



The Balkan Botanical Congress is an international meeting that has been held nearly every three years, since 1997. It brings together botanists from around the world who perform research on plants in the widest sense, as well as scientists who are engaged in the plant sciences and their applications. We were honored to host such an extraordinary scientific event this year in Serbia.

The 7th Balkan Botanical Congress – 7BBC 2018 took place in Novi Sad from September 10th to 14th 2018. The Congress was organized by the University of Novi Sad, Faculty of Sciences, Department of Biology and Ecology and the “Andreas Wolny” Botanical Society, along with the great help of 7 co-organizers and more than 30 supporters and sponsors. It truly was not possible to happen without exceptional help of our co-organizer - the Institute for Nature Conservation of Vojvodina Province who made this congress not only possible, but totally awesome.

7BBC 2018 placed a special emphasis on plants of the Balkan Peninsula and covered various research fields. The Congress was organized into ten sessions: Plant Anatomy and Physiology, Plant Taxonomy and Systematics, Plant Molecular Biology and Genetics, Floristics, Vegetation and Phytogeography, Conservation Botany and Plant Invasions, Phytochemistry and Plant Resources, Agronomy and Forestry, Botanical Collections and History, Ethnobotany and Cryptogam Biology. These topics were elaborated through five plenary lectures given by eminent scientists, as well as in the form of introductory lectures, oral and poster presentations. With an overall number of 387 abstracts presented on the very latest of botanical science, we shared knowledge, expertise and novel ideas. We welcomed nearly 400 scientists to Novi Sad, and we believe that we succeeded in our joint endeavor to make new networks and new connections among botanists. We hope that we contributed to advancements in the wide and beautiful field of botany, ranging from fundamental botanical research to applied botany.

It is our great pleasure to publish this Abstract Book in Botanica Serbica, in the same year that this international journal, a renamed continuation of the Bulletin of the Institute of Botany and Botanical Garden Belgrade, celebrates its 90 year jubilee. On behalf of the Scientific and Organizing committee of 7BBC 2018 we would like to express our gratitude to all contributors, colleagues and sponsors for taking part in the 7th Balkan Botanical Congress, as well as for their efforts and contributions to its successful realization.

Goran Anačkov and Lana Zorić,
Co-presidents of the Scientific Committee of the 7 BBC
and guest editors of Botanica Serbica 42 (supplement 1).

Organizers:

University of Novi Sad, Faculty of Sciences, Department of Biology and Ecology, Novi Sad
Botanical Society „Andreas Wolny“, Novi Sad

Co-organizers:

Institute for Nature Conservation of Vojvodina Province, Novi Sad
Institute for Nature Conservation of Serbia, Belgrade
University of Belgrade, Faculty of Biology, Belgrade
University of Belgrade, Faculty of Forestry, Belgrade
University of Belgrade, Institute for Biological Research “Siniša Stanković“, Belgrade
University of Novi Sad, Faculty of Medicine, Center for Medical-Pharmaceutical Research and Quality Control, Novi Sad
Natural History Museum in Belgrade, Belgrade

Support:

Republic of Serbia, Ministry of Education, Science and Technological Development
Republic of Serbia, Ministry of Environmental Protection
Republic of Serbia, Autonomous Province of the Vojvodina, Provincial Secretary for Higher Education and Scientific Research Activity
Republic of Serbia, Autonomous Province of the Vojvodina, Provincial Secretary for Urbanization and Environmental Protection
City of Novi Sad
PWMC “Vode Vojvodine“, Novi Sad
PC “Vojvodinašume“, Petrovaradin
PCC “Gradsko zelenilo“, Novi Sad
PCC “Lisje“, Novi Sad
Matica srpska, Novi Sad
Institute of Field and Vegetable Crops, Novi Sad
University of Novi Sad, Institute of Lowland Forestry and Environment, Novi Sad
University of Novi Sad, Institute of Food Technology in Novi Sad, Novi Sad
University of East Sarajevo, Faculty of Technology, Zvornik
Journal “Plant Systematics and Evolution“
World Wild Fund For Nature, Belgrade
IUCN ECARO, Belgrade
Vojvodina Environmental Movement, Novi Sad
Biology and Ecology Students’ Scientific Research Society “Josif Pančić“, Novi Sad
National Park “Fruška gora”
Nature Park “Rusanda”
SNR “Deliblato Sand”
SNR “Obedska bara”
SNR “Okanj bara”
SNR “Slano Kopovo”
SNR “Titelski breg”
SNR “Zasavica”
Hungarian Natural History Museum, Budapest
Tourism Organization of Vojvodina
Tourist Organization of the City of Novi Sad, Novi Sad
PanaComp, Wonderland Travel, Novi Sad

Sponsors:

- Coca-Cola HBC, Belgrade
- Naftachem, Sremski Karlovci
- BioSPIN ltd, Novi Sad
- Mikronik ltd, Belgrade

- Nikon
- Pivnica “Gusan“, Novi Sad
- Intercaffe ltd, Belgrade

Honorable Commitee

Dr Ana Petrova, Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences, Bulgaria
Dr Kit Tan, Department of Biology, Faculty of Science, University of Copenhagen, Denmark
Dr Arne Strid, Department of Biology, Faculty of Science, Lund University, Sweden
Dr Werner Greuter, Herbarium Mediterraneum, University of Palermo, Italy & Botanischer Garten und Botanisches Museum Berlin-Dahlem, Freie University of Berlin, Germany
Dr Branislava Butorac, Institute for Nature Conservarion, Serbia
Dr Branka Stevanović, Faculty of Biology, University of Belgrade, Serbia
Dr Dušan Nikolić, Rector of University of Novi Sad, Serbia
Dr Jelena Blaženčić, Faculty of Biology, University of Belgrade, Serbia
Dr Milica Pavkov Hrvojević, Dean of Faculty of Sciences, University of Novi Sad, Serbia
Miloš Vučević, The Mayor of Novi Sad, Serbia
Dr Pal Boža, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad, Serbia
Dr Rudolf Kastori, Secretary General of the Department of Natural Sciences, Matica srpska, Serbia
Dr Vladimir Stevanović, Faculty of Biology, University of Belgrade & Serbian Academy of Sciences and Art, Serbia
Vladimir Galić, Provincial Secretary for Urban Planning and Environmental Protection, Serbia
Dr Zoran Milošević, Provincial Secretary for Higher Education and Scientific Research, Serbia
Dr Karol Marhold, Plant Science and Biodiversity Centre, Slovak Academy of Sciences, Charles University, Prague, and Secretary-General of International Association for Plant Taxonomy, Slovak Republic & Czech Republic
Dr Tod Stuessy, Museum of Biological Diversity, The Ohio State University, United States of America

Scientific Committee**Presidents:**

Dr Goran Anačkov, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad, Serbia
Dr Lana Zorić, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad, Serbia

Members:

Dr Alfred Mullaj, Faculty of Natural Sciences, University of Tirana, Albania
Dr Lulëzim Shuka, Department of Biology, Faculty of Natural Sciences, University of Tirana, Albania
Dr Božo Frajman, Institute of Botany, University of Innsbruck, Austria
Dr Peter Schönswetter, Institute of Botany, University of Innsbruck, Austria
Dr Faruk Bogunić, Faculty of Forestry, University of Sarajevo, Bosnia and Herzegovina
Dr Senka Barudanovic, Faculty of Science, Bosnia and Herzegovina
Dr Siniša Škondrić, Department of Biology, Faculty of Sciences, University of Banja Luka, Bosnia and Herzegovina
Dr Rosen Tsonev, Faculty of Biology, Sofia University “St. Kliment Ohridski“, Bulgaria
Dr Vladimir Vladimirov, Department of Plant and Fungal Diversity and Resources, Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences, Bulgaria
Dr Antun Alegro, Department of Biology, Faculty of Science, University of Zagreb, Croatia
Dr Boštjan Surina, Natural History Museum Rijeka, Croatia
Dr Sandra Bogdanović, Faculty of Agriculture, University of Zagreb, Croatia
Dr Sonja Šiljak Jakovljević, Ecologie Systématique Evolution, CNRS, AgroParisTech, Univ. Paris-Sud, Université Paris-Saclay, France
Dr Dimitris Tzanoudakis, Division of Plant Biology, Department of Biology, University of Patras, Greece
Dr Panayotis Dimopoulos, Institute of Botany, Division of Plant Biology, Department of Biology, University of Patras, Greece
Dr Theophanis Constantinidis, Department of Ecology and Systematics, Faculty of Biology, National and Kapodistrian University of Athens, Greece
Dr Király Gergely, Institute of Silviculture and Forest Protection, University of Sopron, Hungary
Dr Zoltán Barina, Department of Botany, Hungarian Natural History Museum, Hungary
Dr Vlado Matevski, Institute of Biology, Faculty of Natural Sciences and Mathematics, Ss. Cyril and Methodius University and Macedonian Academy of Sciences and Arts, Macedonia
Dr Danka Caković, Faculty of Natural Sciences and Mathematics, University of Montenegro, Montenegro

Dr Danijela Stešević, Faculty of Natural Sciences and Mathematics, University of Montenegro, Montenegro
 Dr Vesna Mačić, Institute of Marine Biology, University of Montenegro, Montenegro
 Dr Łuczaj Łukasz, Department of Botany, Institute of Applied Biotechnology and Basic Sciences, University of Rzeszów, Poland
 Dr László Bartha, Institute for Interdisciplinary Research in Bio-Nano Sciences Romania
 Dr Biljana Božin, Department of Pharmacy, Faculty of Medicine, University of Novi Sad, Serbia
 Dr Bojan Konstantinović, Department of Environmental and Plant Protection Faculty of Agriculture, University of Novi Sad, Serbia
 Dr Bojan Zlatković, Department of Biology and Ecology, Faculty of Science and Mathematics, University of Niš, Serbia
 Dr Branislava Lakušić, Faculty of Pharmacy, University of Belgrade, Serbia
 Dr Dmitar Lakušić, Institute of Botany and Botanical Garden “Jevremovac”, Faculty of Biology, University of Belgrade, Serbia
 Dr Dragana Miladinović, Institute of Field and Vegetable Crops, Serbia
 Dr Dragana Rančić, Faculty of Agriculture, University of Belgrade, Serbia
 Dr Dragana Vukov, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad, Serbia
 Dr Gordana Tomović, Institute of Botany and Botanical Garden “Jevremovac”, Faculty of Biology, University of Belgrade, Serbia
 Dr Ivana Maksimović, Faculty of Agriculture, University of Novi Sad, Serbia
 Dr Jadranka Luković, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad, Serbia
 Dr Maja Karaman, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad, Serbia
 Dr Marjan Niketić, Natural History Museum, Serbia
 Dr Marko Sabovljević, Institute of Botany and Botanical Garden “Jevremovac”, Faculty of Biology, University of Belgrade, Serbia
 Dr Mihajla Đan, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad, Serbia
 Dr Milan Stanković, Department of Biology and Ecology, Faculty of Sciences, University of Kragujevac, Serbia
 Dr Milan Veljić, Institute of Botany and Botanical Garden “Jevremovac”, Faculty of Biology, University of Belgrade, Serbia
 Dr Mirjana Šijačić Nikolin, Faculty of Forestry, University of Belgrade, Serbia
 Dr Miroslava Mitrović, Institute for Biological Research “Siniša Stanković”, University of Belgrade, Serbia
 Dr Nataša Nikolić, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad, Serbia
 Dr Neda Mimica Dukić, Department of Chemistry, Biochemistry and Environmental Protection, Faculty of Sciences, University of Novi Sad, Serbia
 Dr Pavle Pavlović, Institute for Biological Research “Siniša Stanković”, University of Belgrade, Serbia
 Dr Peđa Janačković, Institute of Botany and Botanical Garden “Jevremovac”, Faculty of Biology, University of Belgrade, Serbia
 Dr Petar Marin, Institute of Botany and Botanical Garden “Jevremovac”, Faculty of Biology, University of Belgrade, Serbia
 Dr Saša Orlović, Institute of Lowland Forestry and Environment, University of Novi Sad, Serbia
 Dr Slobodan Jovanovic, Institute of Botany and Botanical Garden “Jevremovac”, Faculty of Biology, University of Belgrade, Serbia
 Dr Slobodanka Pajević, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad, Serbia
 Dr Snežana Radulović, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad, Serbia
 Dr Srđan Stojnić, Institute of Lowland Forestry and Environment and Faculty of Agriculture, University of Novi Sad, Serbia
 Dr Vladimir Ranđelović, Department of Biology and Ecology, Faculty of Science and Mathematics, University of Niš, Serbia
 Dr Andraž Čarni, “Jovan Hadži” Institute of Biology, Slovenia
 Dr Nejc Jogan, Biotechnical Faculty, University of Ljubljana, Slovenia
 Dr Neriman Özhatay, Department Of Pharmaceutical Botany, Faculty of Pharmacy, Istanbul University, Turkey

Organizing Committee

Presidents:

Dr Ružica Igić, President of Botanical Society “Andreas Wolny”, Novi Sad
 Dr Biljana Panjković, Head of Institute for Nature Conservation of the AP Vojvodina, Novi Sad

Secretaries:

Bojana Bokić, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad
 Milica Rat, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad

Members:

Dr Biljana Božin, Department of Pharmacy, Faculty of Medicine, University of Novi Sad
 Dr Dragana Vukov, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad
 Dr Dušanka Cvijanović, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad
 Dr Goran Anačkov, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad
 Dr Jadranka Luković, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad
 Dr Lana Zorić, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad
 Dr Ljiljana Nikolić, Faculty of Agriculture, University of Novi Sad

Dr Milan Borišev, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad
 Dr Milan Župunski, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad
 Dr Nebojša Kladar, Department of Pharmacy, Faculty of Medicine, University of Novi Sad
 Dr Slobodanka Pajević, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad
 Ana Vestek, Botanical Society “Andreas Wolny” Novi Sad
 Boris Radak, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad
 Danijela Arsenov, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad
 Dragan Obradov, Botanical Society “Andreas Wolny” Novi Sad
 Dunja Karanović, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad
 Đurđica Simin, Botanical Society “Andreas Wolny” Novi Sad
 Goran Tmušić, Botanical Society “Andreas Wolny” Novi Sad
 Jelena Jocković, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad
 Jelena Knežević, Botanical Society “Andreas Wolny” Novi Sad
 Marija Kovački, Botanical Society “Andreas Wolny” Novi Sad
 Marko Ručando, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad
 Miloš Ilić, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad
 Mirjana Čuk, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad
 Ranko Perić, Institute for Nature Conservation of the AP Vojvodina
 Sara Pavkov, Institute for Nature Conservation of the AP Vojvodina
 Slobodan Bojčić, Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad

Sessions:

The 7th Balkan Botanical Congress consists of plenary lectures, introductory lectures of each session, as well as oral and poster presentations on the following topics:

Sessions 1. Plant Anatomy and Physiology

Sessions 2. Plant Taxonomy and Systematics

Sessions 3. Plant Molecular Biology and Genetics

Sessions 4. Floristics, Vegetation and Phytogeography

Sessions 5. Conservation Botany and Plant Invasion

Sessions 6. Phytochemistry and Plant Resources

Sessions 7. Agronomy and Forestry

Sessions 8. Botanical Collections and History

Sessions 9. Ethnobotany

Sessions 10. Cryptogam Biology

Poster presentation 34 06 44

CHEMICAL COMPOSITION AND ANTIOXIDANT ACTIVITY OF *GERANIUM MACRORRHIZUM* L. ESSENTIAL OIL IN RELATION TO PLOIDY LEVEL AND ENVIRONMENTAL CONDITIONS

Sanja Čavar Zeljković^{1,2}, Sonja Siljak-Yakovlev^{3*},
Kit Tan⁴ & Milka Maksimović⁵

¹Central Laboratories and Research Support, Centre of the Region Haná for Biotechnological and Agricultural Research, Faculty of Science, Palacký University, Olomouc, Czech Republic, ²Department of Genetic Resources for Vegetables Medicinal and Special Plants, Centre of the Region Haná for Biotechnological and Agricultural Research, Crop Research Institute, Olomouc, Czech Republic, ³Ecologie Systématique Evolution, Univ. Paris-Sud, CNRS, AgroParisTech, Université Paris-Saclay, 91400 Orsay, France, ⁴Institute of Biology, University of Copenhagen, Øster Farimagsgade 2D, 1353 Copenhagen K, Denmark, ⁵Department of Chemistry, Faculty of Science, University of Sarajevo, Sarajevo, Bosnia and Herzegovina

*Corresponding author: sonia.yakovlev@u-psud.fr

Geranium macrorrhizum L. is an aromatic plant native to the Southern Alps and the Balkan Peninsula. In Europe it is increasingly cultivated on account of its ornamental flowers, as well as for its use in traditional herbal medicine and aromatherapy. This aromatic plant possesses a broad spectrum of antimicrobial, hypotensive, spasmolytic, astringent, cardiotonic, antioxidant, capillary, and sedative activities. Essential oil of *G. macrorrhizum* is highly valued in perfumery due to its excellent fixative properties, and it is also used as a food-flavoring agent. In this presentation we report the essential oil composition, total phenolics and antioxidant activity of several samples of *G. macrorrhizum* that were collected from natural habitats in Croatia (Mt Biokovo) and Greece (Mt Smolik and Mt Olimbos). These were then transferred to the greenhouse or botanical gardens in separate locations in Bosnia and Herzegovina (Sarajevo), France (Orsay) and Denmark (Copenhagen). Since the plant samples had different cytotypes, we examined a possible correlation between ploidy level, phenolic content, and antioxidant activity. We found that the total phenolic content of hydrosols of *G. macrorrhizum* is related to plant ploidy level, e.g., hexaploid samples contained almost twice the amount of phenolic compounds than hydrosols of diploids and tetraploids. Radical scavenging activity of the same extracts revealed similar correlations. However, the essential oil composition clearly depends on environmental factors. The major compounds in almost all essential oils of transplanted plants were oxygenated sesquiterpenes with germacrene as the most abundant (34.7-62.9%). The essential oil of the plants collected from natural habitats was rich in long-chain alkanes (27.0-40.0%). Antioxidant activity of the essential oils was notably weaker than for corresponding hydrosols; this is related to the low concentrations of terpenoids that are able to scavenge stable radicals.

KEYWORDS: *Geranium macrorrhizum* L., ploidy level, essential oil composition, total phenolic content, antioxidant activity

Poster presentation 35 06 50

VOLATILE COMPOUNDS OF NEWLY DISCOVERED SPECIES *CENTAUREA ZLATIBORENSIS* (ASTERACEAE)

Jelica Novaković^{1*}, Bojan Zlatković², Núria Garcia-Jacas³,
Alfonso Susanna³, Nemanja Rajčević¹, Petar D. Marin¹ &
Pedja Janačković¹

¹University of Belgrade - Faculty of Biology, Institute of Botany and Botanical Garden "Jevremovac", Studentski trg 16, 11000 Belgrade, Serbia, ²University of Niš - Faculty of Sciences and Mathematics, Department of Biology and Ecology, Višegradska 33, 18000 Niš, Serbia, ³Institut Botànic de Barcelona (IBB-CSIC-ICUB), Passeig del Migdia, s. n., Parc de Montjuïc, 08038 Barcelona, Spain

*Corresponding author: jelica@bio.bg.ac.rs

In this paper, the composition of essential oil from fresh capitula of *Centaurea zlatiborensis* Zlatković, Novaković & Janačković, sp. nova (*Centaurea* sect. *Acrocentron*, Asteraceae) an endemic species from Mt. Zlatibor (Serbia), was isolated using Likens-Nickerson type apparatus and analyzed by gas chromatography coupled with flame ionization detector (GC-FID) and by gas chromatography coupled to mass spectrometry (GC-MS). Fifty-four compounds were determined representing 97.8% of the total oil. The overall composition of essential oil of *C. zlatiborensis* is characterized by a high percentage of sesquiterpenes (81.9%) and a low percentage of monoterpenes (1.3%). The dominant components were two sesquiterpene hydrocarbons: (E)-caryophyllene (27.88%), germacrene D (17.05%), and one oxygenated sesquiterpene - caryophyllene oxide (9.41%). Other compounds (aliphatic hydrocarbons, aliphatic aldehydes and alcohols, aliphatic acids and their esters and aldehydes, aromatic esters and aliphatic acids, alkyl aromatic alcohols, aryl esters of aromatic acids) represent 8.7%. According to results of our previous investigations and literature data, essential oils of the most *Centaurea* species from the section *Acrocentron* were characterized by the presence of (E)-caryophyllene and germacrene D as dominant compounds. Future work will be directed toward the chemotaxonomic significance of volatile compounds of other *Centaurea* species from the section *Acrocentron*, as well as from related sections.

KEYWORDS: *Centaurea zlatiborensis*, Asteraceae, essential oil

Poster presentation 36 06 51

PRELIMINARY ANALYSIS OF SPECIALISED METABOLITES OF *CYTISUS JANKAE* FLOWERING AERIAL PARTS

Violeta Milutinović^{1*}, Marjan Niketić² & Silvana Petrović¹

¹Department of Pharmacognosy, University of Belgrade - Faculty of Pharmacy, Vojvode Stepe 450, 11221 Belgrade, Serbia, ²Natural History Museum, Njegoševa 51, 11000 Belgrade, Serbia

*Corresponding author: violeta.milutinovic@pharmacy.bg.ac.rs

Cytisus jankae Velen. (Fabaceae) is a dwarfish shrub (10–25 cm height) with 3-foliolate leaves and capitate inflorescence with tubular calyces. The whole plant is densely covered with silky hairs. Its range includes central and east part of the Balkan Peninsula and Romania. It inhabits dry rocky places on limestone or ultramafic soils. The objective of this study was to establish the phytochemical profile of flowering aerial parts of this plant. The plant material was collected in eastern Serbia (Jelašnička Klisura gorge). In the air-dried herb, by the direct gravimetric method, the total alkaloids content (0.32%) was determined, and using colorimetric assays the total polyphenols (43.8%), tannins (1.13%), and the total flavonoids (1.31%) were quantified. Additionally, the powdered dried plant material was successively extracted with dichloromethane (maceration) and methanol (bimaceration) at room temperature. After the solvents were evaporated under reduced pressure, dried extracts were subjected to the further analysis. The total alkaloids content in both the dichloromethane (7.01%) and methanol (3.47%) extracts, and the contents of total polyphenols (13.75%), tannins (2.45%) and flavonoids (4.65%) in the methanol extract, were determined by aforementioned tests. Applying the LC-MS method, in the methanol extract flavonoids quercetin 3-O-rutinoside, luteolin, apigenin and genistein were identified. GC-MS analysis resulted in the identification of quinolizidine alkaloids sparteine, 17-oxosparteine and lupanine (2-oxosparteine) in both the methanol and dichloromethane extracts, as well as of one triterpene, β-amyrin, in the dichloromethane extract. This is the first report on specialised metabolites from flowering aerial parts of *C. jankae*.

KEYWORDS: *Cytisus jankae*, flowering aerial parts, flavonoids, LC-MS, alkaloids, GC-MS

Poster presentation 37 06 62

ANTHOCYANIN PROFILE OF CORNELIAN CHERRY (*CORNUS MAS* L.) FRUITS

Bojana Blagojević*, Boris Popović, Ružica Ždero Pavlović,
Nikola Mičić & Sandra Bijelić

University of Novi Sad, Faculty of Agriculture,
Trg Dositeja Obradovića 8, 21000 Novi Sad, Serbia

*Corresponding author: *bojana.blagojevic@polj.uns.ac.rs

Cornelian cherry (*Cornus mas* L.) is deciduous small tree native grown in central and southeastern Europe and southwestern Asia. Its fruits were traditionally used mainly for gastrointestinal disorders and diabetes treatment. Scientific data on compound profile of cornelian cherry is still insufficient, especially for Serbian genotypes. Anthocyanins are phenolic compounds responsible for purple-red colour of fruits and vegetables. They have many beneficial effects on human health, especially as free radical scavengers, vasoprotective, anticarcinogenic and antidiabetic agents. The objective of this research was to determine anthocyanin content of cornelian cherry fruits from Serbia. Seven cornelian cherry genotypes grown in Vojvodina (northern Serbia) were assessed: Apatinski, Bačka, Krajišnik, Rus, Elegantni, Semen, S2. Fresh fruits collected in September 2016. were lyophilized and grinded prior to extraction. Powdered samples were ultrasonicated in 50% ethanol (1:10, w/v), evaporated and redissolved in water. Samples were analysed by RP-HPLC-PDA method. Individual and total anthocyanins were detected at 520 nm and quantified as mg cyanidin 3-glucoside equivalents per gram of lyophilized fruits (mg/g LF). S2 was distinguished as the genotype most abundant in anthocyanin content (10.81 mg/g LF). The second abundant one, Semen genotype, possessed three times less anthocyanins (3.68 mg/g LF), while other genotypes contained from 0.73 mg/g LF (Rus) to 2.44 mg/g LF (Elegantni). All fruit extracts showed exactly the same anthocyanin profile, varying just in quantitative content. Only two anthocyanins (cyanidin 3-O-galactoside and pelargonidin 3-O-galactoside) contributed over 95% of total anthocyanin content among all genotypes. In elegantni genotype only, content of these two glycosides was equal (approx. 47% of each). Cyanidin 3-O-galactoside dominated in genotype S2 (71.7%), while pelargonidin 3-O-galactoside made 81.6% of total anthocyanins in Apatinski genotype. Further studies on expanded number of cornelian cherry genotypes, could provide detailed data on possible usage of anthocyanin profile in chemotaxonomic purposes, besides from their health promoting potential.

KEYWORDS: cornelian cherry, cyanidin 3-O-galactoside, pelargonidin 3-O-galactoside