden to the University (record of the University Council meeting of November 12, 1919). The Board of Education and Worship of God of the provincial government of Slovenia granted the request on February 13, 1920 (Garden Archives) (Wraber 2000). The Garden had till then been managed by the Royal Imperial Grammar School which had meanwhile been renamed as the first State Grammar School. As evident from the documents (Garden archives), the transfer of ownership was associated with some complications because the Garden was owned by the Province of Carniola and a part of it by the Agricultural Society. The latter had given up its part to the provincial government in return for another parcel of land. The Province of Carniola objected to this as it continued to consider the Garden its own property. In consequence it cancelled the decision issued by the Board of Education and Worship of God of February 13, 1920 according to which the Botanic Garden had already become University property. It entered into negotiations but the issue was finally resolved in favour of the University and the Garden already appeared in its bill of costs for 1920. So the Garden became an integral part of the newly established University of Ljubljana.

In his report Paulin says, »By order of His Highness Crown Prince Alexander of November

omenjenih ozirih premajhne. Predvsem bi se moralo pomnožiti tehnično vrtnarsko osebje», dodaja v poročilu iz 20. decembra 1928, ki je napisano z zares vzorno in čitljivo pisavo. Podpisal ga je prof. A Paulin, direktor bot. vrta, pisava poročila pa je domnevno od laborantke Župančičeve.

Po Paulinovem odhodu leta 1931 so se v vrtu izmenjevali številni zelo pomembni možje. Dr. Fran Jesenko (1875–1932) je v vrtu delal poizkuse s križanci med pšenico in ržjo. Obstaja kar obsežna delovna knjiga zapisov o uspehih in neuspehih pri križanju v vrtnem arhivu. Lazar (1960) dodaja, da za širitev vrta v tem času ni bilo poslušna, tako da je Jesenko moral za svoje poizkuse iskati prostor v oddaljenih Beltincih. Jesenko je v začetku 20. stoletja spadal med svetovno znane genetike (Kreft 1990). Žal se je Jesenko ponesrečil in potem so njegovo delo hitro prevzemali drugi. V spomin na Jesenka so mu prijatelji v vrtu na zidu, ki je nekoč v celoti obdajal vrt postavili ploščo. Jesenka so nasledili dr. Jovan Hadži (1884–1972) do 1933, Stjepan Horvatić (1899–1975) do 1941 in Gabrijel Tomažič (1899–1977) do leta 1945.

Tako, kot se je po Hladniku še nadaljevalo njegovo obdobje, bi podobno lahko rekli za Paulina, le da je bilo to obdobje še daljše. Vse od leta 1896 pa do leta 1960 je namreč v vrtu delal vrtnar Franc Juvan, ki se je pod Paulinovým vodstvom razvil v odličnega poznavalca rastlin (Wraber 1985). Najprej kot pomožni vrtnar, leta 1907 pa je z upokojitvijo vrtnarja Rulitza zasedel njegovo mesto (Paulin 1928). Podobno kot je Fleischmann delal v vrtu od leta 1819 do leta 1867, je še daljše obdobje v vrtu preživel Franc Juvan, ki je poznal utečeno delo vrta, tako da se hitre menjave direktorjev vrtov niti niso poznale. Medvojno obdobje je vrt vodil Tomažič, po vojni pa je vodstvo prevzel Jože Lazar.

Lazarjevo in Strgarjevo obdobje (1945–1992)

Jože Lazar je bil kot asistent v vrt nastavljen leta 1933 (Mayer 1975). V vrtnem arhivu pa obstoji tipkopis, ki navaja predlog, da se zaposli Jože Lazar, absolvirani kandidat, za strokovnega uradnika, ki naj začasno opravljal posle direktorja botaničnega vrta, datiran 15. decembra 1931. Ali se je to res zgodilo, iz listin ni razvidno. Na pod-

06, 1929 I was appointed Director of the University Botanic Garden as an official of the 6th rank and promoted on October 10, 1921 to the fifth rank. On November 18, 1920 the University management appointed Franc Juvan as a gardener of the 11th rank.« In 1926 the Garden welcomed laboratory assistant Marija Župančič.

Paulin adds that after the University took over the Garden, he immediately proceeded with regular work. He re-established contact with other botanic gardens and again published the seed index. He reports that in 1922/1923 he received 3000 seed samples and dispatched 5000. The Garden acquired also some rare live plants. Polec (1929) declares that in obtaining the Botanic Garden the University acquired both an extremely well regulated institution and in Alfons Paulin an excellent professor. Although Paulin continues to complain that the Garden finances are deficient and that this has prevented him from publishing the seed index, he nonetheless finds words of praise for gardener Juvan who, he says, is very committed, and also for a new laboratory assistant, adding that a large number of native mountain plants are once again present in the Garden (Paulin 1928, Praprotnik 1993b).

Beside working in the Garden Paulin also lectured, but he says that after two semesters (Paulin 1928) he has some well-grounded reasons to stop doing it though he does not precise why. According to Petkovšek (1934), Paulin gave up his lectures on systematic botany at the Ljubljana University because of the uncomfortable circumstances then reigning at the Institute of Botany. In his report Paulin (1928) regrets that the Garden has no hot-house, adding that it is hardly possible to imagine a university botanic garden without at least one glass-house. In 1922 he submitted a detailed plan to the building directorate, however, without success.

In addition to his other publications (Wraber 2008), the most remarkable work of Alfons Paulin is his Dry Herbarium Collection of Carniolan Flora, *Flora exsiccata carniolica*, in 20 centuriae with 2000 numbers (Wraber 1966), published between 1901 and 1936. According to Paulin's report of 1928, it had by 1914 come out in ten centuriae (Nos. 1–1000). »In 1927 I published the XIth and the XIIth centuries (Nos. 1001–1200), in 1928 the XIIIth and the XIVth centuries (Nos. 1201–1400), and the XVth and the XVIth centuries

pisih vrtnih dokumentov se pojavlja F. Jesenko. O Lazarjevi nastavitvi tako obstoji le že citirani Mayerjev zapis.

Za razliko od Paulina, je Lazar v svojem zapisu ob 150 letnici vrta dokaj skromen, ko opisuje svoje delo v vrtu. Hvali le ljudsko oblast, ki je dodelila vrtu 160 arov veliko sosednje zemljišče in je s tem dana možnost za preemistitev sistematskega dela vrta na novo površino in ureditev po sodobnih vidikih taksonomije in filogenije. To zemljišče kot je razvidno iz poročila je vrt dobil 5. avgusta 1946. Vrt je tedaj meril 2,35 ha. Preurejen in povečan je bil alpinetum, ki je zasajen z domačimi, deloma še z azijskimi, ameriškimi predstavniki planinske flore, še dodaja. Kasneje so skopali še manjši bajer in obnovili razne pomožne vrtnarske naprave, uredili dele s primorskimi in velebitskim rastlinjem in drugimi balkanskimi elementi. Začeli so z urejanjem večje ekološke skupine. Manj znano dejstvo je, da so se v tem času v vrtu intenzivno ukvarjali z vzgojo novih krompirjevih sort s pomočjo križanja in selekcije, podobno so za izboljšanje pridelka delali na sladkorni pesi. Prav tako pa so proučevali razne sorte žitaric prinesene iz Rusije (Lazar, poročilo 1949).

Leta 1955 so dogradili in zasadili še rastlinjak. Rastlinjak, ki je zelo enostaven, je primaknjen k zgradbi na vzhodno južno stran in dejansko dobiva največ sonca, kar je z energetskega stališča zelo pomembno. Ena stran je namreč naslonjena na hišo in so izgube manjše. Rastlinjak je nastal kot seminarsko delo pri prof. Plečniku. Načrt zanj je izdelal tedaj študent, danes dr. Boris Gaberščik. Plečnik mu je menda dejal: «No, danes pa bova delala nekaj za rastline!». Kljub temu je potrebno dodati, da je v tem času vrt že doživel tudi prvo zmanjšanje zemljišča. Leta 1959 so dokončali rekonstrukcijo ovinka Lžanske ceste in ograjo pomaknili v vrt. Tako je na tem delu, kar del vrta ostal izven ograje. V tem delu so tedaj naredili žičnato ograjo, pred tem je bila ta zidana (Poročilo 1959). Čeprav je bila v načrtu rekonstrukcije predvidena lična zidana ograja, pa to ni bilo izvedeno.

Lazarjevo raziskovalno delo je obsegalo predvsem alge (Mayer 1975). Napisal je dve pomembni deli Alge Slovenije (1960) in Razširjenost sladkovodnih alg v Sloveniji (1975). Veliko časa je namenil delu v vrtu. Tako so poleg rastlinjaka zgradili še laboratorijske prostore ob njem, hkrati pa so uredili nekatere ekološko geografske skupine.

(Nos. 1400–1600) came out in January 1929. In this scientific work live plants from our Garden served me very well for comparative purposes,« writes Paulin in his report.

The fact that in his time the Botanic Garden was actually kept in exemplary order and that in terms of its existence as a whole it then had the largest variety of species is supported by Paulin's description and list of plants in the Garden archives. The systematic plantation, as he refers to the plant system, is arranged according to the Engler system. It consists of 170 flower beds and smaller beds with 75 families of monocotyledons and dicotyledons with 1800 species. Furthermore, he states four greater compartments for trees and shrubs, represented by seven families with 160 species. He most particularly draws attention to two bigger compartments of conifers with 50 species. Shade plants are planted in 13 beds and comprise 250 species. He adds that they were made in 1924 and 1925. In 1923 six beds were prepared for ferns with 60 species. Three bigger and two smaller flower beds were reserved for annual and biennial plants with up to 200 species.

230 species are planted in four cement troughs for aquatic and marshland plants. A large area is occupied by 27 rocky hillocks, nine of which were newly erected in 1928, providing home to the following plants, mountain, karst, Ponto-Illyrian, and some plants from the moderate parts of Asia and America which do not thrive in the systematic plantations. A total number of 1180 species grow here. Under Point 9 he makes reference to a brick-built hotbed and five cold beds made from planks, with 45 windows. There they grew 3800 potted plants with about 2000 species. He adds, »Among them there are also 350 native types from the southern parts which are grown in the hotbed because the Garden has no glass-house.« Under the equipment for 1922, he reports that a water supply system was installed in the Garden. According to Paulin's record, the Garden measured 72 ares 43.9 m² and was surrounded by a wall of 400 meters in length, from 2.5 to 3 meters in height and 50 cm in breadth, made in part from rocks and in part from bricks, the wall top being covered with tiles. The wall was renovated between 1927 and 1928, while also roofing the house. Concerning other fixtures, he reports that in 1921 the well-stocked Garden library was

Leta 1967 je vodstvo vrta prevzel prof. dr. Vinko Strgar (1928–1992), ki je njegovo delo nadaljeval (Wraber 1992). V vrt je prišel že leta 1951 kot vrtnar in potem nadaljeval študij in leta 1969 promoviral z disertacijo o rastlinskem rodu *Sesleria* v Sloveniji in na Hrvaškem (Wraber 1971). Žal se je vrt v času njegovega vodenja zaradi zunanjih posegov namesto širitve začel manjšati. Uklenila ga je posodobitev ceste in železnice. Kljub temu je vrt večal stike s sorodnimi institucijami in pristal pri številki 316. Vsa svoja prizadevanja je skupaj s sodelavci oddelka za biologijo usmeril v pridobivanje zemljišča za nov botanični vrt pod Rožnikom in kasneje graditev univerzitetnega biološkega središča (Strgar 1987a). O tem je veliko pisal tudi v biološkem vestniku in tudi drugod (Strgar 1990, Wraber 1992). Še posebej se je posvečal raziskavam rodu *Sesleria*. Odkril in opisal je endemičen netresk, ki ga je imenoval po Francu Juvanu – *Sempervivum juvanii* (Strgar 1971) in se ukvarjal z vzgojo nekaterih endemičnih in ogroženih vrst (velebitska degenija (Strgar 1979), rumeni sleč (Strgar 1987b), Blagayev volčin (Strgar 1976), Hladnikov volčič (Strgar 1987c). Bil je tudi dolgoletni urednik Biološkega vestnika vse od leta 1970 (letnik 18) do leta 1992 (1 številke 40 letnika) to je 22 let (Wraber 1992), predhodnika današnje *Acta biologica*. Po Strgarjevi smrti leta 1992 je vodstvo vrta začasno prevzel prof. dr. Tone Wraber, od leta 1995 pa vrt vodi avtor teksta.

Novejši čas

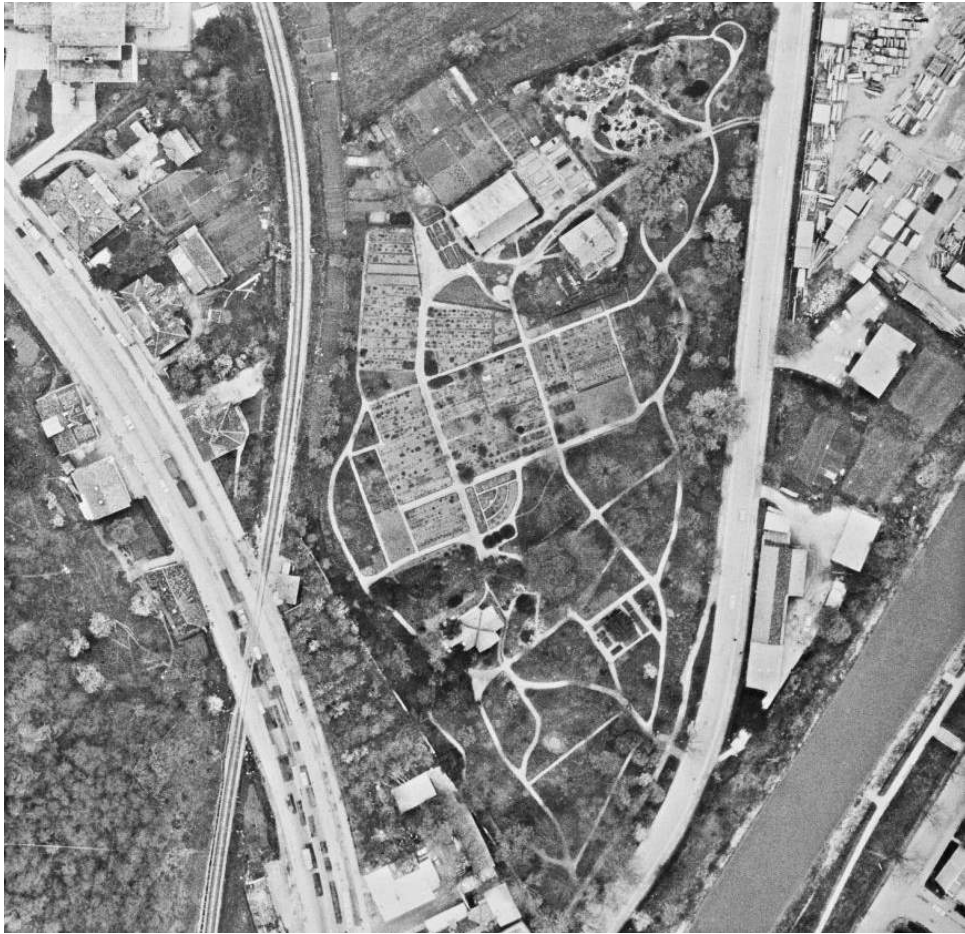
Od začetka leta 1995 do leta 2010 smo vrt s sredstvi mestne občine Ljubljana prenovili, kasneje pa smo dobili še sredstva s strani države. Čeprav teh sredstev ni bilo dovolj, smo jih dobro izkoristili, veliko dela je bilo opravljeno z vrtnim osebjem, kar je pripomoglo k hitrejši in cenejši prenovi. Prenovili smo vse stavbe v vrtu, obnovili vodne površine, temeljite preнове ni bil deležen samo stari rastlinjak, predvsem zaradi različnih načrtov in dolgoletnih obljub, tako da se je delo zavleklo v dvestoletnico vrta. V letih 1997 in 1998 smo prenovili vrtno ograjo, leta 1999 smo začeli s prenovo stavb, ki so bile dokončane zaradi pomanjkanja sredstev šele v letu 2005/2006. Tam smo dobili večjo večnamensko predavalnico.

moved to the Institute of Botany located in the University building but some books from those times nonetheless remain in the Garden.

He concludes his report by saying, »Further maintenance of the Garden at its present scientific level and its future development would naturally require more substantial grants. The current grants are in every respect too small. Most importantly, the Garden should have more technical garden staff.« This report of December 20, 1928 is written in a very neat and legible handwriting. It is signed »Prof. A. Paulin, Director of the Bot. Garden«, but the handwriting in the manuscript is presumably that of laboratory assistant Župančič.

After Paulin's departure in 1931, the Garden saw a succession of very important men. Dr. Fran Jesenko (1875–1932) experimented with wheat-rye hybrids. A quite substantial work book of records on crossbreeding successes and failures survives in the Garden archives. Lazar (1960) adds that at that time there was really very little official will to enlarge the Garden so that Jesenko had to conduct his experiments in faraway Beltinci. At the beginning of the 20th century Jesenko was one of the world-renowned geneticists (Kreft 1990). Unfortunately he died in an accident so his work was efficiently carried on by other experts. His friends paid him tribute by a memorial plaque attached on the wall which used to enclose the Garden as a whole. Jesenko was succeeded by Dr. Jovan Hadži (1884–1972), till 1933, Stjepan Horvatić (1899–1975), till 1941, and Gabrijel Tomažič (1899–1977), till 1945.

Similarly as the impact of Hladnik's work was felt long after his retirement, the same is true of Paulin's period, only that it was even more long-lasting since it was under his guidance that gardener Franc Juvan, who worked in the Garden from 1896 to 1960, developed into an excellent expert on plants (Wraber 1985). Starting as an assistant gardener, he took over the post of gardener Rulitz who retired in 1907 (Paulin 1928). Similarly as Fleischmann who worked in the Garden from 1819 to 1867, Franc Juvan spent there an even longer period of time and was closely familiar with the operation of the Garden, which moderated the unsettling effect of a rapid succession of Garden directors. During the wartime period the Garden was in the hands of Tomažič succeeded after the war by Jože Lazar.

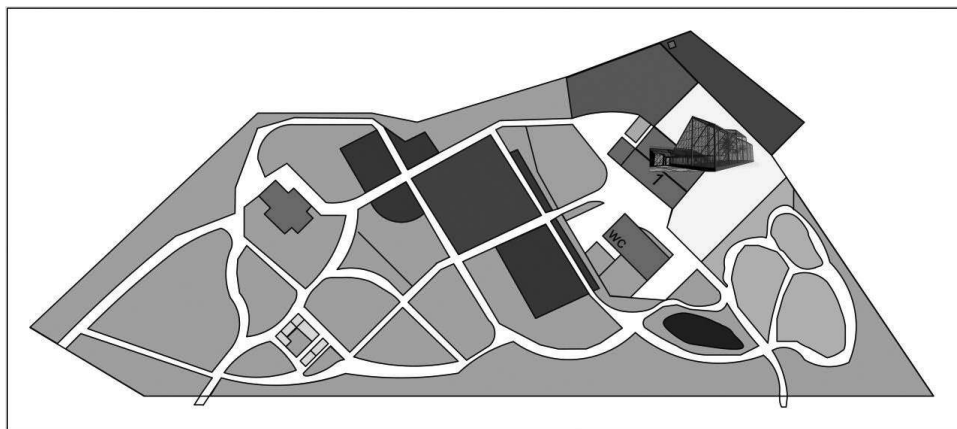


Slika 4: Botanični vrt pred rekonstrukcijo Karlovške ceste (pred 1974).
 Figure 4: Botanic gardens before reconstruction of Karlovška road.

Tedaj so bili že zastavljeni temelji za nov večji rastlinjak, vendar do realizacije ni prišlo. V letih 2001 in 2003 smo uredili prostor za sredozemske rastline in ob rastlinjaku smo začeli z urejanjem tematskega formalnega vrta. Staro upravno zgradbo smo prenovili v letu 2001 in v njej začeli z rednimi predavanji in delavnicami za širšo javnost. Leta 2006 smo že pripravljeno gradbiščno jamo za novi rastlinjak ponovno zasuli. Ta del smo spremenili v suhi travnik. Tropski rastlinjak bo preko Univerze financiralo ministrstvo za znanost in tehnologijo. Dela so se začela 23 marca v letu praznovanja 200 letnice vrta in bodo po predvidenem roku trajala 180 dni. V letu 2000 smo na

Lazar's and Strgar's Period (1945–1992)

Jože Lazar became employed as an assistant in the Botanic Garden in 1933 (Mayer 1975). A typewritten record from the Garden archives, dated December 15, 1931, reveals a proposal to employ Jože Lazar, a graduate candidate, as an expert civil servant who is to temporarily attend to director's duties. The existing documentation does not allow to say for sure whether the proposal was implemented or not. The Garden documents bear the signature of F. Jesenko. No document other than the already mentioned Mayer's record refers to Lazar being employed by the Garden.



Slika 5: Botanični vrt 2010.
Figure 5: Botanic Gardens 2010.

novi lokaciji bodočega vrta pod Rožnikom ob Biološkem središču na Večni poti, na vohu v bodoči vrt zasadili nasad japonskih češenj, darilo države Japonske Sloveniji. Leta 2004 smo na tej lokaciji dokončali še nedokončani rastlinjak z v vrtu težko privarčevanimi sredstvi. Že poleti 1998 smo začeli s pobudo, da bi najeli suhi travnik na obrobju Ljubljane. To smo kasneje tudi realizirali. Tako ima tam vrt poleg Jegličevega doma, ki ga je v letu 1970 prof. Jeglič podaril botaničnemu vrtu (Strgar 1985), v neposredni bližini na spodnjih terasah Save najet še 2 ha velik suhi travnik, ki ga enkrat letno pokosimo. Od leta 1995 smo v vrt začeli prinašati nove rastline, takoj smo pričeli s prenovo označevanja rastlin, ki smo jih z letom 2000 začeli še digitalizirati in tedaj smo uvedli nove napisne tablice, kjer ima vsaka rastlina svojo šifro.

Od leta 1995 je vrt vključen v mednarodno organizacijo botaničnih vrtov *Botanic Gardens Conservation International* (BGCI) od leta 2003 pa še v mednarodno združenje alpskih botaničnih vrtov AIGBA (*Associazione Internazionale Giardini Botanici Alpini*). Od vstopa Slovenije v Evropsko Unijo 2004 zastopamo v Evropskem konzorciju botaničnih vrtov mrežo slovenskih botaničnih vrtov. Vsako leto še vedno izdajamo *Index seminum* – seznam v vrtu in v naravi nabranih semen rastlin. V današnjem času ga pošljemo na 300 botaničnih vrtov po svetu. Od 140 do celo 180 botaničnih vrtov letno naroči semena rastlin,

In contrast to Paulin, Lazar's contribution on the occasion of the 150th anniversary of the Botanic Garden is quite modest. He praises the national authorities for allotting to the Garden 160 ares of the neighbouring land, thus enabling them to move the systematic part of the Garden to the newly added space and arrange it according to the modern principles of taxonomy and phylogeny. The parcel of land came into the Garden's possession on August 05, 1946. The Garden then measured 2.35 ha. The alpinetum was redesigned and enlarged, planted with native and in part Asian and American representatives of mountain flora, he reports. They later added a small dugout pond, renovated various Garden devices, and laid out parts with littoral and Velebit vegetation as well as other Balkan elements. They started working on larger ecologic groups. It is a less known fact that at that time the Garden was involved in the breeding of new potato varieties on the basis of crossbreeding and selection; in view of improving produce they worked also on sugar beet and studied different cereal varieties from Russia (Lazar, report of 1949).

In 1955 they finished the construction and plantation of the hothouse. The hothouse is very simple, adjacent to the house on the south-eastern side, thus actually getting all the sun, which is most important in terms of energy. As one wall leans on that of the house, the losses are smaller. The hothouse was created as a term paper mentored

tako da letno pošljemo preko 200 zavojčkov semen. Udeležujemo se mednarodnih srečanj in kongresov botaničnih vrtov, kjer aktivno sodelujemo. V letu 2007 je bil vrt predstavljen skupaj z drugimi zgodovinsko pomembnimi botaničnimi vrtovi na svetu v delu *Botanic Gardens a Living History* (Monem 2007).

V jeseni 2009 smo vsaj začasno začeli z upravljanjem tivolskega rastlinjaka in vsaj simbolično po 200 letih prišli na že v samem začetku leta 1809 ponujeno mesto za botanični vrt – nekje na tem območju in tudi potem še nekajkratno zelo resno lokacijo za vrt (Voss 1885, rokopisni vir, Paulin, rokopis 1928, Lazar, rokopis 1945, Lazar 1960).

200 letnico neprekinjenega delovanja je vrt obeležil z jubilejno izdajo treh zgodovinskih prispevkov skupaj z vsakoletnim seznamom semen. Maja je izšel prvič v zgodovini vrta kovanec za 2 € kovanec, ki je obeležil 200 letnico vrta. Izdala ga je banka Slovenije, na njem je upodobljena hladnikija. Že novembra 2009 smo vrt in njegovo 200 letnico skupaj z Zavodom za turizem Ljubljana predstavili na londonski turistični borzi in tako pokazali, da ima vrt za Slovenijo širši pomen. Pošta Slovenije je izdala dopisnična razgledenico. Televizija Slovenija je posnela 30 minutni film o delovanju botaničnega vrta in ga 30. marca 2010 prvič predvajala. Začeli smo z obsežno akcijo zbiranja sredstev za vrt. Vrt je zelo prisoten v medijih, kar naj bi v mednarodnem letu biodiverzitet še dodatno poudarilo njegovo 200 letno delovanje in skrb za ohranitev in predstavitev rastlinskega sveta Slovenije. Med 12 in 16. majem pa je botanični vrt in s tem Slovenija prvič po vstopu Slovenije v EU gostila predstavnike vseh nacionalnih mrež botaničnih vrtov držav članic in nekaterih opazovalk.

Vrt je bil v letu 2008 razglašen za kulturni spomenik državnega pomena, prej je od leta 1991 imel status spomenika lokalnega pomena. Čeprav so v vsej njegovi zgodovini razpravljali o preselitvi botaničnega vrta, ta na tem mestu vendarle ostaja še naprej. Kljub številnim menjavam oblasti in državam ni prenehal z delovanjem. Kar v sedmih državah je v tem času deloval, če štejemo, da je Slovenija danes članica Evropske unije. Marmontova lipa, posajena leta 1810, po 200 letih obiskovalcem vrta še vedno nudi senco.

by Professor Plečnik. The hothouse plan was made by student Boris Gaberščik, now a doctor of sciences. Plečnik allegedly told him, »Well, today we are going to do something for plants!« At this point, however, the Garden suffered the first reduction of its surface. In 1959 the reconstruction of a bend of the Ižanska cesta road was finished and the enclosure was shifted into the Garden. In this area a part of the Garden remained outside the enclosure. Here the former brick wall was replaced with a wire fence (report 1959). Although the reconstruction plan foresaw the building of a fine brick wall, this was not realized.

Lazar's research concentrated above all on algae (Mayer 1975). He wrote two important works, *The Algae of Slovenia* (1960) and *Distribution of Freshwater Algae in Slovenia* (1975). He devoted much time to the work in the Garden. Here, laboratory rooms were built next to the hothouse and some of the ecogeographical groups were arranged.

In 1967 the management of the Garden was taken over by Prof. Dr. Vinko Strgar (1928–1992) who carried on with Lazar's work (Wraber 1992). He came to the Botanic Garden as a gardener already in 1951. He continued to study and in 1969 obtained a doctorate, his doctoral dissertation dealing with the genus *Sesleria* in Slovenia and Croatia (Wraber 1971). Sadly, however, this was the time when the Garden began losing its ground due to the modernization of the road and the railway track. The Garden had meanwhile been increasing contact with similar institutions, raising the number to 316. Strgar and his colleagues from the Biology Department focused their efforts on acquiring land for a new botanic garden under Rožnik and the subsequent construction of a university biology center (Strgar 1987a). He often wrote about it in the *Biology Journal* and elsewhere (Wraber 1992). Strgar's major research was dedicated to the genus *Sesleria*. He discovered and described an endemic wall pepper which he named after Franc Juvan – *Sempervivum juvanii* (Strgar 1971). He was involved in the breeding of some endemic and endangered species (*Velebit degenia*, Strgar 1979, *Rhododendron luteum* (Strgar 1987b), *Blagay's daphne* (Strgar 1976), *Hladnik's scopolia* (Strgar 1987c). Between 1970 (Year 18) and 1992 (40th Year, Issue 1), he was also the editor of the *Biološki vestnik – Biology Journal*,

Zahvala

Za temeljit pregled zgodovine botaničnega vrta se zahvaljujem prof. dr. Tonetu Wraberju, ki mi je posredoval nekaj starejše manjkajoče literature. Predlagal je nekaj tehničnih dopolnitev, da bi bila zgodovina z do sedaj znanimi dejstvi čim bolj celovita. Prav tako se zahvaljujem muzejski svetnici dr. Nadi Praprotnik, ki je s svojim poznavanjem zgodovinskih dejstev iz botanike na Slovenskem in novo odkritim seznamom rastlin iz leta 1812 tako dodala in zaokrožila poznavanje prvih let delovanja botaničnega vrta.

Tako kot je med pripravo zbornika ob 150-letnici botaničnega vrta umrl Franc Juvan (29. 6. 1960), je po 50-ih letih, prav tako med pripravo članka, 6. 7. 2010 umrl prof. dr. Tone Wraber – vodja botaničnega vrta od 1992–1995.

the forerunner of the present *Acta biologica*. After Strgar's death in 1992 the Garden was temporarily headed by Prof. Dr. Tone Wraber and since 1995 by the author of this text.

Modern Times

Between 1995 and 2010 the Botanic Garden was renovated with the financial means granted by the Municipality of Ljubljana and some subsequently acquired state funds. Though insufficient, they were put to good use, not to mention an enormous amount of work done by the garden staff themselves, all of which contributed to a more efficient and less costly renovation process. We renovated all Garden buildings and aquatic surfaces, only the old hothouse has not been fully restored as a result of different plans and long time promises, so that the work has been going on well towards the 200th anniversary of the Garden. In 1997 and 1998 the Garden got a new fence. The renovation work on the buildings was started already in 1999 but due to the constant lack of means it was terminated only in 2005/2006, bringing a particularly important acquisition, namely a new multipurpose lecture room. At the time everything was in place to start the work on a larger new greenhouse but the plans were not implemented. In 2001 and 2003 an allotment was prepared for the Mediterranean plants and a formal thematic garden laid out along the hothouse. The old administrative building was renovated in 2001, which allowed us to start providing regular lectures and workshops for the general public. In 2006 the already dug-up construction hole for the new greenhouse was filled up once again. This area was made into a dry meadow. The Ministry of Science and Technology will, via the University, finance the construction of a tropical greenhouse. The work started on March 23 in the year of celebrating the 200th anniversary of the Botanic Garden. In 2000 Japan made Slovenia a gift of a number of cherry trees which were planted at the entrance of the future botanic garden under Rožnik, near the Biology Center on the Večna pot road. As a result of painstakingly accumulated savings the greenhouse in the new location was finally finished in 2004. In 1998 we launched a proposal to hire a dry meadow on the outskirts

of Ljubljana. This project was realized so that in addition to Jeglič's home, which Professor Jeglič donated to the Botanic Garden in 1970 (Strgar 1985), we now also have a lease on a nearby 2 ha meadow which is mown just once a year. Ever since 1995 new plants have begun to be brought to the Botanic Garden. We immediately started working on a new designation of plants which in 2000 began to be digitalized. New plant markers have been introduced so that every plant receives a code of its own.

The Botanic Garden has since 1995 been a member of the international organization *Botanic Gardens Conservation International* (BGCI) and since 2003 a member of the AIGBA (*Associazione Internazionale Giardini Botanici Alpini*), an international association of alpine botanic gardens. After the accession of Slovenia to the European Union in 2004 we represent the Slovenian Network of Botanic Gardens in the European Consortium of Botanic Gardens. We continue issuing the *Index Seminum* – a list of seeds collected in the Garden and nature. We currently send it to 300 botanic gardens all over the world. From 140 to as many as 180 botanic gardens order our seeds so that we yearly dispatch over 2000 seed bags. We take an active part in the international meetings and congresses of botanic gardens. In 2007 the Ljubljana Botanic Garden was presented side by side with other important botanic gardens in the work Botanic Garden a Living History (Monem 2007).

Since the autumn of 2009 we are (at least on a temporary basis) in charge the Tivoli hothouse, meaning that after 200 years we have symbolically returned to the place offered for this purpose already in 1809 and later seriously considered as a suitable location for a botanic garden (Voss, 1885, handwritten source, Paulin, manuscript 1928, Lazar 1945).

The Garden celebrated the bicentennial of its uninterrupted functioning with a jubilee edition of three historical surveys and the usual annual seed index. In May 2010 a 2 € coin was, for the very first time, come out in honour of the 200th anniversary of the Botanic Gardens. The coin, featuring *hladnikia*, was issued by the Bank of Slovenia. In collaboration with the Institute for Tourism, Ljubljana, the Botanic Garden and its bicentennial history was, in November 2009,

presented at the London Tourism Stock Exchange, thus stressing the particular importance of this institution to the people of Slovenia. The Slovenian Post was contributed a special picture postcard. Radio Television Slovenia shot a 30-minute film on the Botanic Garden which was broadcasted on March 30, 2010. We have embarked on an intensive campaign to collect financial means for the Garden. The Garden has been widely publicized in various media which should, in the international year of biodiversity, highlight its bicentennial functioning and dedicated work for the conservation and presentation of Slovenian flora. Between May 12 and 16, 2010 Slovenia was, for the first time since its accession to the European Union, host representatives of all national botanic garden networks of the EU members as well as some observer states.

In 1991 the Botanic Garden was granted the status of a monument of local importance but in 2008 it was promoted to a cultural monument of national importance. Throughout its history plans to move it to another location have never been abandoned but it nonetheless remains on its original land, and most importantly, it has survived in spite of numerous rulers and, if counting also the present-day European Union, all seven states under which it has never stopped functioning. Marmont's linden tree continues to invite visitors into its shade.

Acknowledgements

My sincere thanks are extended to Prof. Dr. Tone Wraber for his detailed survey of the history of the Botanic Garden and for providing me with some missing older literature. He suggested some well-founded supplements to the currently known historical facts. I am equally obliged to Dr. Nada Praprotnik, museum councillor, whose in-depth knowledge of the history of botany in Slovenia and her recent discovery of a 1812 list of plants have added to a comprehensive insight into the early life of the Botanic Garden.

Literatura / Literature

- Aljančič M., Svetina P. and Granda S., 2001. Žiga Zois. In, Enciklopedija Slovenije, 15 (Wi-Ž), Mladinska knjiga. Ljubljana, pp. 215–217.
- Anrejka R. 1934. Kje so bili Zoisovi vrtovi? Glasnik muzejskega društva za Slovenijo 15, 107–115.
- Anonimni avtor, 1942. Kaj vse vidiš na botaničnem vrtu. Slovenec 1. 7. 1942. 148, 2 pp.
- Baras F. 1984. Maršal Marmont Memoari. Logos. Split.
- Bavcon J. 1996. Kratka zgodovina ljubljanskega Botaničnega vrta. Proteus, 59 (4), 179–181.
- Bavcon J. 1998. Botanični vrt Univerze v Ljubljani. Krokro. Ljubljana.
- Bavcon J. 2000. Vrt domovinske flore – Botanični vrt v Ljubljani. Kmečki glas. Ljubljana.
- Bleiweis J. 1989. Gruberjev prekop. V: Enciklopedija Slovenije, 3 (Eg-Hab), Mladinska knjiga. Ljubljana, pp. 400–401.
- Bleiweis, 1844. Franz Hladnik. Kmetijske in rokodelske novice 11, 42–43.
- Ciperle J. 2001. Podoba velikega učilišča ljubljanskega, Licej v Ljubljani 1800–1848, Ljubljana.
- Ciperle J. 2009. 90 let Univerze v Ljubljani, med tradicijo in izzivi časa, rektorat Univerze. Ljubljana.
- Cvirn J. 2001. Ustanovitev Ilirskih provinc. V: J. Cvirn and al. (uredn.) Slovenska kronika XIX. stoletja 1800–1860. Nova revija, Ljubljana.
- Dobrilovič M. and Kravanja M., 2003. Rastlinsko gradivo prvega botaničnega parka na Slovenskem – Brda pri Kranju Zb. Bioteh. Fak. Univ. Ljublj. Kmet. 81 (2), 277–286.
- Dular A., Nodier C. 2010. V: Dular A. (ed.), Podpečnik, J.ože (ed.), Šumrada, J. (ur.). Sous les aigles Napoléoniennes, bicentenaire des provinces Illyriennes, [catalogue de l'exposition, Narodni muzej Slovenije, Metelkova, Ljubljana, Slovenija, du 14 octobre 2009 au 28 février 2010, Musée national de l'Armée, Paris, France, du 22 mars 2010 au 20 mai 2010], 200 let ustanovitve Ilirskih provinc, [razstavni katalog, Narodni muzej Slovenije, Metelkova, Ljubljana, Slovenija, 14. oktober 2009–28. februar 2010, Musée national de l'Armée, Paris, Francija, 22. marec 2010–20. maj 2010]. Ljubljana, Narodni muzej Slovenije, pp. 238–245.
- Freyer H. 1829. Eine kurze Nachricht über Entstehen, Grösse und Inhalt des botanischen Gartens zu Laibach. Flora 12 (1), 173–175.
- Freyer H. 1840. Annalen des Gartens zu Lustall für das Jahr 1840, Erbergov arhiv v Državnem arhivu Slovenije.
- Granda S. 2001. Generalni guverner se zabava. In, J. Cvirn and al. (uredn.) Slovenska kronika XIX. stoletja 1800–1860. Nova revija, Ljubljana.
- Hayek A., Paulin A., 1907. Flora der Sanntaler Alpen. Separatabdruck aus Abhandlungen der k.k. zool.-botan. Gesellschaft in Wien 4, 2.
- Holz E. and Costa H., 1997. Ljubljanski kongres 1821. Ljubljana, 284 pp.
- Jernejec Babič P., Simič M., Kolar-Planišič V., Koruza N., Krivec M., Sušnik M., Mihelčič, A., Pergovnik, D., Simonič, T., 2009. Po zgodovinskih parkih in vrtovih Slovenije. Buča, Šmarje-Sap, 199 pp.
- Jogan N., Wraber T., 1992. Flora in vegetacija Slovenije. Ob 50. obletnici smrti A. Paulina (1853–1942) in 40 obletnici izida »Seznama praprotnic in cvetnic slovenskega ozemlja« E. Mayer (1952). Zbornik povzetkov referatov na simpoziju slovenskih botanikov v Krškem 24–26. 9. 1992. Društvo biologov Slovenije. Ljubljana.
- Juvan M. 1942. Marmontov brest na Ljubljanskem botaničnem vrtu. 27, 12, časopisni članek izrezan vrtni arhiv.
- Kajzer J. 1995. S tramovi podprto mesto. 2.dopolnjena izdaja. Mihelač Ljubljana, 385 pp.
- Kapus F. 1963. V univerzitetnem botaničnem vrtu v Ljubljani je bil postavljen spomenik. Proteus 26 (1), 14–17. Prirodoslovno društvo Slovenije, Ljubljana.
- Koruza N. 2009. Brdo pri Kranju – Posestvo gradu Brdo. In, Jernejec Babič and al. (uredn.) Po zgodovinskih parkih in vrtovih Slovenije. Buča, Šmarje-Sap, pp. 51–55.

- Kopitar 1812. <http://nl.ijs.si/e-zrc/zois/MP40.html>
- Kreft I. 1990. Fran Jesenko. In, Enciklopedija Slovenije, 4 (Hac-Kare), 298. Mladinska knjiga. Ljubljana.
- Laibacher ZEitung 30. Dezember 1911, pp. 298
- Lazar J. 1954. Botanični vrt v Ljubljani; njegov nastanek in razvoj. Kronika 2 (2), 105–109.
- Lazar J. 1960. 150 let Botaničnega vrta v Ljubljani. Universitas Labacensis – Univerza v Ljubljani ad annum Horti botanici Labacensis Solemnem CL. Zbornik ob 150-letnici botaničnega vrta v Ljubljani, 1–5.
- Mayer E. 1963. Ob odkritju spomenika botaniku Alfonzu Paulinu. Biološki vestnik 11, 126–127.
- Mayer E. 1975. Prof. Jože Lazar. Biološki vestnik 2 (23), 143 – 145.
- Mayer E. 1988. Usoda in vsebina rokopisa A. Paulina »Über botanische Naturdenkmäler in Krain« / The Fate and Contents of a Paulin s manuscript »Über botanische Naturdenkmäler in Krain«. Biološki vestnik 36 (3), 33 – 42.
- Monem N. K. 2007. Botanic Gardens a living History. Black dog publishing. London.
- Paulin A. 1912. Der k.k. Botanische Garten in Laibach. Carniola 3, 75–85. Muzejsko društvo za Kranjsko. Ljubljana.
- Pergovnik K., Cotič D., 2009. Dol – Park dvorca Dol. V: Jernejec Babič in sod. (ur.) Po zgodovinskih parkih in vrtovih Slovenije. Buča, Šmarje-Sap, pp. 91–94.
- Petkovšek V. 1934. Alfonz Paulin. Proteus 1 (1), 14–16. Prirodoslovno društvo Slovenije, Ljubljana.
- Petkovšek V. 1960. Začetki botanične vede pri Slovencih. Univerza v Ljubljani ad annum Horti botanici Labacensis Solemnem CL. Zbornik ob 150-letnici botaničnega vrta v Ljubljani, 11–23.
- Pintar I. 1939. Mediko-kirurški učni zavod v Ljubljani. Njegov nastanek, razmah in konec. Habilitacijska disertacija. Ljubljana.
- Polajnar J. 2009. Ilirske province Francozi in mit narodne osvoboditve. In, Žmuc I (uredn.) Napoleon rezhe Iliria vstan, ob 200-letnici ustanovitve Ilirskih provinc. Ljubljana, 27–62.
- Polec J. 1929. Zgodovina slovenske univerze do leta 1929. Ljubljana.
- Praprotnik N. 1988. Botanik Karel Zois. Proteus 51, 83–89.
- Praprotnik N. 1992a. Simpozij Flora in vegetacija Slovenije. Proteus 55, 112–113.
- Praprotnik N. 1992b. 50. obletnica smrti botanika Alfonza Paulina (1853–1942). Razstava. Prirodoslovni muzej Slovenije.
- Praprotnik N. 1992c. 50. obletnica smrti botanika Alfonza Paulina (1853–1942). Zloženska. Prirodoslovni muzej Slovenije.
- Praprotnik N. 1993 a. Florist in vrtnar Andrej Felischmann (1804 – 1867). Zbornik za zgodovino naravoslovja in tehnike, 12, 63–93.
- Praprotnik N. 1993b. Gore botanika Alfonza Paulina. Planinski vestnik 93 (11), 476–480.
- Praprotnik N. 1994. Botanik Franc Hladnik (1773–1844). Ob 150-letnici smrti. Proteus 57 (3), 94–99. Prirodoslovno društvo Slovenije, Ljubljana.
- Praprotnik N. 2004. Botanični vrt Karla Zoisa na Brdu. Kronika 52, 167–174.
- Praprotnik N. 2010. Inventar Botaničnega vrta v Ljubljani iz leta 1812 = Inventory of the Botanical Garden in Ljubljana from 1812. V: Bavcon, J. (ur.). 200 let botaničnega vrta v Ljubljani, (Index seminum). Ljubljana, Botanični vrt, Oddelek za biologijo, Biotehniška fakulteta, pp. 72–112.
- Rechfeld, Ph. J. 1849, Franz de Paula Hladnik. Sein Leben und Wirken, nach vorhandenen Papieren dargestellt. Mittheilungen des historischen Vereins für Krain 4(3), 69–86.
- Strgar V. 1971, *Sempervivum juvanii* Strgar spec. nova. Biološki vestnik 19, 83–91, Ljubljana.
- Strgar V. 1973. Botanični vrt univerze v Ljubljani. Kulturni in naravni spomeniki Slovenije 41. Založba Obzorje, Maribor.
- Strgar V. 1976. Vegetativno množenje Blagajevega volčina (*Daphne blagayana* Freyer) s poletnimi potaknjenci. Biološki vestnik 24 (2), 151–159, Ljubljana.
- Strgar V. 1979. Trying to conserve the Rare and Endangered *Degenia*. Survival or Extinction, Royal Botanic Garden Kew, 211–214.

- Strgar V. 1985. 175-letnica ljubljanskega botaničnega vrta. *Proteus* 48 (1), 3–8.
- Strgar V. 1987a. Po tridesetih letih spet o Botaničnem vrtu. *Hortikulturni razgledi* 3, 30–40. Ljubljana.
- Strgar V. 1987b. *Rhododendron luteum* Sweet- kalitev semena z naravnih rastišč v Sloveniji. *Varstvo narave* 13, 25–44.
- Strgar V. 1987c. *Scopolia carniolica* Jacq. f. *hladnikiana* (Biatz. and Fleischm.) E. Mayer dedovanje barve cvetov in razmnoževanje. *Biološki vestnik* 35 (2), 103–112, Ljubljana.
- Strgar V. 1991. Erbergov Dol – pozabljen botanični vrt. *Proteus* 53, 323–332.
- Šumrada J. 1998. Razmejitev med Napoleonovo Francijo in Avstrijskim cesarstvom na Slovenskem etničnem ozemlju po nastanku Ilirskih provinc. *Čas. zgod. narodop.* 69=34 (2), 247–260.
- Šumrada J. 1999a. Državnopravni status Ilirskih provinc s kratkim pregledom upravne ureditve. In, RAJŠP, Vincenc (ur.), Bruckmüller, E. (ur.). Vilfanov zbornik, pravo, zgodovina, narod = Recht, Geschichte, Nation. Ljubljana, Založba ZRC (ZRC SAZU), 375–390.
- Šumrada J. 1999b. Načrti francoskih oblasti v Iliriji o ustanovitvi ljubljanske univerze. In, Mihelič D. (ur.). *Gestrinov zbornik*. Ljubljana, ZRC (ZRC SAZU), 517–534.
- Verčkovnik T. 1995. Slovenski botanični učbeniki. *Biološki vestnik* 40 (3–4), 169–180.
- Voss W. 1884. Versuch einer Geschichte der Botanik in Krain (1754–1883). I Hälfte Laibach.
- Voss W. 1885. Versuch einer Geschichte der Botanik in Krain (1754–1883) Zweite Hälfte, 3–7. Laibach.
- Voss W. 2009. Botanika na Kranjskem. Versuch einer Geschichte der Botanik in Krain (1754–1883) Poskus zgodovine botanike na Kranjskem (1754 do 1883). Znanstveno kritična izdaja, prevedel M. Zorman, spremna beseda T. Wraber. Celjska Mohorjeva družba. Celje.
- Wraber T. 1963. Andrej Fleischmann, kranjski florist. *Planinski vestnik* 63 (6), 283.
- Wraber, T. 1966, Paulinova »Flora exsiccata carniolica« XIX. in XX. centurija. *Razprave* 4. razreda SAZU 9 (3), 125–164.
- Wraber T. 1971. Predstavljamo naše naravoslovne ustanove, na obisku v ljubljanskem botaničnem vrtu. *Proteus*, maj 33, 9/10, pp. 399–405.
- Wraber T. 1985. Franc Juvan (1875–1960) *Proteus*. 9–10 (47), 365–366.
- Wraber, T. 1992, t Vinko Strgar, botanik, vrtnar, urednik Biološkega vestnika. *Biološki vestnik* 40 (1), 65–69.
- Wraber T. 2000. Prvo desetletje (1920–1930) študija biologije na ljubljanski univerzi. *Acta biologica slovenica* 43,3, 5–20.
- Wraber T. 2002, Henrik Freyer kot botanik. In, Predin, Š. (uredn.), Slovenski farmacevti v naravoslovju. Zbornik referatov s simpozija ob 200-letnici rojstva Henrika Freyerja (1802–1866) v Mariboru, 14.6.2002, 105–140. Mariborske lekarne Maribor.
- Wraber T. 2008, Pisna zapuščina botanika Alfonza Paulina v Biblioteki SAZU. V: D. Koman in sod. (ur.), Sedemdeset let Biblioteke Slovenske akademije znanosti in umetnosti, 199–236.
- Žmuc I. 2009. Napoleon rezhe Iliria vstan. In, Žmuc I (uredn) Napoleon rezhe Iliria vstan, ob 200-letnici ustanovitve Ilirskih provinc. Ljubljana, 13–26.

Arhivski dokumenti/Archive Documents

- Archives of RS, A map of Ljubljana and its surroundings. AS, 1068. Map collection 5/96.
- Archives of RS, Ljubljana Lyceum (School II), SI AS 359.
- archive documents. Records on single years citing reports, unsigned, Botanic Garden archives. Botanic Garden, Biology Department, BF.
- Botanic Garden, On the Occasion of the 30th Anniversary of the University, unsigned typescript.
- Lazar J. 1945. To the Board in Charge of the Plan for Reforming the University. Typescript 1–2. Botanic Garden Archives
- Lazar J. 1949. Annual Report of the Head of the Institute.
- Lazar J. 1956. Annual Report of the Head of the Institute for Academic Year 1955/56.

- Lazar J. 1957. Annual Report for Academic Year 1956/57.
- Lazar J. 1959. Annual Report for Academic Year 1958/59.
- Lazar J. 1959. Investment Proposal for 1959.
- Paulin A. 1920. University Council, Ljubljana. Garden Archives. Typescript 1–6.
- Paulin A. 1928. Botanic Garden. Garden Archives. Manuscript 1–6.
- Presidency of the provincial government for Slovenia. Ljubljana 20. 5. 1920. Garden Archives.
- Minutes of University Meetings, 12. 11. 1919. Ljubljana. Archives of University of Ljubljana.
- Historical archives of Ljubljana (ZAL), LJU 184, Classical Grammar School Ljubljana, š. 54/204–229, 228.
- Historical archives of Ljubljana (ZAL), LJU 184, Classical Grammar School Ljubljana, š. 54/204–229, 226.
- Records on the botanic garden for single years, referring to older reports, unsigned. Garden Archives.
- Wraber T. 1944. Drawing Jalenov brest. The author of the drawings is Tonček Wraber who at the time could as yet neither read nor write so the rest was added by his father Maks. T. W. 2009.
- Arhiv RS: Licej v Ljubljani (Šola II), SI AS 359.
- Arhivski dokumenti . Zapiski za posamezna leta, ki citirajo poročila, nepodpisani, vrtni arhiv Botanični vrt, Oddelek za biologijo, BF.
- Botanični vrt Ob 30 letnici Univerze, nepodpisan tipkopis Lazar J. 1945. Komisiji za izdelavo načrta o reformi univerze. Tipkopis 1–2. Arhiv vrta.
- Lazar J. 1956. Letno poročilo predstojnika instituta za študijsko leto 1955/56.
- Lazar J. 1957. Letno poročilo za študijsko leto 1956/57.
- Lazar J. 1959. Letno poročilo za študijsko leto 1958/59.
- Lazar J. 1959. Predlog investicij za leto 1959.
- Paulin A. 1920. Univerzitetni svet v Ljubljani. Arhivski dokumenti vrta. Tipkopis 1–6.
- Paulin A. 1928. Botanični vrt. Arhivski dokumenti vrta. Rokopis 1–6.
- Predsedništvo deželne vlade za Slovenijo. Ljubljana 20. 5. 1920. Arhiv vrta.
- Wraber T. 1944. Risba. Avtor risbe je Tonček Wraber, ki tedaj ni znal ne brati ne pisati, zato je vse potrebno dopisal njegov oče Maks. T. W., 2009.*
- Zapisnik univerzitetnih sej 12. 11. 1919. Ljubljana. Arhiv Univerze Ljubljana.
- Zgodovinski arhiv Ljubljana (ZAL), LJU 184, Klasična gimnazija v Ljubljani, št. 54/204–229, 228, 255
- Zgodovinski arhiv Ljubljana (zal), LJU–184, Klasična gimnazija v Ljubljani, št. 54/204–229, 228.
- Zapiski o botaničnem vrtu za posamezna leta, ki citirajo starejša poročila nepodpisani, vrtni arhiv.