



Department of Biology and Ecology,
Faculty of Sciences and Mathematics
University of Niš
Institute for Nature Conservation of Serbia

ABSTRACTS APSTRAKTI

**14th Symposium
on the Flora of Southeastern Serbia
and Neighboring Regions**

Kladovo 26 to 29 June 2022

**14. Simpozijum
o flori jugoistočne Srbije
i susednih regiona**

Kladovo 26. do 29. jun 2022.

Niš-Belgrade, 2022

Department of Biology and Ecology,
Faculty of Sciences and Mathematics, University of Niš
Institute for Nature Conservation of Serbia

**14th Symposium on the Flora of
Southeastern Serbia
and Neighboring Regions**
Kladovo, 26th to 29th June, 2022

Abstracts

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Kladovo, 26th to 29th June 2022**

Book of Abstracts

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Gocić**

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210

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Detailed Programme

Plenary Session, Hall 1 Sunday, June 26th, 2022.

15.00-16.00

Opening ceremony

Plenary Lectures

16.00-16.15

Ostojić, D., Department for Natural Resources, Landscape Values and Spatial Planning
Documentation, Institute for Nature Conservation of Serbia, Belgrade, Serbia
Natural and cultural values of NP Đerdap - concept and protection perspectives

16.15-16.30

Milanovici, S., Natural Science Department, National Museum of Banat, Huniade Square
no. 1, Timișoara City, Timiș County, Romania
Presence, distribution, and population status of several rare plant taxa in the Portile de Fier Nature Park (Romania)

16.30-17.00 Coffee break

Phytogeography, Floristics and Phytoecology, Hall 1

Sunday, June 26th, 2022.

Chairs of the section: Purger, D., Trakić, S.

Introductory Lectures

17.00-17.15

Lakušić, D., Kuzmanović, N., Kovačević, J.
Kuzmanović, N., University of Belgrade, Faculty of Biology, Chair of Plant Ecology and
Phytogeography, Belgrade, Serbia
Generalized habitat map of Serbia

Oral Presentations

17.15-17.25

Čušterevska, R., Matevski, V., Kostadinovski, M., Mandžukovski, D.
Čušterevska, R., Institute of Biology, Faculty of Natural Sciences and Mathematics, Ss.
Cyril and Methodius University, Skopje, N. Macedonia
Priority habitats on the territory of the Republic of North Macedonia

17.25-17.35

Jogan, N., University of Ljubljana, Biotechnical Faculty, Dept. Of Biology, Ljubljana,
Slovenia
Ferns in the ex-Yu region: do we know them all?

17.35-17.45

Brujić, J., Koljanin, D., Milanović, Đ., Stupar, V.

Brujić, J., Department of Silviculture, Faculty of Forestry, University in Banja Luka, Banja Luka, Republic of Srpska, Bosnia and Herzegovina
Some wetland plants in Bosnia and Herzegovina - new records and conservation remarks

17.45-17.55

Novović, S., Menković, N., Stojanović, V.

Stojanović, V., Institute for Nature Conservation of Serbia, Belgrade, Serbia

New data on the distribution of two protected and one invasive species in the flora of Serbia

17.55-18.05

Ranimirović, M., Đurović, S., Tomović, G., Niketić, M.

Ranimirović, M., Natural History Museum, Belgrade, Serbia

Distribution of Euphorbia sect. Helioscopia Dumort. (Euphorbiaceae) based on the data in Herbarium collections in Belgrade

18.05-18.15

Anastasiu, P., Sîrbu, I.-M., Gavrilidis, A.A., Miu, V.I., Niculae, M.I.

Anastasiu, P., University of Bucharest, Bucharest, Romania

Alien plant species hot spots in Romania

18.15-18.25

Tabašević, M., Lakušić, D., Vukojičić, S., Kuzmanović, N.

Tabašević, M., Institute of Botany and Botanical Garden, Faculty of Biology, University of Belgrade, Belgrade, Serbia

Ruderal vegetation of the class Sisymbrietea in Serbia

Taxonomy and Systematics, Hall 2

Sunday, June 26th, 2022.

Chairs of the section: Rešetnik, I., Anačkov, G.

Introductory Lectures

17.00-17.15

Zorić, L., Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad, Novi Sad, Serbia

Trends in applied plant anatomy

Oral Presentations

17.15-17.25

Terlević, A., Temunović, M., Bogdanović, S., Grgurev, M., Ljubičić, I., Rešetnik, I.

Terlević, A., Department of Biology, Faculty of Science, University of Zagreb, Zagreb, Croatia

Morphological and ecological variability of the Dianthus sylvestris complex (Caryophyllaceae) on the Balkan Peninsula

17.25-17.35

Çiftçi, A., Botany Division, Department of Biology, Faculty of Science, Istanbul University, Vezneciler, Istanbul, Turkey

Testing techniques and usefulness of Elliptic Fourier Analysis on Anatomical Sections

17.35-17.45

Niketić, M., Tomović, G., Buzurović, U., Vuksanović, S., Jakovljević, K., Lazarević, M., Dragičević, S.

Tomović, G., University of Belgrade, Faculty of Biology, Belgrade, Serbia

Centaurea ozrenii (Asteraceae) - a new and extremely rare species from Serbia

17.45-17.55

Erol, O., Abudurusuli, A., Çiftçi, A.

Erol, O., Botany Division, Biology Department, Faculty of Science, Istanbul University, Vezneciler, Istanbul, Turkey

Crocus pallasii Goldb. From North to South of Turkey: Just a Phenotypic Variation or Speciation?

Phytogeography, Floristics and Phytoecology, Hall 1

Monday, June 27th, 2022.

Chairs of the section: Nejc, J., Milanović, Đ.

Introductory Lectures

09.00-09.15

Papp, B., Lőkös, L.

Papp, B., Hungarian Natural History Museum, Botanical Department, Budapest, Hungary
Cryptogam flora (bryophytes and lichens) of Djerdap National Park

Oral Presentations

09.15-09.25

Marković, A., Schneider, S., Trajanovska, S., Biberdžić, V., Talevska, M., Imeri, A., Blaženčić, J.

Marković, A., Department of Chemistry, Institute of Chemistry, Technology and Metallurgy, University of Belgrade, Belgrade, Serbia

The Sava Lake – charophyte gem in the heart of Belgrade

09.25-09.35

Glišić, M., Jakovljević, K., Šinžar Sekulić, J., Lakušić, D., Vukojičić, S., Anačkov, G., Jovanović, S.†

Glišić, M., Unit for Agricultural and Business Studies and Tourism, Academy of Applied Studies Šabac, Šabac, Serbia

Alien flora of urban habitats in Serbia

09.35-09.45

Rat, M., Anačkov, G., Bogdanović, S.

Rat, M., University of Novi Sad, Faculty of Sciences, Department of Biology and Ecology, Novi Sad, Serbia

The Croatian flora plant material in the Herbarium BUNS

09.45-09.55

Tmušić, G., Bojčić, S., Anačkov, G.

Tmušić, G., Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad, Novi Sad, Serbia

Mapping urban invasions using Google street view – tree of heaven in Novi Sad

09.55-10.05

Vlku, A., Radak, B., Bokić, B., Peškanov, J., Anačkov, G.

Vlku, A., Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad, Novi Sad, Serbia

Contribution to the orchid flora of Northeast Serbia

10.05-10.15

Radak, B., Peškanov, J., Bokić, B., Tmušić, G., Obradov, D., Anačkov, G.

Peškanov, J., Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad, Novi Sad, Serbia

Vascular flora of the Special Nature Reserve “Wetlands of the lower Tisa” (Vojvodina, Serbia)

10.15-10.25

Radak, B., Peškanov, J., Bokić, B., Rat, M., Miljković, P., Beloica, J., Anačkov, G.

Radak, B., Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad, Novi Sad, Serbia

Novelties for the orchid flora of Montenegro

10.25-10.35

Milanović, Đ., Stupar, V.

Milanović, Đ., University of Banja Luka, Faculty of Forestry, Banja Luka, Bosnia and Herzegovina

Disentangling the syntaxonomy and nomenclature of Serbian spruce (*Picea omorika* (Pančić) Purk.) communities

Taxonomy and Systematics, Hall 2

Monday, June 27th, 2022.

Chairs of the section: Zorić, L., Tomović, G.

Oral Presentations

09.00-09.10

Harpke, D., Raca, I., Randelović, V.

Harpke, D., Leibniz Institute of Plant Genetics and Crop Plant Research (IPK), Gatersleben, Germany

Series Verni Mathew (*Crocus L.*) in Southeastern Europe vol. 1 –resolving the polyploid mess

09.10-09.20

Raca, I., Harpke, D., Randelović, V.

Raca, I., Department of Biology and Ecology, Faculty of Sciences and Mathematics, University of Niš, Niš, Serbia

Series Verni Mathew (*Crocus L.*) in Southeastern Europe vol. 2 - matching the cytotypes and morpho-anatomical features with the traditional nomenclature

09.20-09.30

Bokić, B., Radak, B., Rat, M., Anačkov, G.

Bokić, B., Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad, Novi Sad, Serbia

Flower dimorphism and gynodioecy of *Mentha longifolia* (L.) L. and *M. spicata* L. from Balkan peninsula and Pannonian Plain – a pilot study

09.30-09.40

Prijić, Ž., Peškanov, J., Marković, T., Xiuxin, Z., Jingqi, X., Rat, M., Zlatković, B., Panjković, B., Anačkov, G.

Peškanov, J., Department of Biology and Ecology, Faculty of Sciences, University of Novi Sad, Trg Dositeja Obradovića 2, Novi Sad, Serbia

Variation in seed morphology of Paeonia L. taxa from Serbia

09.40-09.50

Gavrilović, M., Oskolski, A., Rančić, D., Trajković, M., Janačković, P.

Gavrilović, M., University of Belgrade, Faculty of Biology, Department of Morphology and Systematics of Plants, Belgrade, Serbia

Anatomy of Leontopodium nivale subsp. alpinum (Cass.) Greuter (Gnaphalieae, Asteraceae) from Serbia

Ecology and Environmental Protection, Hall 1

Monday, June 27th, 2022.

Chairs of the section: Stamenković, S., Nikolić, D.

Introductory Lectures

11.00-11.15

Jakovljević, K., Mišljenović, T., Tomović, G., Baker, A., van der Ent, A., Echevarria, G.

Jakovljević, K., Institute of Botany and Botanical Garden, Faculty of Biology, University of Belgrade, Belgrade, Serbia

Metal hyperaccumulation in plants: State of knowledge and potential for future research

Oral Presentations

11.15-11.25

Milovanović, V., Jakovljević, O., Subakov Simić, G., Trbojević, I.

Milovanović, V., University of Belgrade, Faculty of Biology, Institute of Botany and Botanical Garden "Jevremovac", Belgrade, Serbia

Not so big, yet so important: First insight into the phytobenthic algal diversity of a small pond

11.25-11.35

Vidović, M., Tosti, T., Nikolić, N., Pantelić, A., Veljović Jovanović, S.

Vidović, M., Institute of Molecular Genetics and Genetic Engineering, Laboratory for Plant Molecular Biology, University of Belgrade, Belgrade, Serbia

The role of polyphenols, sugars, and cell-wall associated polymers in desiccation tolerance of Ramonda serbica

11.35-11.45

Ristić, S., Stamenković, S.

Stamenković, S., Department of Biology and Ecology, Faculty of Sciences and Mathematics, University of Niš, Niš, Serbia

Monitoring of air quality 1997-2020 in the urban area of Prokuplje (southeastern Serbia) using corticolous lichens

11.45-11.55

Stanković, V., Stanković, M., Perić, R.

Stanković, V., Institute of Criminological and Sociological Research, Belgrade, Republic of Serbia

Monitoring of Invasive Plant Species in SRP Zasavica

11.55-12.05

Temunović, M., Ljubičić, I., Bogdanović, S., Rešetnik, I.
Ljubičić, I., Department of Agricultural Botany, Faculty of Agriculture, University of Zagreb,
Zagreb, Croatia

**Maxent modelling for predicting the potential distribution of an amphi-
Adriatic plant *Festuca bosniaca* Kumm. et Sendtn. (Poaceae)**

Agriculture, Forestry and Landscape Architecture, Hall 2

Monday, June 27th, 2022.

Chairs of the section: Stanković, N., Petrov, Đ.

Introductory Lectures

11.00-11.15

Petrov, Dj., Ocokoljić, M.
Petrov, Dj., Department of Landscape Architecture and Horticulture, Faculty of Forestry,
University of Belgrade, Belgrade, Serbia

***Picea abies* (L.) H. Karst. morphological characteristics variability in the
climate change conditions on Čemernik mountain**

Oral Presentations

11.15-11.25

Bobinac, M., Andrašev, S., Šušić, N., Kabiljo, M.
Bobinac, M., University of Belgrade, Faculty of Forestry, Belgrade, Serbia
***Growth characteristics of sessile oak (*Quercus petraeae* (Matt.) Liebl.,
Fagaceae) young crop in conditions of small size regeneration areas***

11.25-11.35

Bobinac, M., Andrašev, S., Šušić, N., Radaković, N., Maksimović, M.
Bobinac, M., University of Belgrade, Faculty of Forestry, Belgrade, Serbia
***The distribution of Tree-of-Heaven (*Ailanthus altissima* (Mill.) Swingle,
Simaroubaceae) in the Area of "Đerdap National Park"***

Genetics, Selection and Biotechnology, Zoology, Hall 2

Monday, June 27th, 2022.

Chairs of the section: Stanković, N., Petrov, Đ.

Oral Presentations

11.35-11.45

Biar, A.K.G., Dođru, B., Mesloub, I., Yurdugül, S.
Yurdugül, S., Bolu Abant İzzet Baysal University, Department of Biology, 14030, Bolu,
Turkey
***Determination of various enzymatic activities of *Saccharomyces cerevisiae*
grown in Yeast-Potato Dextrose medium supplemented with Oak (*Quercus
robur*) leave debris***

11.45-11.55

Marković, G., Brković, D., Đelić, G.

Marković, G., Faculty of Agronomy, University of Kragujevac, Čačak, Serbia
Plant material in chub (*Squalius cephalus* L., Cyprinidae) diet

11.55-12.05

Ćirković, G., Ajtić, R.

Ćirković, G., Department of Biology and Ecology, Faculty of Science, University of Kragujevac, Kragujevac, Serbia

Preliminary investigation of tadpoles diet of species *Rana temporaria*, *Rana dalmatina*, *Bufo bufo* and *Bufo viridis* from different localities in Serbia and determination of presence of microplastics

Poster Session 1:

Taxonomy and Systematics

Phytogeography, Floristics and Phytoecology

Nature Protection

15.00-16.30

Monday, June 27th, 2022.

1

Xhulaj, S.

Various records of lichens from southeastern Albania

2

Šovran, S., Mašić, E.

Diversity of freshwater red algae (Rhodophyta) in Bosnia and Herzegovina

3

Pašanbegović, A., Zildžić, A., Zimić, A., Mašić, E.

First records of freshwater epizoic cyanobacteria and algae on two turtles *Trachemis scripta* Thunberg and Schoepff, 1792 (Reptilia, Emydidae) and *Emys orbicularis* Linnaeus, 1758 (Reptilia, Emydidae) identified in selected artificial ponds from Bosnia and Herzegovina

4

Markanović, N., Pašanbegović, A., Zildžić, A., Mašić, E.

Diversity and ecological properties of epiphytic algae identified from selected macroalgae and aquatic macrophytes in Bosnia and Herzegovina

5

Stoyanov, K., Raycheva, T.

A study on the chorology of the genus *Iris* L. (Iridaceae Juss.) from Bulgaria

6

Janković, S., Novaković, J., Marin, P., Rajčević, N., Alimpić Aradski, A.

Micromorphological traits of four *Clinopodium* taxa from Zlotska gorge, Serbia

7

Nikolić, J., Miljković, M., Zlatković, B., Nikolić, B., Mitić, Z.

Structural changes of needle epicuticular waxes of *Abies cephalonica* in relation to natural weathering

8

Rešetnik, I., Doboš, M., Bogdanović, S., Temunović, M., Ljubičić, I., Mucko, M., Frajman, B.

- 9 ***Cytotype diversity and genome size variation in Festuca varia complex (Poaceae) in south-eastern Europe***
Bancheva, S., Petrova, A.
- 10 ***Citizen participation in the enrichment and maintenance of the collections of the Botanical Garden of BAS***
Apostolova-Kuzova, E., Stoyanov, K., Raycheva, T., Naimov, S.
- 11 ***A comparative assessment of ISSR markers for molecular diversity of subgenus Limmiris (Tausch) Spach (Iridaceae Juss.) in Bulgaria***
Filis, E., Konstantinou, M., Fotiadis, G., Kyrkas, D., Mantzos, N.
- 12 ***Contribution to the knowledge of serpentine flora of Northern Pindus in Greece***
Raca, I., Jovanović, M., Bogdanović, A., Marković, M., Nešić, M., Zlatković, B., Randelović, V.
- 13 ***Herbarium Moesiacum Niš (HMN) – State of the Art***
Jovanović, M., Lakušić, D., Gussev, C., Lazarević, P., Zlatković, B.
- 14 ***Morphological study of the rosette leaves of Sempervivum ciliosum and S. ruthenicum complexes from the Balkan Peninsula***
Bursać, S., Karanović, D., Zorić, L., Zlatković, B., Luković, J.
- 15 ***Floral morphometry and microcharacters in Inula, Dittrichia, Limbarda and Pulicaria (Inuleae, Compositae) and their taxonomic implications***
Djordjević, V., Kabaš, E., Pantović, Ž., Milovanović, A., Novaković, J., Lazarević, P.
- 16 ***Orchids of Mt. Zlatibor (western Serbia): distribution and ecological preferences***
Lazarević, P., Djordjević, V., Stanković, V., Kabaš, E.
- 17 ***Monitoring of allochthonous and invasive plant species in the Zlatibor Nature Park (western Serbia)***
Miličević, T.
- 18 ***Incidence of phytopathogenic fungi on endemic plants in Croatia – general overview***
Jasprica, N.
- 19 ***Monitoring of the Trifolio-Brachipodietum rupestris Hodak 1975 association in South Croatia***
Kunev, G., Lakovski, K.
- 20 ***On the occurrence of Anogramma leptophylla in Bulgaria***
Negrea, B.-M., Stoilov-Linu, V.
- Comparative study of the anthropogenic impact on the spread of non-native invasive species Impatiens balsamina L. and Reynoutria japonica Houtt.***

in the upper basin of the Bistrita and Bistricioara rivers, in the Eastern Carpathians, Romania

- 21 Purger, D., Filep, R., Balázs, V. L., Kocsis, M., Farkas, Á.
A noxious weed vs. useful honey plant: nectar production of common milkweed (*Asclepias syriaca* L.) depending on environmental conditions
- 22 Buzurović, U., Milivojević, L., Niketić, M., Đurović, S., Tomović, G.
Morphological variability of *Armeria* species from Serbia and Bulgaria
- 23 Obradov, D., Perić, R., Anačkov, G.
Polygonum graminifolium in Serbian flora – distribution and new data
- 24 Šabanović, E., Djordjević, V., Jenačković Gocić, D., Ilić, B., Zelenika, D., Randelović, V.
Himantoglossum robertianum (Orchidaceae), a confirmed species in the flora of Bosnia and Herzegovina
- 25 Sekulić, D., Karadžić, B., Kuzmanović, N., Jarić, S., Mitrović, M., Pavlović, P.
Phytosociological analysis of stands dominated by *Carpinus orientalis* in gorges and canyons of Eastern Serbia
- 26 Trakić, S., Proha, E., Bakić, V., Đug, S.
Flora and vegetation on dolomite island of special conservation interest for Bosnia and Herzegovina
- 27 Rat, M., Radak, B., Tmušić, G., Peškanov, J., Bokić, B., Anačkov, G.
Flora of Petrovaradin fortress
- 28 Milovanović, A., Vukov, D., Igić, R., Ćuk, M., Ilić, M.
Bryophyte flora of cemeteries in Novi Sad (Serbia)
- 29 Zlatković, I., Jenačković Gocić, D., Bogdanović, S., Randelović, V.
Brometum comutati – a new halophytic plant association in South Serbia
- 30 Jenačković Gocić, D., Zlatković, I., Nikolić, D., Jovanović, M., Randelović, V.
Vegetation of the seasonally flooded habitats near the village of Levosoje (South Serbia)
- 31 Jovanović, M., Savić-Zdravković, D., Ilić, M., Nikolić, M.
Preliminary taxonomic study of vascular flora of Natural Monument “Lisine”
- 32 Radak, B.
The first report of orchids in North Banat (Vojvodina, Serbia)
- 33 Škondrić, S., Pucar, I., Legoš, T.
Contribution to the vascular flora of Ljubić Mt. (Republic of Srpska, B&H)
- 34 Jušković, M., Jovanović, M., Stojanović, J., Zlatković, B., Randelović, V.

Comparative anatomical study of stems and leaves of endemic *Euphorbia L.* species from Serbia

35

Vukotić, D., Jenačković Gocić, D., Ilić, D., Nikolić, D., Randelović, V.

Macrophytic vegetation of the Pusta river

36

Potkonjak, S., Stupar, V.

Habitat diversity of serpentine area “Protected habitat Gostilj” in the Republic of Srpska (Bosnia and Herzegovina)

37

Bokić, B., Obradov, D., Peškanov, J., Radak, B., Rat, M., Anačkov, G.

Diversity of the genus *Plantago L.* in herbarium BUNS

38

Stamenković, M., Jušković, M., Nedeljković, D., Stojiljković, B., Raca, I., Randelović, V.

***Hypecoum pseudograndiflorum* Petrović (Papaveraceae), critically endangered plant species in the flora of Serbia – state of population, phytocoenological compliance and protection measures**

39

Škondrić, S., Dmitrović, D., Šukalo, G., Miličić, D.

Two species new for Ramsar site “Bardača Wetland” (Western Balkans) share the same habitat

40

Nedeljković, D., Stojiljković, B., Jović, D.

Flora of Golina and Turjačka glama

41

Karaman, M., Čapelja, E., Rakić, M., Baluban, S., Marković, M., Jovanović, I.

Biodiversity of fungal species from Tara Mountain

Poster Session 2:

Agriculture, Forestry and Landscape Architecture

Genetics, Selection and Biotechnology

Zoology

Ecology and Environmental Protection

17.00-18.30

Monday, June 27th, 2022.

1

Zorić, L., Živanov, D., Karagić, Đ., Milić, D., Katanski, S., Karanović, D., Luković, J.

Stem anatomy related to lodging resistance of *Vicia* species

2

Kanjevac, M., Bojović, B., Jakovljević, D.

Seed priming mediated germination improvement physiological performance of radish (*Raphanus sativus L.*) seedlings

3

Janošević, D., Vojisavljević, K., Pećinar, I., Mitrović, A.

- 4 ***Populus x euramericana* tension wood as a model for selection of microscopic methods for rapid screening of cell wall structure in the analysis of plant stem properties**
- Bartolić, D., Prokopijević, M., Stanković, M., Radotić, K.
- 5 ***Characterization of Mung bean (Vigna radiata L.) seeds: antioxidant activity, chlorophyll and carotenoid content***
- Bojčić, S., Tmušić, G., Samardžić, N., Popov, M., Konstantinović, B., Anačkov, G.
- 6 ***Novel approach to control and suppress invasive weeds in the urban area of Novi Sad***
- Nagl, N., Kuzmanović, B., Zanetti, F., Vollmann, J., Marjanović Jeromela, A.
- 7 ***Genetic variation and relationship of spring Camelina accessions of different origin***
- Žugić Petrović, T., Mladenović, K., Grujović, M., Kolašinac, S., Orović, D.
- 8 ***Organic sunflower honey from the area of Banat (northeastern Serbia) - physicochemical and microbiological characterizations***
- Ćuković, K., Bogdanović, M., Simonović, A., Todorović, S.
- 9 ***An efficient Agrobacterium tumefaciens - mediated genetic transformation method for Centaurium erythraea via secondary somatic embryogenesis***
- Stojičić, D., Tošić, S., Zlatković, B., Blagojević, S., Manić, B., Budimir, S., Uzelac, B.
- 10 ***Micropropagation of Clinopodium thymifolium (Scop.) Kuntze (Lamiaceae)***
- Krstić, T., Lozo, J., Stanković, S., Berić, T., Joković, N.
- 11 ***Rhizosphere of sugar beet as a source of bacteria with plant growth-promoting and biocontrol properties***
- Krstić, T., Novaković, M., Pešić, S., Žabar Popović, A., Joković, N., Vitorović, J.
- 12 ***In-vitro antioxidant and anti-inflammatory activities of CBD hemp seed oil***
- Pavlović, M., Joković, N., Nešić, M., Tošić, S.
- 13 ***Phytotoxic effect of aluminium on the early vegetation period of Cucumis melo L.***
- Ćirić, E., Stojanović, D., Pavlović, M.
- 14 ***Effect of potassium on salinity tolerance in Solanum lycopersicum L. seedlings***
- Savić, A., Dmitrović, D., Đorđević, M., Pešić, V.
- 15 ***The use of macroinvertebrate to characterize some ecosystem attributes in springs of southeastern Serbia***
- Milićević, A., Jakovljević, O., Popović, S., Krizmanić, J.
- Influence of small hydro power plant on diatom community and water quality of the Ljuboviđa River (Serbia)***

- 16 Andrejić, G., Kovačević, M., Aleksić, U., Dželetović, Ž., Rakić, T.
Effects of NPK fertilization on absorption of Pb in Miscanthus × giganteus grown on flotation tailings
- 17 Dorđević, B., Troter, D., Todorović, Z., Veljković, V.
Lecithine-based deep eutectic solvent in CaO-catalyzed ethanolysis of black mustard (Brassica nigra L.) seed oil
- 18 Jovanović, Ž., Marin, M., Radović, S.
Nickel (Ni) accumulation in the cells of Alyssum markgrafii - ultrastructural changes
- 19 Aleksić, U., Lazarević, M., Jakovljević, K., Andrejić, G., Lazarević, P., Tomović, G.
Metal accumulation in selected Scleranthus species (Caryophyllaceae) from different types of geological substrates in Serbia
- 20 Petronijević, T., Stanković, N., Milovanović, A., Milošević, Dj., Mihajilov-Krstev, T.
Influence of Microcystin-LR on two phytoplankton species (Nostoc sp. and Coelastrum sp.)
- 21 Mandić Bulić, T., Landeka, N., Sladonja, B., Poljuha, D., Cvek, M., Uzelac, M., Sudarić Bogojević, M., Grgat, T.
Early detection and eradication of Takahashia japonica Cockerell in the city of Pula
- 22 Bakić, V., Trakić, S., Muratović, E., Đug, S.
Pollen of allergenic plants in honey samples from Bosnia and Herzegovina
- 23 Todorović, M., Stanković, M., Kanjevac, M., Bojović, B., Zlatić, N.
Effect of different salts on the germination dynamics of Salvia officinalis L. seeds
- 24 Novaković, J., Jovanović, B., Jovičić, I., Janačković, P.
Detection of flowering plants in winter as a biological indicator of climate change
- 25 Ćirić, M., Gavrilović, B., Krizmanić, J., Dojčinović, B., Vidaković, D.
Diatom community on natural and artificial substrates in soda pans in early spring
- 26 Stamenković, O., Buzhdygan, O., Milošević, Dj., Čerba, D., Cvijanović, D., Stojković Piperac, M.
Drivers of epiphytic macroinvertebrate diversity along human pressure gradient in ponds
- 27 Tričković, D., Mitić, T., Savić, A.
Composition and structure of macroinvertebrate communities in two spring ecosystems in Southeastern Serbia

28

Nikolić, D., Jušković, M., Savić, A., Jenačković Gocić, D., Raca, I., Randelović, V.
The impact of invasive species *Elodea nuttallii* (Planch.) H. St. John on morphological characteristics of *Potamogeton gramineus* L.

29

Cvijanović, D., Novković, M., Milošević, Dj., Stojković Piperac, M., Čerba, D., Stamenković, O., Damnjanović, B., Đurić, B., Popović, D., Anđelković, A., Minucsér, M., Pavić, D., Cyffka, B., Drešković, N., Radulović, S.
Assessment of wetlands trophic state using UAV photogrammetry (The Middle Danube, Serbia)

Phytochemistry and Phytotherapy, Hall 1

Tuesday, June 28th, 2022.

Chairs of the section: Radulović, N., Malenčić, Đ.

Introductory Lectures

09.00-09.15

Radulović, N., Živković Stošić, M.

Radulović, N., Department of Chemistry, Faculty of Sciences and Mathematics, University of Niš, Niš, Serbia

Primula L. epicuticular waxes - an underexplored source of chemically diverse metabolites

09.15-09.30

Uzelac, B., Budimir, S., Stojičić, D.

Uzelac, B., Department of Plant Physiology, Institute for Biological Research "Siniša Stanković" - National Institute of the Republic of Serbia, University of Belgrade, Belgrade, Serbia

Insight into the structure and chemistry of glandular trichomes of selected *Micromeria* and closely related *Clinopodium* species (Lamiaceae): the in vitro culture approach

Oral Presentations

09.30-09.40

Sirignano, C., Rigano, D., Formisano, C., Bancheva, S., Bruno, M.

Sirignano, C., Department of Pharmacy, University of Naples "Federico II", Naples, Italy
Phytochemical study on *Centaurea* species collected in Balkan peninsula

09.40-09.50

Badalamenti, N., Bruno, M.

Badalamenti, N., Department of Biological, Chemical and Pharmaceutical Sciences and Technologies (STEBICEF), University of Palermo, Palermo (PA), Italy

Essential oils as green pesticides

09.50-10.00

Akhlaghi, H., Department of Chemistry, Azad University, Sabzevar Branch, Sabzevar, Iran
Green synthesis of iron nanoparticles using *Mentha piperita* L. extract and investigating its antioxidant properties

10.00-10.10

Yildiz, S., Yurdugül, S.

Yurdugül, S., Department of Biology, Bolu Abant İzzet BAYSAL University, Bolu, Türkiye
Production of a skin cream combined with *Pinus sylvestris*, olive oil, coenzyme Q and milled rice and its characterization

10.10-10.20

Zlatković, D., Đorđević Zlatković, M., Radulović, N.

Zlatković, D., Department of Chemistry, Faculty of Sciences and Mathematics, University of Niš, Niš, Serbia
On the configuration and occurrence of cyclocuparanols: resolving a lasting discrepancy

10.20-10.30

Živković Stošić, M., Stojković, M., Radulović, N.

Živković Stošić, M., Department of Chemistry, Faculty of Sciences and Mathematics, University of Niš, Niš, Serbia
Chemical composition of epicuticular waxes of *Liriodendron tulipifera* L. flowers and leaves

Nature Protection, Hall 2

Tuesday, June 28th, 2022.

Chairs of the section: Stojanović, V., Nedeljković, D., Škondrić, S.

Introductory Lectures

09.00-09.15

Stojanović, V., Bjedov, I., Jovanović, I., Jelić, I., Obratov-Petković, D., Nešić, M., Nedeljković, D.

Stojanović, V., Institute for Nature Conservation of Serbia, Novi Beograd
Invasive alien species in Serbia

Oral Presentations

09.15-09.25

Stanković, M., Nature Conservation Movement of Sremska Mitrovica - SNR Zasavica, Sremska Mitrovica

Findings of allochthonous aquatic species *Cabomba caroliniana* A. Gray 1837 in Vojvodina and Mačva

09.25-09.35

Stanković, M., Nature Conservation Movement of Sremska Mitrovica - SNR Zasavica, Sremska Mitrovica

New species in Zasavica flora in the period 2013-2021

09.35-09.45

Petković, A., Jović, D., Nešić, D., Stojiljković, B., Stojković, Z., Ostojić, D., Branković, S., Medenica, I.

Petković, A., Institute for Nature Conservation of Serbia, Belgrade
Special natural values and the concept of the outstanding natural landscape "Vardenik" protection

09.45-09.55

Durović, S., Đorđević, V., Vukojičić, S.

Durović, S., University of Niš, Faculty of Agriculture, Kruševac, Serbia

Herbarium as a source of information on protected plant species: specimens of plant taxa included in CITES distributed in Serbia deposited in BEOU

09.55-10.05

Durović, S., Buzurović, U., Veljić, M., Vukojičić, S., Kabaš, E., Lazarević, P.

Durović, S., University of Niš, Faculty of Agriculture, Kruševac, Serbia

Contribution to the inventory of protected plant species in Nature Park Radan

Poster Session 3a:

Phytochemistry and Phytotherapy

11.30-13.00

Tuesday, June 28th, 2022.

1

Kiprovski, B., Malenčić, Đ., Ognjanov, V., Veberič, R., Hudina, M., Mikulič-Petkovšek, M.

Sugars and organic acids content in unripe and ripe fruits of Sambucus nigra

2

Kiprovski, B., Malenčić, Đ., Ljubojević, M., Ognjanov, V., Veberič, R., Mikulič-Petkovšek, M.

Total and individual phenolics in wild and cultivated elderberry during development

3

Đorđević, N., Mančić, S., Karabegović, I., Stanojević, J., Cvetković, D., Danilović, B., Savić, D.

Effect of the extraction method on chemical composition and biological activity of basil essential oils (Ocimum basilicum L.)

4

Boskov, I., Savić Gajić, I., Savić, I.

Mineral composition of aqueous extract of black locust (Robinia pseudoacacia L.) flowers obtained using microwave-assisted extraction

5

Srećković, N., Katanić Stanković, J., Mihailović, V., Matić, S.

Do Lysimachia vulgaris methanol extracts have a DNA protective potential against oxidative damage?

6

Srećković, N., Katanić Stanković, J., Mihailović, V., Matić, S.

In vitro protective potential of the Lunaria annua L. aerial part and root extracts against DNA oxidative damage

7

Bogdanović, S., Zlatković, I., Randjelović, D.

Antimicrobial activity of oak moss resinoids (Evernia prunastri) on certain clinical isolates

8

Badalamenti, N., Bruno, M.

- Chemical compositions and antioxidant activities of essential oils, and their combinations, obtained from flavedo by-product of seven cultivars of Sicilian *Citrus aurantium* L.**
- 9 Simonović, N., Milenković, A., Stanojević, Lj., Zvezdanović, J., Cvetković, D., Stanojević, J.
Chemical composition of commercial and isolated essential oils from *Tagetes* spp. (marigold) flowers
- 10 Milenković, A., Simonović, N., Zvezdanović, J., Stanojević, J., Cvetković, D., Stanojević, Lj.
The influence of the operation conditions on the yield, composition and antioxidant activity of ethanol extracts from cubeb pepper (*Piper cubeba* L.) fructus
- 11 Kitić, D., Ranđelović, M., Živanović, S., Miladinović, B., Milutinović, M., Branković, S., Kitić, N., Jovanović, M., Zlatković, B.
Flavones content in *Salvia aethiopsis* L. ethanolic extracts
- 12 Dončić, S., Zvezdanović, J., Troter, D., Konstantinović, S.
UHPLC-DAD-ESI-MS analysis of the *Malus sylvestris* (wild apple) leaf infusion
- 13 Nikolić, V., Zvezdanović, J., Petrović, S., Savić, S., Konstantinović, S.
Chemical and mineral composition of *Centaurium erythraea* infusion
- 14 Mitić, Z., Cvetković, V., Nikolić, J., Jovanović, S., Stojanović-Radić, Z., Ickovski, J., Nikolić, B., Zlatković, B., Stojanović, G.
Chemical profile, antimicrobial properties and toxicological evaluation of the essential oil of *Abies cephalonica* from Peloponnesus
- 15 Mladenović Drinić, S., Dragičević, V., Srdić, J., Anđelković, V., Vukadinović, J.
Variability of phytochemicals in sweet corn (*Zea mays* L. *saccharata*) from Serbia
- 16 Radović, J., Kundaković-Vasović, T.
Lipids in tinder fungus, *Fomes fometarius* (L.) Fr., Polyporaceae
- 17 Lazarević, J., Ilić, K., Zlatković, B., Zvezdanović, J.
Lipid peroxidation study of simple coumarins isolated from *Daphne mezereum* (Oleaceae)
- 18 Lazarević, J., Gocić, V., Đorđević, A., Stojanović, G.
Antimicrobial effects of naturally derived hydroxychalcones
- 19 Ušjak, Lj., Drobac, M., Niketić, M., Petrović, S.
***Heracleum ternatum* from Mt. Durmitor: furanocoumarins, polyphenols and antioxidant activity of leaf and flower extracts**
- 20 Pavlović, D., Grigorov, M., Stanojević, Lj., Stanojević, J., Cvetković, D., Milutinović, J.

- Composition comparison of thyme and lemon balm hydrolates and essential oils**
- 21 Pavlović, M., Branković, S., Đelić, G.
Content of metals, total phenols, flavonoids and antioxidant potential of plant organs of the species *Sanguisorba minor*
- 22 Zlatanović, I., Dimitrijević, I., Jovanović, S., Ickovski, J., Stojanović, G.
GC-MS profile of herbal mixture used in Balkan peninsula to eliminate the kidney stones
- 23 Radović, J., Kundaković-Vasović, T.
Anti-alpha amylase activity of *Macrolepiota procera* (Scop.: Fr.) Sing.
- 24 Stojković, J., Mitić, Z., Stojanović, G., Zlatković, B., Jovanović, S.
Distribution of inflorescence headspace volatiles in fifteen *Achillea* taxa from Serbia
- 25 Lazarević, J., Brizzolari, A., Zlatković, B.
Phytochemical screening and evaluation of DPPH antioxidant potential of selected *Daphne* (Oleaceae) species from Serbia
- 26 Grigorov, M., Pavlović, D., Kocić, B., Mladenović-Antić, S., Tasić-Kostov, M., Ilić, D., Milutinović, J.
Antimicrobial activity of different hydrolates against selected bacterial strains
- 27 Ickovski, J., Jovanović, O., Zlatković, B., Đorđević, M., Stepić, K., Ljupković, R., Stojanović, G.
Correlation between the essential oils' composition and the geographical distances of selected *Artemisia* species growth sites' - Mantel test
- 28 Matejić, J., Pavlović, D., Jovanović, M., Žarković, L., Džamić, A.
Herbal products used in the Sokobanja municipality
- 29 Žarković, L., Mileski, K., Matejić, J., Rajčević, N., Džamić, A.
Total phenolic and ellagic acid content in *Rosa arvensis* leaves and hips extracts
- 30 Oalđe Pavlović, M., Lunić, T., Mandić, M., Alimpić Aradski, A., Marin, P., Duletić-Laušević, S.†, Božić Nedeljkić, B.
Antineuroinflammatory and neuroprotective activities of ethanolic extracts of commercial Lamiaceae medicinal plants from Serbia
- 32 Džamić, A., Matejić, J., Marković, M., Žarković, L., Mileski, K., Marin, P.
Radical scavenging capacity and total phenolic content of *Ajuga laxmannii* (Murray) Benth.
- 33 Milutinović, M., Kostić, M., Miladinović, B., Krstić, V., Kitić, D.

Herbal medicinal products in hypertension and dyslipidemia therapy: a cross-sectional study among the adults from the Niš region

34

Stojković, J., Stojanović, G., Stojanović-Radić, Z., Zlatković, B., Ickovski, J., Zlatanović, I., Jovanović, S., Mitić, Z.

Achillea pseudopectinata essential oil: chemical composition, antimicrobial activity and toxicity toward crustaceans

35

Mladenović, M., Radulović, N., Stojanović, N.

The essential oil of *Melissa officinalis* L. (Lamiaceae): structural elucidation and acute toxicity of new acetals

36

Mladenović, M., Ristić, M., Radulović, N., Ristić, N., Dekić, V., Dekić, B., Randelović, V.

Diethyl-ether flower washings of four *Dianthus* taxa (Caryophyllaceae): Identification of new natural products

Poster Session 3b:

Phytochemistry and Phytotherapy

13.30-15.00

Tuesday, June 28th, 2022.

1

Stojanović-Radić, Z., Dimitrijević, M., Aleksić, A., Stanković, N.

Antistaphylococcal activity of *Thymus vulgaris* and *Origanum vulgare* essential oils: time-lapse kinetics, antibiofilm activity and synergistic potential

2

Zlatković, D., Đorđević Zlatković, M., Radulović, N.

Chemical investigation of *Microbiota decussata* diethyl-ether extract

3

Đorđević Zlatković, M., Zlatković, D., Radulović, N.

A comparative study on marjoram essential oils from southeastern Serbia and Egypt

4

Đorđević Zlatković, M., Zlatković, D., Radulović, N.

****Scilla bifolia* L. wax is a source of rare alkane-1,3-diols***

5

Stojković, O., Živković Stošić, M., Radulović, N., Dimitrijević, M., Otašević, S., Stojanović-Radić, Z.

Antifungal and anti-biofilm activity of *Thymus serpyllum* essential oil against *Aspergillus otomycosis*

6

Stojković, O., Vasić, T., Dimitrijević, M., Stojanović-Radić, Z.

Antimicrobial, anti-virulence and synergistic potential of *Citrus aurantifolia* essential oil against *Klebsiella* spp. and *Escherichia coli* clinical isolates

- 7
Randelović, M., Zlatković, B., Miladinović, B., Milutinović, M., Živanović, S., Branković, S., Kitić, N., Kitić, D.
Contents of phenolic acids and flavonoids in *Satureja kitaibelii* Wierzb. Ex Heuff. extracts
- 8
Živković Stošić, M., Krstić, M., Radulović, N.
Chemical composition of essential oil of *Malabaila aurea* (Sm.) Boiss fruits
- 9
Nešić, M., Nešić, M., Radulović, N., Randelović, V.
Structure elucidation of new tiglic acid esters from *Bupleurum falcatum* L.
- 10
Nešić, M., Nešić, M., Radulović, N.
Isolation and identification of secondary metabolites from *Bupleurum affine* Sadler
- 11
Marčetić, M., Vidović, B., Samardžić, S., Ilić, T., Božić, D.
Chemical composition and prebiotic effect of the fruit of *Prunus spinosa* L., Rosaceae
- 12
Jovanović, D., Nešić, M., Radulović, N.
Isolation and identification of secondary metabolites from *Acorus calamus* L.
- 13
Dimitrijević, M., Nešić, M., Radulović, N.
Study of the reaction of *p*-cymene with hydrogen peroxide in trifluoroacetic acid and its usage for the identification of *Doronicum columnae* Ten. secondary metabolites
- 14
Radulović, M., Gavrilović, M., Rajčević, N., Janakiev, T., Dimkić, I., Janačković, P.
Essential oil composition of different parts of *Artemisia absinthium* and its antibacterial activity against phytopathogenic bacteria
- 15
Ivanović, S., Gođevac, D., Simić, K., Anđelković, B., Jovanović, Ž., Rakić, T.
NMR metabolomics study of the desiccation and recovery process in the resurrection plants *Ramonda serbica* and *Ramonda nathaliae*
- 16
Stamenković, J., Đorđević, A., Petrović, G.
Chemical profile of *Chaerophyllum temulum* L. headspace volatiles obtained from different plant organs
- 17
Petrović, G., Đorđević, A., Stamenković, J.
Phytochemical analysis of the *Elaeagnus angustifolia* L. flower hexane extract
- 18
Arsenijević, J., Slavkovska, V., Drobac, M., Stojanović, D., Zbiljić, M., Kovačević, N.
Comparison of phenolic profiles of *Satureja kitaibelii* Wierzb. ex Heuff. and *Satureja montana* L. (Lamiaceae)

- 19 Miletić, M., Ivanov, M., Novaković, J., Glamočlija, J., Janačković, P.
Anticandidal activity of Centaurea glaberrima
- 20 Aksić, J., Nikolić, D., Genčić, M., Radulović, N.
Two new abietane diterpenes from Lycopus euroapeus L. fruits
- 21 Aksić, J., Nikolić, D., Genčić, M., Radulović, N., Baldovini, N.
NO-scavenging capacity of Helichrysum italicum essential oils and two italdiones
- 22 Miladinović, B., Kostić, M., Milutinović, M., Živanović, S., Branković, S., Kitić, D.
Antioxidant activity and vitamin C content of different red currant (Ribes rubrum L.) juices
- 23 Novaković, A., Karaman, M., Tomić, J., Krsmanović, N., Peulić, T., Ikonić, P., Stupar, A.
Nutritional and phenolic profile of edible mushroom Armillaria mellea (Vahl) P. Kumm. (1871)
- 24 Milutinović, V., Ušjak, Lj., Niketić, M., Petrović, S.
Chemical composition and antioxidant potential of Teucrium scorodonia L. (Lamiaceae) from Serbia
- 25 Milutinović, V., Ušjak, Lj., Niketić, M., Petrović, S.
Chemosystematic significance of triterpenes from dichloromethane extracts of 28 Hieracium L. species from the Balkan Peninsula
- 26 Zbiljić, M., Stojanović, D., Marčetić, M.
The new data on the variability of essential oil of Teucrium montanum L. from Balkan Peninsula
- 27 Dimitrijević, M., Stojanović-Radić, Z., Stevanović, M., Nešić, M., Radulović, N.
Antimicrobial activity and chemical composition of Helichrysum italicum essential oil on isolates of the Staphylococcus aureus and isolates of the genus Candida: time-lapse kinetics and antibiofilm activity
- 28 Dimitrijević, M., Stojanović-Radić, Z., Pejčić, M., Nešić, M., Radulović, N.
Antimicrobial and synergistic effects and chemical composition of the selected essential oils on clinical isolates of the genus Candida
- 29 Pejčić, M., Stojanović-Radić, Z., Dimitrijević, M.
Time lapse kinetics of sage and winter savory essential oils and combined oils effects against Pseudomonas aeruginosa clinical isolates
- 30 Gulin, S., Vujčić Bok, V., Rusak, G., Šola, I.
Intestinal bioavailability of total glucosinolates and phenolics from broccoli sprouts: Impact of high growing temperature
- 31 Veličković, I., Simin, N., Bekvalac, K., Marin, P., Lakićević, S., Grujić, S.

- Chemical composition and antidiabetic properties of Rubus serpens extracts***
32 Grujić, S., Veličković, I., Lakićević, S.
Rubus praecox - Antioxidant activity of ethanol extracts
- 33 Branković, S., Glišić, R., Đelić, G., Grbović, F., Rajičić, V., Marin, M., Vasić, M.,
Bogosavljević, J.
Metal bioaccumulation and translocation potential of species Phragmites australis (Cav.) Trin. ex Steud on mine tailings rudnik DOO "Rudnik" (Republic of Serbia)
- 34 Madić, V., Petrović, A., Žabar Popović, A., Maksimović, B., Jušković, M., Vasiljević, P.
Biological activity of 'anti-diabetic' herbal mixture and five medicinal plants methanolic and ethanolic extracts
- 35 Maksimović, B., Petrović, A., Madić, V., Mladenović, N., Zlatković, B., Vasiljević, P.,
Đorđević, Lj.
Traditionally used polyherbal mixture ameliorates diabetes-related spleen damage in a rat model of type 2 diabetes
- 36 Petrović, A., Madić, V., Mladenović, N., Stojković, K., Zlatković, B., Vasiljević, P., Đorđević,
Lj.
Antioxidative, antidiabetic and cytoprotective activity of two polyherbal mixtures and five medical plants traditionally used in type 2 diabetes therapy

Total and individual phenolics in wild and cultivated elderberry during development

**Kiprovski, B.¹, Malenčić, Đ.², Ljubojević, M.², Ognjanov, V.²,
Veberič, R.³, Mikulič-Petkovšek, M.³**

¹Institute of Field and Vegetable Crops, Maksima Gorkog 30, 21000 Novi Sad, Serbia

²University of Novi Sad, Faculty of Agriculture, Trg Dositeja Obradovića 8, 21000 Novi Sad, Serbia

³University of Ljubljana, Biotechnical Faculty, Department of Agronomy, Jamnikarjeva 101, 1000 Ljubljana, Slovenia

* *malencic@polj.uns.ac.rs*

Compounds which add to bioactivity of elderberry (*Sambucus nigra* L.) are mostly phenolic compounds. One wild edible and two cultivated genotypes ('Haschberg' and 'Ljubostinja' selections) have been chosen. Leaves and fruits were collected in four stages (April-September). Total phenolics (TP) content was determined from MeOH extracts by Folin-Ciocalteu method while determination of individual compounds was performed using HPLC-DAD-ESI-MSn analysis with a DAD at 280, 350 and 530 nm. TP content in leaves varied through developmental stages, being higher in II and III stage. Leaves and fruits (both unripe and ripe) of 'Ljubostinja' plants had higher content of TP compared to wild ripe fruits (1.5-fold). Leaves had caffeic acid derivatives (0.3-0.7% in wild, 0.2-0.3% in 'Haschberg' and 0.4-0.6% in 'Ljubostinja' in dry weigh) and caffeoylquinic acid derivatives, while fruits had more caffeoylquinic acid derivatives, particularly unripe fruits. The major phenolic acid present in leaves, especially during the II stage of development, was chlorogenic acid (approx. 4% dw) and the same was recorded in fruits (0.03% dw in unripe fruits of wild plants). Content of phenolic acids decreased during ripening of elderberry fruits and the similar was detected in the leaves.

- Kabiljo, M., 196
 Kanjevac, M., 86, 200
 Karabegović, I., 128
 Karadžić, B., 58
 Karagić, Đ., 199
 Karaman, M., 105, 178
 Karanović, D., 31, 199
 Katanić Stanković, J., 130
 Katanski, S., 199
 Kiproovski, B., 126, 127
 Kitić, D., 135, 155, 164, 176
 Kitić, N., 135, 164
 Kocić, B., 149
 Kocsis, M., 54
 Kolašinac, S., 111
 Koljanin, D., 38
 Konstantinou, M., 28
 Konstantinović, B., 203
 Konstantinović, S., 136, 137
 Kostadinovski, M., 37
 Kostić, M., 155, 176
 Kovačević, M., 80
 Kovačević, N., 174
 Krizmanić, J., 79, 88
 Krsmanović, N., 178
 Krstić, M., 165
 Krstić, T., 114
 Krstić, V., 155
 Kundaković-Vasović, T., 140, 146
 Kunev, G., 53
 Kuzmanović, B., 110
 Kuzmanović, N., 35, 42, 58
 Kyrkas, D., 28
 Lakićević, S., 186, 187
 Lakovski, K., 53
 Lakušić, D., 1, 30, 35, 42, 44
 Landeka, N., 85
 Lazarević, J., 141, 142, 148
 Lazarević, M., 12, 83
 Lazarević, P., 30, 50, 51, 83, 101
 Legoš, T., 65
 Ljubičić, I., 10, 25, 76
 Ljubojević, M., 127
 Ljupković, R., 150
 Lőkös, L., 36
 Lozo, J., 114
 Luković, J., 31, 199
 Lunić, T., 153
 Madić, V., 189, 190, 191
 Maksimović, B., 189, 190
 Maksimović, M., 197
 Malenčić, Đ., 126, 127
 Mančić, S., 128
 Mandić Bulić, T., 85
 Mandić, M., 153
 Mandžukovski, D., 37
 Manić, B., 113
 Mantzos, N., 28
 Marčetić, M., 167, 179
 Marin, M., 82, 188
 Marin, P., 23, 153, 154, 186
 Marjanović Jeromela, A., 110
 Markanović, N., 22
 Marković, A., 43
 Marković, G., 207
 Marković, M., 29, 105, 154
 Marković, T., 17
 Mašić, E., 20, 21, 22
 Matejić, J., 151, 152, 154
 Matevski, V., 37
 Matić, S., 130
 Medenica, I., 99
 Menković, N., 39
 Mesloub, I., 109
 Mihailović, V., 130
 Mihajilov-Krstev, T., 84
 Mikulič-Petkovšek, M., 126, 127
 Miladinović, B., 135, 155, 164, 176
 Milanovici, S., 5
 Milanović, Đ., 38, 49
 Milenković, A., 133, 134
 Mileski, K., 152, 154
 Miletić, M., 175
 Milić, D., 199

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