Botanica SERBICA

Editorial

The Botanical Garden "Jevremovac" is an educational and scientific centre of Belgrade University´s Faculty of Biology. It is not wellknown, even to those who frequently visit the Botanical Garden, that much of the university`s invaluable natural heritage is stored in a beautiful but modest building that dates from the beginning of the 20th century and houses the herbarium collections and the library. Certain specimens in these collections are over 150 years old.

To rescue them from oblivion, the following text summarises holdings of the library and describes in detail some of the most significant books preserved in it.

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(honorary editor)

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Library of the Institute of Botany and Botanical Garden "Jevremovac". A treasury of numerous scientific publications including some very rare editions

Vesna Asanović

It is not possible to engage in scientific research in a serious fashion without keeping up with published literature in the form of research papers and books reflecting the latest achievements in the world of science. One needs to rely on what is already known, on the results and achievements of countless predecessors and contemporaries. And all that printed "knowledge" has its safe haven - libraries, where the past is often confirmed and the future determined! This is why the world's libraries are indispensable as the storehouses of mankind´s overall knowledge, places where ideas intersect, places of communication between contemporaries and predecessors and links connecting past with future generations of scientists. The development of technology over the past several decades has changed our world in many respects, in a sense putting libraries aside, making them seem slightly anachronous; nevertheless, their essence has remained unchanged - libraries are still treasuries of collected and systematised knowledge, stored not only on (sometimes dusty) shelves, but more and more often in a digital format as well.

The library of the Institute of Botany and Botanical Garden "Jevremovac" of the Faculty of Biology in Belgrade is one of the oldest and richest botanical libraries in the region of Southeast Europe. It was in 1853 that a natural history library was initially established at the Belgrade Lyceum (*Lyceum of the Principality of Serbia*). Housed at that time in the Residence of Princess Ljubica, the library owed its creation to Josif Pančić, who started teaching natural history at the Lyceum. Since natural history books were then very scarce in the Lyceum´s library, Pančić began purchasing scientific literature and necessary reference books as a member of the staff of the institution´s Natural History Department, where he taught natural history, i.e., botany, zoology, mineralogy with geology and agronomy. Later (in 1863), the Lyceum grew into what was known as the Great School, which eventually became the University of Belgrade in 1905. Primarily owing to Pančić's commitment and cooperation with scientists from different European countries, as well as to the efforts of his associates and followers, the natural history library acquired an increasing wealth of both foreign and domestic editions.

Today, the library is a highly respected institution holding over 50,000 items, including more than 7,000 books, over 300 scientific and professional journals and over 6,000 offprints (the number of printed works increases every year!).

The collection of periodicals is extremely rich, covering various fields of biology - anatomy and systematics of plants, plant morphology, algology, mycology and lychenology, plant physiology and plant ecology and geography.

The importance of periodicals in scientific research is enormous, as they offer an insight into research results within a short period of time. Periodicals ensure a speedy two-way information flow, a system that helps science develop much more rapidly. The process is much slower and different with books. While periodicals fragmentarily follow the microcosm of one scientific problem in a step-by-step manner, establishing connections with already acquired knowledge and knowledge yet to be gained, focusing precisely on the unknown and undiscovered, books present a comprehensive view of the scientific world and, above all, of specific scientific fields. They embody the knowledge of one point in time or even of one epoch.

As early as during existence of the Principality of Serbia, the Institute of Botany for years regularly purchased leading international scientific journals. The often cited German journal *Flora*, published in Regensburg as one of the oldest European botanical journals, was regularly purchased from its first edition in 1818 until 1987. The

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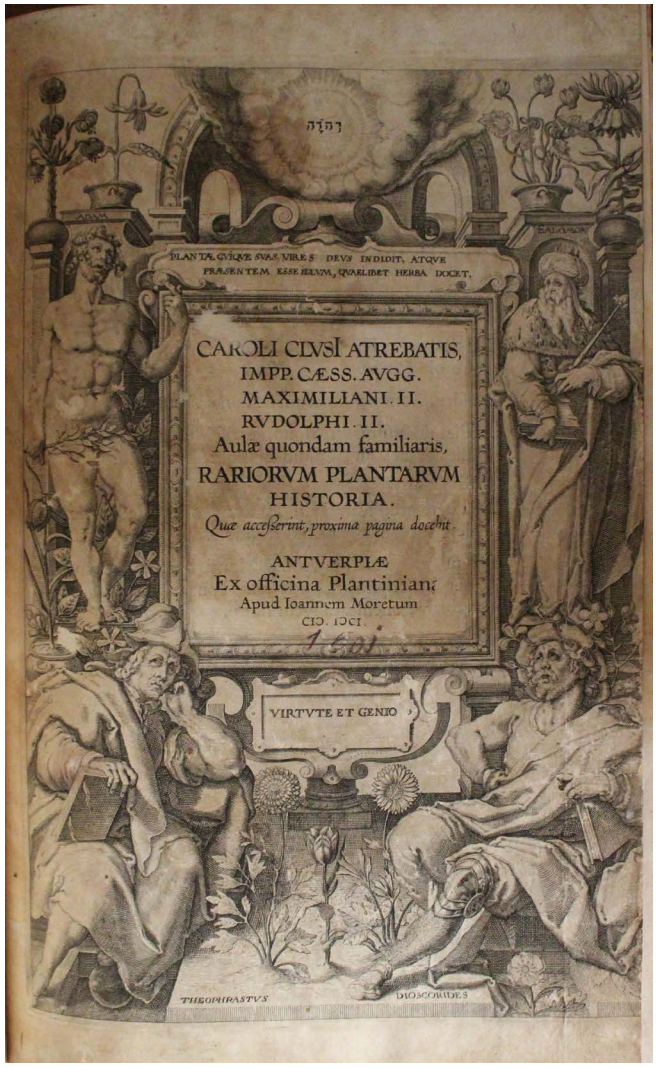
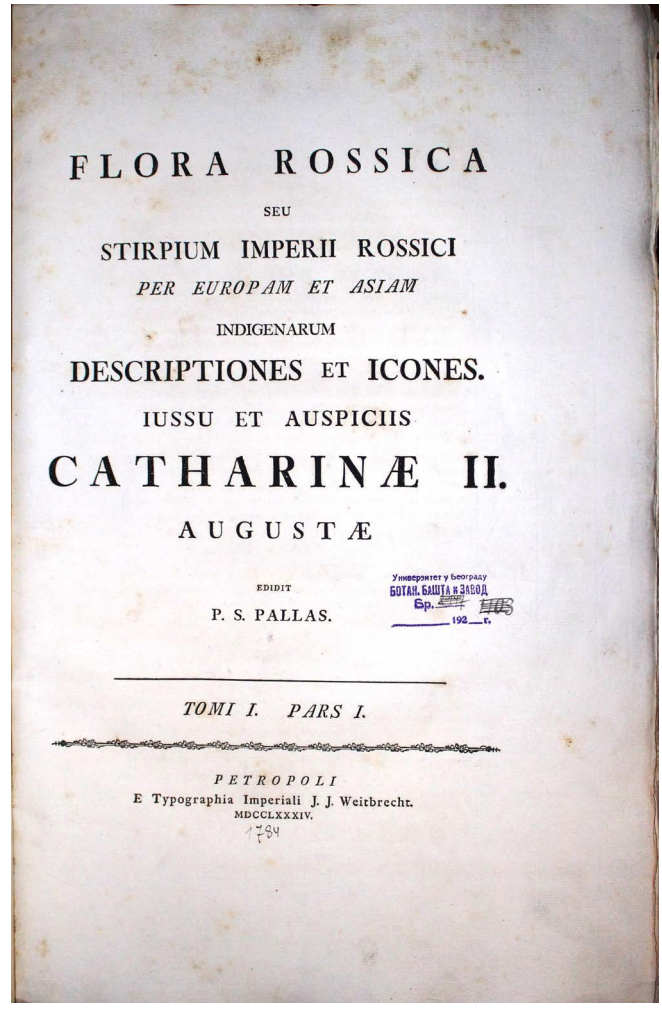


History of rare plants (Rariorum Plantarum Historia) by Carolus Clusius (cover page)



Flora Rossica by P. S. Pallas illustrated with hand-painted graphics of the Russian Empire flora (cover page)

oldest French botanical journal, *Annales des Sciences Naturelles*, published by the Royal Medical Academy in Paris (*Académie Royale de Médecine á Paris*), continuously arrived in Serbia from the first volume published in 1824 until 1987. Furthermore, *Revue Générale de Botanique*, established in 1889 by Gaston Bonnier, a French botanist and professor at the Sorbonne, was purchased from the first volume. The highly reputed *Annals of Botany* arrived from Oxford from the journal's foundation in 1887, while the *American Journal of Botany*, published by the Botanical Society of America, was ordered from its first edition, printed in 1914. The overall significance of prestigious journals such as *Flora* or *Annales des Sciences Naturelles*, in which leading scientists of the time published their works, lies not only in their reporting of research results, but also in the fact that they represent an important part of scientific history. Scientific periodicals reflect what was being done at a specific moment, or what used to be done in the past, in leading research centres. While those research results were still finding their way to books, they already belonged to the body of generally known facts and became a part of history.

Aside from its outstanding collection of scientific periodicals, the institute´s library has many valuable book holdings as well. Written in the languages of different lands, books are the guardians of the collected knowledge of their time. Among those present in the library, there are some genuine jewels – exclusive, rare and antiquarian museum-quality editions. The oldest editions date back to the 16th and 17th centuries.

An Old French translation of the famous encyclopaedic work of antiquity *The Natural History* by Pliny the Elder (*Plinii Secundi*, *Naturalis Historia*), the ancient Roman chronicler, philosopher, naturalist, war commander and personal friend of the Roman Emperor Vespasian (1st century), is stored in the Botanical Garden´s library under the title *L'Histoire du Monde de Pline Second*. This

Nyphaea lotus, lithography, from Descriptions and drawings of the rare plants of Hungary (Descriptiones et Icones Plantarum Rariorum Hungariae) by F. Waldstein and P. Kitaibel

book was printed in 1562 in Lyons. Pliny the Elder died in 79 A.D. during an attempted evacuation by ship in the course of an eruption of Mount Vesuvius. His most significant work was printed by his nephew, Pliny the Younger, also a man of high reputation and great authority, governor of the Roman provinces of Bithynia and Pontus, as well as a quaestor, tribune and consul, in the time of Emperor Trajan. He was a personal friend of the Roman historian Cornelius Tacitus, to whom he wrote hundreds of letters. This exclusive work was translated from Latin into different European languages. The copy kept in the Botanical Garden´s library is not an exclusive rare edition, but it is luxuriously produced and very valuable. The book has leather covers with the title and ornaments stamped in gold, and pages with gilded edges.

Undoubtedly one of the most precious editions in the library´s holdings is *A History of Rare Plants* (*Clusii Rariorum Plantarum Historia*) by Charles de L'Écluse, better known under his Latin name - Carolus Clusius – the famous Dutch humanist and physician, 16th century pioneer in botany and would-be lawyer in love with nature and plants. Written in Latin and published in Antwerp in 1601 by the renowned publishing house "Christophe Plantin", the book abounds with pictures of exotic plants, reptiles, birds and mammals. In order to print those pictures based on drawings by Clusius and Pieter van der Borcht, Gerard van Kampen made 1,109 woodcuts. The first page frames the title with rich ornamentation, the standing figures of Adam and Solomon appearing in the upper deep background, and Theophrastus and Dioscorides in the lower foreground, surrounded by exotic plants, lilies, tulips and fritillaria.

Carolus Clusius was a professor of botany at the University of Leiden and the founder and long-standing director of the Leiden Botanical Garden (*Hortus Botanicus Leiden*), the second oldest botanical garden north of the Alps. Clusius, a physician by training, was for a certain period of time the personal physician of the Holy Roman Emperor Maximilian II of the House of Habsburg in Vienna, succeeding Pietro Andrea Mattioli, the Sienese physician, translator and connoisseur of Dioscorides' work. Often travelling around Europe, he became friends with people from the world of science, in the process acquiring plants from all over the known world - from the east to both Americas. He met Sir Francis Drake, the English pirate and seafarer, vice-admiral of the English fleet and a friend of Queen Elisabeth I, who brought him plants from the New World. Clusius's friend, Ogier Ghiselin de Busbecq—a herbalist, writer and ambassador of the Holy Roman Emperor Maximil-

Flora Graeca Sibthorpiana by J. Sibthorp (cover page of the first volume)

Campanula graminifolia, print from the third volume of Flora Graeca Sibthorpiana

ian II to the Ottoman court in Istanbul—brought him tulips and horse chestnuts from Turkey.

Clusius was well-known and appreciated not only because of his books, but also because he introduced the potato and tulip to Austria, France, Germany and Holland, causing real "tulip mania", which spread throughout Europe in the 16th century. In his books he did not limit himself only to higher plants, but also wrote about fungi in general, and mushrooms in particular. In addition to this, he is considered to be the "father" of so-called "cultivated bulbs", which were new and very popular at that time, since he introduced the narcissus, buttercup, anemone and iris from the Mediterranean to Holland. That is why Princess de Chimay called him "the father of all beautiful gardens in the country".

One of the most significant books in the library´s holdings is *Petri Andreae Mattioli Senensis medici comentarii in VI libros Pedacii Anazarbei Dioscoridis De Materia Medica*, by Pietro Andrea Mattioli, the Italian physician from Siena and personal physician of the Austrian Archduke Ferdinand II and the Holy Roman Emperor Maximilian II of the House of Habsburg, remembered in the history of medicine for the application of mercury in syphilis treatment. Essentially, this is a summary translation from Greek into Latin of the major work *De Materia Medica*, written by Pedanius Dioscorides, accompanied by Mattioli's comments and supplements. Pedanius Dioscorides (40-90 A.D.) was an ancient Greek medical writer, pharmacologist and military physician in Emperor Nero's army. A contemporary of Pliny the Younger, he devoted his life to the healing of wounds and war injuries by using preparations of plant, animal and mineral origin. His major work, *De Materia Medica*, was an integrated mixture of the ancient world's knowledge and beliefs. Dedicated to his friend and colleague Arios, it was considered to be some kind of "phar-

maceutical Bible" over the course of 1,500 years of history. Dioscorides, who had the opportunity to frequent the magnificent, today almost mythical Great Library of Alexandria, described 613 medicinal herbs, around 90 minerals and 30 animal substances which he used in his healing sessions; this is why he is considered to be the father of phytotherapy. Among other plants, Dioscorides mentioned the aloe, of which the Romans learned during the Punic wars, and recorded its healing power and effects on numerous illnesses. Mattioli supplemented that list of plants, and their number rose to 1,200 as a result; he described the plants in detail, mentioning their healing powers, effects and manner of use. Illustrated with drawings made by the best engravers of that time, the book was luxuriously produced, leather bound, with the title stamped in gold. It was printed in 1598 in Frankfurt.

The oldest version of the almost complete text by Dioscorides was written on parchment in the early 6th century, a little before the year 512. It survived under the title *Codex Aniciae Julianae*, given after its first owner, the Byzantine Princess Anicia Juliana, sponsor and patron of the arts, daughter of Emperor Flavius Anicius Olybrius, a descendent of Emperor Constantine the Great. This version of the text is also known as *Codex Constantinopolitanus* or *Codex Bizantinus*, the title coming from its place of origin, where it was kept for over a thousand years. Today it can be found in Vienna under the title *Vienna Dioscorides* or *Codex Vindobonensis*, originating from the Latin word for Vienna, the city where it has been kept for the last 500 years - ever since 1569, when it was sold to the Holy Roman Emperor Maximilian II. It is protected by UNESCO as an object of world cultural heritage.

The library´s holdings contain the famous book *Flora Rossica* by Pallas. Dedicated to the Russian Empress Catherine the Great, it treats plants of the Russian Empire in both Europe and Asia. As the Empress was an enlightened ruler, she hired the German researcher, geologist and naturalist Peter Simon Pallas (1741-1811) to study and record the flora of the Russian Empire. The book is beautifully illustrated, with hand-painted graphics made by Karl Friedrich Knappe, a Russian academy-trained painter of German origin. Apart from plant illustrations, Pallas included basic botanical data, starting with a description of the plants, their leaves, flowers and fruits until the time of flowering and the dispersal period. In addition to Latin terms, he listed the plants' popular names in Russian, English, French and German, sometimes giving their names in the Tungus, Lithuanian, Finnish, Estonian, Tatar, Kirgiz, Samoyedic, Kuril, Korean and Chukotko-Kamchatkan languages as well. The book was printed in two volumes in the Latin language at the imperial typography works in St. Petersburg (1784 and 1788).

Descriptions and drawings of the rare plants of Hungary (*Descriptiones et Icones Plantarum Rariorum Hungariae*), written by Franz Waldstein and Pál Kitaibel, is one of the most important editions contained in the library´s holdings. The book was written in the Latin language and published in a folio format, with extraordinary illustrations of plants and hand-painted lithographs, each one being a small masterpiece in its own right. Luxuriously produced with leather binding and gold stamping, this book was printed in three volumes in Vienna in 1802.

The crown jewel of the library is *Flora Graeca Sibthorpiana*. Amagnificent edition in 10 volumes about the wild plants of Greece, Asia Minor and the Levant, it was the main life achievement of John Sibthorp (1758-1796), a professor of botany at Oxford University. Studying some translations of the manuscripts written by Dioscorides, Sibthorp was confused, noticing that certain pictures of plants did not correspond to their names. Dioscorides had a particular system of organising medicinal materials according to their healing properties and physiological effects, instead of putting them in alphabetical order; as a result, numerous translators of this material attempted to render it more orderly by applying the alphabetical principle, but in so doing they mistakenly replaced some of the pictures of plants.

This was the beginning of an adventure which led to the writing of a work that can only be described as a jewel of botanical literature. What happened is that John Sibthorp decided to travel to Vienna to study the oldest manuscript by Dioscorides, which dated from the year 512 and was entitled *Codex Vindobonensis*, but was earlier known as *Codex Aniciae Julianae*. As the earliest and most famous surviving copy of a work written by Dioscorides, it was almost complete and was written on parchment in a majuscule script, which was the practice in Europe between the 3rd and 8th centuries, and even later, until the time of Gutenberg. The parchment contains 491 leaves, i.e., almost 1,000 pages, with 400 coloured illustrations, 383 of which are page-size pictures of plants, with a description of their healing properties. On one of the first pages, in a round medallion, there is a miniature portrait of Princess Anicia Juliana, as the personification of nobility and wisdom. This was the first portrait of a patron in the history of manuscript and book decoration. The manuscript was presented to the princess by the citizens of Constantinople as a token of gratitude for building a church. On the margins of the original text and illustrations, comments were added, as well as the names of plants in other languages, which is understandable given the fact that the manuscript changed owners. For example, the mentioned additions were written in Turkish (after the fall of Constantinople in 1453), Arabic, Hebrew (as the manuscript was owned by a Jewish physician for some time) and even in French from the period of the Fourth Crusade, the so-called Frankish Crusade of 1204, when Constantinople fell into the hands of the Franks. In 1562, the ambassador of Holy Roman Emper-

or Ferdinand I of the House of Habsburg to the Ottoman Court of Suleiman the Magnificent, Ogier Ghiselin de Busbecq, a Flemish diplomat, writer, collector and naturalist, discovered this manuscript, at that time owned by the sultan's court physician, a Jew named Hamon. Recognising the value of the manuscript, Busbeck tried to buy it, but could not afford to pay the requested amount of 100 ducats, as he mentioned in his famous *Letters from Turkey*. He also described the sorry state of the manuscript: "on the outside worm-eaten, so that no one would even bend to pick it up from the road". However, seven years later, in 1569, at the insistence of Busbeck, Emperor Maximilian II of the House of Habsburg bought the manuscript from the son of the Jewish court physician, and it has been in the ownership of the National Library in Vienna ever since.

Fascinated by the manuscript by Dioscorides and its colour illumination, Sibthorp took a step further - he decided to travel to Greece and study its flora, which up to that time had been little known in Europe. In Vienna, Sibthorp met a young and talented painter named Ferdinand Lucas Bauer, whom he managed to persuade to accompany him on his botanical expedition and sketch the plants which Sibthorp would find. Sibthorp went on the first expedition between 1786 and 1787, accompanied by his colleague and friend John Hawkins and the painter Bauer. Upon returning to London, Bauer stayed to paint the plant drawings he had sketched in the field, and to mark them with numbers from the colour palette which he had with himself, while Sibthorp returned to Greece (1794-1795). Unfortunately, during this second expedition he fell seriously ill and died several months after returning to England; in his will he stated that he wanted his entire estate to be spent on printing his life´s achievement. The executors of his will were his personal friend John Hawkins and James Edward Smith, the founder and first president of the Linnean Society of London. The life-size plant illustrations, 966 of them (or 100 by volume, except for the last volume, which contained 66 illustrations), were printed according to the original lovely drawings made by Ferdinand Bauer, on whose basis the famous artist and engraver James Sowerby made printing plates. The beautiful illustrations are therefore basically gravures, hand-painted using combined water-colour and pastel techniques, every one of them being a small artistic masterpiece. On the cover page of each volume there is a different garland made of various branches, leaves, buds and flowers of the wild plants of Greece and the Levant. The garland frames the title and leans upon a dramatic scene from the Levant, painted in the water-colour technique. The complete edition of 10 volumes was printed in a large format; it was luxuriously produced, silk- and leather-bound, with the title stamped in gold. The edition was printed between 1806 and 1840, intended for only 25 subscribers. Later, a second edition was printed as well, with a printing run of 40 copies.

Flora Graeca, also known as *Flora Graeca Sibthorpiana* or *Plantarum rariorum historia, quas in provinciis aut insulis Graeciae*, is a rarity and a masterpiece of botanical literature, fascinating and intriguing passionate researchers (scientists, artists and laymen alike), not only for its botanical content and beautiful illustrations, but also due to, we could fairly say, the heroic story behind it. It is almost a detective story, full of adventure, heroism, drama and obsession - but above all, a story about one man´s perseverance, eminence and dedication to science.

The library´s holdings also contain the collected works of Josif Pančić, our great botanist, founder of the first botanical garden in Serbia, a physician by training and first president of the Serbian Royal Academy, who published his botanical works in such distinguished European scientific journals as *Flora* from Regensburg and *Oesterreichische Botanische Zeitschrift* from Vienna. Apart from his major work *Flora of the Principality of Serbia*, published in 1874, another particularly valuable edition and rarity is his work *Rare and New Plants of Serbia (Plantae Serbicae Rariores aut Novae)*, published in Venice in 1862, with very beautiful plant drawings made using a ball-point pen.

In addition to journals and books, the library´s holdings include over 400 doctoral and master's theses defended at the Institute of Botany of the Faculty of Biology.

Finally, we should also mention that the journal of the Institute of Botany and Botanical Garden "Jevremovac", today published as *Botanica Serbica* — which was initiated by another great figure of Serbian botany, professor Nedeljko Košanin, under the title *Bulletin de l'Institut et du Jardan Botaniques de l'Universite de Beograd*—was exchanged with foreign publishers for over 80 scientific and professional journals from Europe and the world, journals such as *Candollea* from Geneva, *Wildenowia* of the Berlin Botanical Garden, *Decheniana* from Bonn, *Colectanea Botanica* from Barcelona, *Kew Bulletin* of the famous London botanical garden Kew Garden, *Australian Journal of Botany* and *Australian Journal of Plant Physiology* from Melbourne, *Proceedings of the Academy of Natural Sciences* of Philadelphia, *Journal of Arnold Arboretum* of Harvard University (the most prestigious and oldest university in the United States of America), *Hedwigia* from Dresden, *Annals of the Missouri Botanical Garden* from Saint Louis, *Flora Fennica* from Helsinki and many others. As editor-in-chief of the botanical journal and director of the Institute of Botany and Botanical Garden "Jevremovac", Professor Košanin enriched the library for decades, both with botanical periodicals from the world over and with numerous scientific books. It should be stressed that all subsequent directors of the Institute of Botany and Botanical Garden "Jevremovac" shared the same attitude toward and respect for scientific literature, and endeavoured to enrich

the library´s holdings despite financial difficulties. This was extremely important for botanists, for their research and for generations of biology students at the Faculty of Biology and related faculties and institutions of the University of Belgrade. Today, the library of the Institute of Botany and Botanical Garden "Jevremovac" is an institution worthy of great respect, both for its contents and for its scope, as its shelves store the books, works and discoveries of numerous domestic and foreign scientists and researchers. As an integral part of the entire complex of the Botanical Garden "Jevremovac", the library is regulated by decrees pertaining to the Botanical Garden as a natural asset of great importance ("Official Gazette of the Republic of Serbia", No. 23/95) and a cultural asset (ibid., No. 30/07), which is why the library, like the Botanical Garden as a whole, is under a regime of special protection and why society is obliged to look after it.

**The author of the above text is Vesna Asanović, B.Sc. in biology and long-standing librarian of the Institute of Botany and Botanical Garden "Jevremovac".*