

PERSONAL INFORMATION

Name and surname	Sanja Matić
Date and place of birth	1981, Kragujevac
Scientific title	Senior research associate
E-mail	sanjamatic@kg.ac.rs sanjamatic@uni.kg.ac.rs
Educational-scientific / educational-artistic field	Natural and mathematical sciences; Biological sciences
University, Faculty, Organizational unit	University of Kragujevac, Institute for Informational Technologies, Department of natural and mathematical sciences
Research field and areas	Biology; Genetics and Evolution

EDUCATION

BACHELOR

Year	2000 – 2006. M. Sc. Degree in biology
Place	Kragujevac
Institution	Faculty of Science, University of Kragujevac

MASTER STUDIES

Year	/
Place	/
Institution	/

DOCTORAL DISSERTATION

Year	2014.
Place	Kragujevac
Institution	Faculty of Science, University of Kragujevac
Title of doctoral	"The effect of the methanolic extract of the plant <i>Cotinus</i>

dissertation	<i>coggygia</i> Scop. on the function of the genetic material of various experimental model organisms"
Scientific title	Senior research associate
Research area	Biology

PROFESSIONAL BIOGRAPHY – ELECTION IN RESEARCH OR SCIENTIFIC TITLE

Date	Institution	Scientific title
2009.	junior research assistant	Faculty of Science, University of Kragujevac
2011.	research assistant	Faculty of Science, University of Kragujevac
2015.	research associate	Faculty of Science, University of Kragujevac
2020.	senior research associate	Faculty of Science, University of Kragujevac

PROFESSIONAL BIOGRAPHY - TRAINING

Year	Institution	Duration

ENGAGEMENT IN THE FORMATION OF SCIENTIFIC PERSONNEL

She implemented her many years of experience in scientific and research work in the teaching process and made a significant contribution to teaching work and the formation of scientific personnel. At the Institute of Biology and Ecology of the Faculty of Science, University of Kragujevac, she made a significant contribution to her pedagogical work. She participated in practical teaching in several subjects within the narrow scientific field of Genetics and Evolution: Evolutionary Biology: for the first year of Undergraduate study for biology and ecology students and for the fourth year of Undergraduate study for biology and ecology students; and

Genetics: for students of the third year of Undergraduate study in Biology. She designed the practical exercises independently and thereby contributed to the quality of teaching in the mentioned subjects.

She participated in the realization of preparatory classes for taking the entrance exam for future students of the Basic Academic Studies of Biology and Ecology at the Institute of Biology and Ecology for the field of Evolutionary Biology.

PARTICIPATION IN NATIONAL PROJECTS FINANCED BY MINISTRY OF EDUCATION/MINISTRY OF SCIENCE AND TECHNOLOGICAL DEVELOPMENT/SCIENCE FUND OF THE REPUBLIC OF SERBIA:

From February 2008 to January 2011, as a scholarship holder of the Ministry of Science and Technological Development of the Republic of Serbia: "Study of Genetic Risk Factors in Reproductive and Developmental Biology", registration number 143008. Since 2011, on the project of the Ministry of Education, Science and Technological Development of the Republic of Serbia: "Simultaneous bioremediation and soilification of degraded areas, for the preservation of natural resources of biologically active substances and the development and production of biomaterials and dietary products", registration number III43004.

PARTICIPATION IN INTERNATIONAL PROJECTS

The project of bilateral scientific and technological cooperation between the Republic of Austria and the Republic of Serbia, from 2022: "Plant metabolomics based investigations of herbal medicines for prevention and treatment of endometriosis" (337-00-577/2021-09

MEMBERSHIP IN SCIENTIFIC AND PROFESSIONAL ASSOCIATIONS

Member of the Society of Geneticists of Serbia and the Ecological Movement of the City of Kragujevac. A member of the Editorial Board of

the *Kragujevac Journal of Science* published by the Faculty of Science University of Kragujevac.

ORGANIZATION OF NATIONAL/INTERNATIONAL SCIENTIFIC MEETINGS (CONFERENCES, CONGRESSES...)

She was in the organizing committee of the 1st International Conference on Chemo and BioInformatics (ICCBIG) on October 26 and 27, 2021 in Kragujevac, organized by the Institute for Information Technologies University of Kragujevac.

LIST OF SCIENTIFIC PAPERS:

Monographs, anthologies	Monographic studies, Thematic	Sum
Papers published in scientific journals of international scientific importance		Sum 39
M21a		
1. Milan Mladenović, <u>Sanja Matić</u> , Snežana Stanić, Slavica Solujić, Vladimir Mihailović, Nevena Stanković, Jelena Katanić, Combining molecular docking and 3-D pharmacophore generation to enclose the <i>in vivo</i> antigenotoxic activity of naturally occurring aromatic compounds: myricetin, quercetin, rutin, and rosmarinic acid, <i>Biochemical Pharmacology</i> , (2013), vol. 86, str. 1376–1396. DOI: 10.1016/j.bcp.2013.08.018 ISSN: 0006-2952 IF ₂₀₁₃ = 4.650		
2. Vladimir Mihailović, Danijela Mišić, <u>Sanja Matić</u> , Mirjana Mihailović, Snežana Stanić, Miroslav Vrvić, Jelena Katanić, Milan Mladenović, Nevena Stanković, Tatjana Boroja, Milan Stanković, Comparative phytochemical analysis of <i>Gentiana cruciata</i> L. roots and aerial parts, and their biological activities, <i>Industrial Crops and</i>		

Products, (2015), vol. 73, str. 49–62.

DOI: 10.1016/j.indcrop.2015.04.013

ISSN: 0926-6690

IF₂₀₁₅ = 3.449

3. Jelena Katanić, Vladimir Mihailović, Sanja Matić, Vesna Stanković, Nevena Stanković, Tatjana Boroja, Milan Mladenović, Snežana Stanić, Samo Kreft, Mirjana Mihailović, The ameliorating effect of *Filipendula hexapetala* extracts on hepatorenal toxicity of cisplatin, *Journal of Functional Foods*, (2015), vol. 18, str. 198–212.

DOI: 10.1016/j.jff.2015.07.004

ISSN: 1756-4646

IF₂₀₁₅ = 3.973

4. Milan Mladenović, Nevena Stanković, Sanja Matić, Snežana Stanić, Mirjana Mihailović, Vladimir Mihailović, Jelena Katanić, Tatjana Boroja, Nenad Vuković, Newly discovered chroman-2,4-diones neutralize the *in vivo* DNA damage induced by alkylation through the inhibition of Topoisomerase II α : A story behind the molecular modeling approach, *Biochemical Pharmacology*, (2015), vol. 98, str. 243–266.

DOI: 10.1016/j.bcp.2015.08.106

ISSN: 0006-2952

IF₂₀₁₅ = 5.091

5. Sanja Matić, Jelena Katanić, Snežana Stanić, Milan Mladenović, Nevena Stanković, Vladimir Mihailović, Tatjana Boroja, *In vitro* and *in vivo* assessment of the genotoxicity and antigenotoxicity of the *Filipendula hexapetala* and *Filipendula ulmaria* methanol extracts, *Journal of Ethnopharmacology*, (2015), vol. 174, str. 287-292.

DOI: 10.1016/j.jep.2015.08.025

ISSN: 0378-8741

IF₂₀₁₅ = 3.055

6. Ramazan Ceylan, Jelena Katanić, Gokhan Zengin, Sanja Matić, Abdurrahman Abdurrahman Aktumsek, Tatjana Boroja, Snežana Stanić, Vladimir Mihailović, Gokalp Ozmen Guler, Mehmet Boga, Mustafa Abdullah Yilmaz, Chemical and biological fingerprints

of two Fabaceae species (*Cytisopsis dorycniifolia* and *Ebenus hirsuta*): Are they novel sources of natural agents for pharmaceutical and food formulations? *Industrial Crops and Products*, (2016), vol. 84, str. 254-262.

DOI: 10.1016/j.indcrop.2016.02.019

ISSN 0926-6690

IF₂₀₁₆ = 3.181

7. Jelena Katanić, Sanja Matić, Eva-Maria Pferschy-Wenzig, Nadine Kretschmer, Tatjana Boroja, Vladimir Mihailović, Vesna Stanković, Nevena Stanković, Milan Mladenović, Snežana Stanić, Mirjana Mihailović, Rudolf Bauer, *Filipendula ulmaria* extracts attenuate cisplatin-induced liver and kidney oxidative stress in rats: *In vivo* investigation and LC-MS analysis, *Food and Chemical Toxicology*, (2017), vol. 99, str. 86-102.

DOI: <http://dx.doi.org/10.1016/j.fct.2016.11.018>

ISSN: 0278-6915

IF₂₀₁₇ = 3.977

8. Gokhan Zengin, Ramazan Ceylan, Jelena Katanić, Adriano Mollica, Abdurrahman Abdurrahman Aktumsek, Tatjana Boroja, Sanja Matić, Vladimir Mihailović, Snežana Stanić, Zaahira Aumeeruddy-Elalfi, Yilmaz Mustafa Abdullah, Mohamad Fawzi Mahomoodally, Combining *in vitro*, *in vivo* and *in silico* approaches to evaluate nutraceutical potentials and chemical fingerprints of *Moltingia aurea* and *Moltingia coerulea*, *Food and Chemical Toxicology*, (2017), vol. 107, str. 540-553.

DOI: <http://dx.doi.org/10.1016/j.fct.2017.04.004>

ISSN: 0278-6915

IF₂₀₁₇=3.977

9. Gokhan Zengin, Ramazan Ceylan, Jelena Katanić, Abdurrahman Abdurrahman Aktumsek, Sanja Matić, Tatjana Boroja, Snežana Stanić, Vladimir Mihailović, Roumita Seebaluck-Sandoram, Adriano Mollica, Mohamed Fawzi Mahomoodally, Exploring the therapeutic potential and phenolic composition of two Turkish ethnomedicinal plants – *Ajuga orientalis* L. and *Arnebia densiflora* (Nordm.) Ledeb., *Industrial Crops and Products*, (2018), vol. 116,

str. 240-248.

DOI: <https://doi.org/10.1016/j.indcrop.2018.02.054>

ISSN: 0926-6690

IF₂₀₁₈ = 4.191

10. Jelena Katanić Stanković, Ramazan Ceylan, Gokhan Zengin, Sanja Matić, Tatjana Jurić, Alina Diuzheva, József Jeko, Zoltán Cziáky, Abdurrahman Aktumsek, Multiple biological activities of two *Onosma* species (*O. sericea* and *O. stenoloba*) and HPLC-MS/MS characterization of their phytochemical composition, *Industrial Crops and Products*, (2020), vol. 144, str. 112053.

DOI: [10.1016/j.indcrop.2019.112053](https://doi.org/10.1016/j.indcrop.2019.112053)

ISSN: 0926-6690

IF₂₀₂₀ = 5.645

11. Nikola Srećković, Jelena Katanić Stanković, Sanja Matić, Nevena Mihailović, Paola Imbimbo, Daria Maria Monti, Vladimir Mihailović, *Lythrum salicaria* L. (Lythraceae) as a promising source of phenolic compounds in the modulation of oxidative stress: Comparison between aerial parts and root extracts, *Industrial Crops and Products*, (2020), vol. 155, str. 112781.

DOI: [10.1016/j.indcrop.2020.112781](https://doi.org/10.1016/j.indcrop.2020.112781)

ISSN: 0926-6690

IF₂₀₂₀ = 5.645

12. Nikola Stanković, Ivana Kostić, Boris Jovanović, Dimitrija Savić-Zdravković, Sanja Matić, Jelena Bašić, Tatjana Cvetković, Jelica Simeunović, Djuradj Milošević, Can phytoplankton blooming be harmful to benthic organisms? The toxic influence of *Anabaena sp.* and *Chlorella sp.* on *Chironomus riparius* larvae, *Science of The Total Environment*, (2020), vol. 729, str. 138666.

DOI: [10.1016/j.scitotenv.2020.138666](https://doi.org/10.1016/j.scitotenv.2020.138666)

IF₂₀₂₀ = 7.963

13. Nezrina Kurtanović, Nevena Tomašević, Sanja Matić, Marina M. Mitrović, Danijela A. Kostić, Manuela Sabatino, Lorenzo Antonini, Rino Ragno, Milan Mladenović, Human estrogen receptor α antagonists, part 2: Synthesis driven by rational

design, *in vitro* antiproliferative, and *in vivo* anticancer evaluation of innovative coumarin-related antiestrogens as breast cancer suppressants, *European Journal of Medicinal Chemistry*, (2021), vol. 227, str. 113869.

DOI: 10.1016/j.ejmech.2021.113869; ISSN: 0223-5234

IF₂₀₂₁ = 7.088

14. Nikola Srećković, Danijela Mišić, Uroš Gašić, Sanja Matić, Jelena Katanić Stanković, Nevena Mihailović, Daria Maria Monti, Luigi D'Elia, Vladimir Mihailović, Meadow sage (*Salvia pratensis* L.): A neglected sage species with valuable phenolic compounds and biological potential, *Industrial Crops and Products*, (2022), vol. 189, str. 115841.

DOI: 10.1016/j.indcrop.2022.115841

IF₂₀₂₁=6.449 M21a

15. Milena Vukić, Nenad Vuković, Milan Mladenović, Nevena Tomašević, Sanja Matić, Snežana Stanić S, Filippo Sapienza, Rino Ragno, Mijat Božović, Miroslava Kacániová, Chemical composition of various *Nepeta cataria* plant organs' methanol extracts associated with *in vivo* hepatoprotective and antigenotoxic features as well as molecular modeling investigations, *Plants*, (2022), vol. 11, str. 2114.

DOI: 10.3390/plants11162114

IF₂₀₂₁=4.658 M21a

M21

1. Milan Mladenović, Mirjana Mihailović, Desanka Bogojević, Sanja Matić, Neda Nićiforović, Vladimir Mihailović, Nenad Vuković, Slobodan Sukdolak, Slavica Solujić, *In vitro* antioxidant activity of selected 4-Hydroxy-chromene-2-one derivatives-SAR, QSAR and DFT studies, *International Journal of Molecular Sciences*, (2011), vol. 12 (5), str. 2822-2841.

DOI: 10.3390/ijms12052822

ISSN: 1422-0067

IF₂₀₁₁ = 2.598

2. Milan Mladenović, Mirjana Mihailović, Desanka Bogojević, Nenad Vuković, Slobodan Sukdolak, Sanja Matić, Neda Nićiforović,

Vladimir Mihailović, Pavle Mašković, Miroslav M. Vrvic, Slavica Solujić, Biochemical and pharmacological evaluation of 4-hydroxychromen-2-ones bearing polar C-3 substituents as anticoagulants, *European Journal of Medicinal Chemistry*, (2012), vol. 54, str. 144-158.

DOI: 10.1016/j.ejmech.2012.04.036

ISSN: 0223-5234

IF₂₀₁₂ = 3.499

3. Vladimir Mihailović, Mirjana Mihailović, Aleksandra Uskoković, Jelena Arambašić, Danijela Mišić, Vesna Stanković Jelena Katanić, Milan Mladenović, Slavica Solujić, Sanja Matic, Hepatoprotective effects of *Gentiana asclepiadea* L. extracts against carbon tetrachloride induced liver injury in rats, *Food and Chemical Toxicology*, (2013), vol. 52, str. 83-90.

DOI: 10.1016/j.fct.2012.10.034

ISSN: 0278-6915

IF₂₀₁₃ = 2.610

4. Nevena Stanković, Milan Mladenović, Mirjana Mihailović, Jelena Arambašić, Aleksandra Uskoković, Vesna Stanković, Vladimir Mihailović, Jelena Katanić, Sanja Matic, Slavica Solujić, Nenad Vuković, Slobodan Sukdolak, Synthesis and toxicological studies of *in vivo* anticoagulant activity of novel 3-(1-aminoethylidene)chroman-2,4-diones and 4-hydroxy-3-(1-iminoethyl)-2H-chromen-2-ones combined with a structure-based 3-D pharmacophore model, *European Journal of Pharmaceutical Sciences*, (2014), vol. 55, str. 20-35.

DOI: 10.1016/j.ejps.2014.01.004

ISSN: 0928-0987

IF₂₀₁₄ = 3.350

5. Sanja Matic, Snežana Stanić, Mirjana Mihailović, Desanka Bogojević, *Cotinus coggygria* Scop.: An overview of its chemical constituents, pharmacological and toxicological potential, *Saudi Journal of Biological Sciences*, (2016), vol. 23, str. 452-461.

DOI: <http://dx.doi.org/10.1016/j.sjbs.2015.05.012>

ISSN: 1319-562X

IF₂₀₁₆= 2.564

6. Nevena Đorđević, Sanja Matić, Snežana Simić, Snežana Stanić, Vladimir Mihailović, Nevena Stanković, Vesna Stanković, Andrija Ćirić, Impact of the toxicity of *Cylindrospermopsis raciborskii* (Woloszynska) Seenayya & Subba Raju on laboratory rats *in vivo*, *Environmental Science and Pollution Research*, (2017), vol. 24, str. 14259–14272.

DOI: 10.1007/s11356-017-8940-6

ISSN: 0944-1344

IF₂₀₁₇=2.800

7. Boris Jovanović, Nikola Jovanović, Vladimir Cvetković, Sanja Matić, Snežana Stanić, Elizabeth Whitley, Tatjana Mitrović, The effects of a human food additive, titanium dioxide nanoparticles E171, on *Drosophila melanogaster* - a 20 generation dietary exposure experiment, *Scientific Reports*, (2018), vol. 8, str. 17922.

DOI:10.1038/s41598-018-36174-w

ISSN: 2045-2322

IF₂₀₁₇=4.122

8. Jelena Katanića, Fatima Yousfi, Marisa Carmela Caruso, Sanja Matić, Daria Maria Monti, El Hassania Loukili, Tatjana Boroja, Vladimir Mihailović, Fernanda Galgano, Paola Imbimbo, Ganna Petruk, Mohamed Bouhrim, Mohamed Bnouham, Mohammed Ramdani, Characterization of bioactivity and phytochemical composition with toxicity studies of different *Opuntia dillenii* extracts from Morocco, *Food Bioscience*, (2019), vol. 30, str. 100410.

DOI: 10.1016/j.fbio.2019.04.011

ISSN: 2212-4292

IF₂₀₁₈=3.22

9. Nezrina Mihović, Nevena Tomašević, Sanja Matić, Marina M. Mitrović, Danijela A. Kostić, Manuela Sabatino, Lorenzo Antonini, Rino Ragno, Milan Mladenović, Human estrogen receptor α antagonists, part 1: 3-D QSAR driven rational design of innovative coumarin-related antiestrogens as breast cancer

suppressants through structure-based and ligand-based studies, *Journal of Chemical Information and Modeling*, (2021), vol. 61, 10, str. 5028-5053.

DOI: 10.1021/acs.jcim.1c00530

ISSN: 1549-9596

IF₂₀₂₀=4.956

M22

1. Sanja Matić, Snežana Stanić, Desanka Bogojević, Melita Vidaković, Nevena Grdović, Jelena Arambašić, Svetlana Dinić, Aleksandra Uskoković, Goran Poznanović, Slavica Solujić, Milan Mladenović, Jelena Marković, Mirjana Mihailović, Extract of the plant *Cotinus coggygria* Scop. attenuates pyrogallol-induced hepatic oxidative stress in Wistar rats, *Canadian Journal of Physiology and Pharmacology*, (2011), vol. 89 (6), str. 401-411.

DOI: 10.1139/y11-043

ISSN: 0008-4212

IF₂₀₁₁ = 1.953

2. Sanja Matić, Snežana Stanić, Desanka Bogojević, Melita Vidaković, Nevena Grdović, Svetlana Dinić, Slavica Solujić, Milan Mladenović, Nevena Stanković, Mirjana Mihailović, Methanol extract from *Cotinus coggygria* Scop. stem and the major bioactive phytochemical constituent myricetin modulate the pyrogallol-induced DNA and liver damage, *Mutation Research: Genetic Toxicology and Environmental Mutagenesis*, (2013), vol. 755 (2), str. 81-89.

DOI: 10.1016/j.mrgentox.2013.03.011

ISSN: 1383-5718

IF₂₀₁₃ = 2.481

3. Nevena Stanković, Milan Mladenović, Sanja Matić, Snežana Stanić, Vesna Stanković, Mirjana Mihailović, Vladimir Mihailović, Jelena Katanić, Tatjana Boroja, Nenad Vuković, Slobodan Sukdolak, Serum albumin binding analysis and toxicological screening of novel chroman-2,4-diones as oral anticoagulants, *Chemico-Biological Interactions*, (2015), vol. 227, str. 18–31.

DOI: <http://dx.doi.org/10.1016/j.cbi.2014.12.005>

ISSN: 0009-2797

IF₂₀₁₅ = 2.618

4. Jelena Katanić, Ramazan Ceylan, Sanja Matić, Tatjana Boroja, Gokhan Zengin, Abdurrahman Aktumse, Vladimir Mihailović, Snežana Stanić, Novel perspectives on two *Digitalis* species: Phenolic profile, bioactivity, enzyme inhibition, and toxicological evaluation, *South African Journal of Botany*, (2017), vol. 109, str. 50-57.

DOI: <http://dx.doi.org/10.1016/j.sajb.2016.12.004>

ISSN: 0254-6299

IF₂₀₁₆= 1.442

5. Dimitrija Savić-Zdravković, Djuradj Milošević, Ezgi Uluer, Hatice Duran, Sanja Matić, Snežana Stanić, Janja Vidmar, Janez Sčančar, Domagoj Dikić, Boris Jovanović, A multiparametric approach to cerium oxide nanoparticle toxicity assessment in non-biting midges, *Environmental Toxicology and Chemistry*, (2020), vol. 39, 1, str. 131-140.

DOI: doi.org/10.1002/etc.4605; ISSN 0730-7268

IF₂₀₂₀= 3.742

6. Nezrina Kurtanović, Nevena Tomašević, Sanja Matić, Elenora Proia, Manuela Sabatino, Lorenzo Antonini, Milan Mladenović, Rino Ragno, Human estrogen receptor alpha antagonists, part 3: 3-D pharmacophore and 3-D QSAR guided brefeldin A hit-to-lead optimization toward new breast cancer suppressants, *Molecules*, (2022), vol. 27, str. 2823.

IF₂₀₂₁ = 4.927

M23

1. Snežana Stanić, Sanja Matić, Slavica Solujić, Tanja Milošević, Genotoxicity testing of the methanol extract of plant *Cotinus coggygria* and gallic acid on *Drosophila melanogaster*, *Archives of Biological Sciences*, (2009), vol. 61 (2), str. 261-266.

DOI: [10.2298/ABS0902261S](https://doi.org/10.2298/ABS0902261S)

ISSN: 0354-4664

IF₂₀₀₉ = 0.238

2. Sanja Matić, Snežana Stanić, Slavica Solujić, Tanja Milošević, Neda Nićiforović, Biological properties of the *Cotinus coggygria* methanol extract, *Periodicum Biologorum*, (2011), vol. 113 (1), str. 87-92.

ISSN 0031-5362

IF₂₀₁₁ = 0.192

3. Sanja Matić, Snežana Stanić, Desanka Bogojević, Slavica Solujić, Nevena Grdović, Melita Vidaković, Mirjana Mihailović, Genotoxic potential of *Cotinus coggygia* Scop. (Anacardiaceae) stem extract. *in vivo*, *Genetic and Molecular Biology*, (2011), vol. 34 (2), str. 298-303.

DOI: 10.1590/S1415-47572011005000001

ISSN 1415-4757

IF₂₀₁₁ = 0.634

4. Snežana Stanić, Sanja Matić, Gorica Đelić, Mirjana Mihailović, Desanka Bogojević, Slavica Solujić, Study of genotoxicity and antigenotoxicity of the *Cotinus coggygia* Scop. methanol extract by *Drosophila melanogaster* sex-linked recessive lethal test, *Russian Journal of Genetics*, (2011), vol. 47 (7), str. 770-774.

DOI: 10.1134/S1022795411070167

ISSN: 1022-7954

IF₂₀₁₁ = 0.427

5. Sanja Matić, Snežana Stanić, Slavica Solujić, Milan Mladenović, Vladimir Mihailović, *In vivo* antigenotoxic potential and possible mechanism of action of selected 4-hydroxy-2H-chromen-2-one derivatives, *Journal of Biochemical and Molecular Toxicology*, (2012), vol. 26 (8), str. 322-330.

DOI: 10.1002/jbt.21426

ISSN: 1095-6670

IF₂₀₁₂ = 1.596

6. Sanja Matić, Snežana Stanić, Slavica Solujić, Nevena Stanković, Milan Mladenović, Vladimir Mihailović, Protective role of methanol extracts of *Gentiana asclepiadea* L. and *G. cruciata* L. against genotoxic damage induced by ethylmethanesulfonate, *Genetika*, (2013), vol. 45 (2), str. 329-340.

DOI: 10.2298/GENSR1301145V

ISSN: 0534-0012

IF₂₀₁₃ = 0.492

7. Vladimir Mihailović, Sanja Matić, Danijela Mišić, Slavica Solujić,

Snežana Stanić, Jelena Katanić, Milan Mladenović, Nevena Stanković, Chemical composition, antioxidant and antigenotoxic activities of different fractions of *Gentiana asclepiadea* L. roots extract, *EXCLI Journal*, (2013), vol. 12, str. 807-823.

ISSN: 1611-2156

IF₂₀₁₃ = 0.728

8. Violeta Jakovljević, Jasmina Nikolić, Sanja Matić, Snežana Stanić, Miroslav Vrvić, Mycochemical screening, antioxidant and DNA protecting activity of *Penicillium cyclopium* and *Penicillium brevicompactum*, *Farmacia*, (2018), vol. 66, str. 494-501.

DOI: 10.31925/farmacia.2018.3.15

ISSN 0014-8237

IF₂₀₁₈ = 1.527

9. Snežana Stanić, Sanja Matić, The biology and theories of aging, *Theoretical Biology Forum, Rivista di Biologia*, (2019), vol. 1-2, str. 79-90.

DOI: 10.19272/201911402005

ISSN: 0035-6050

IF₂₀₁₉ = 0.167

Proceedings of international scientific conferences

Sum

51

M33

1. Sanja Matić, Snežana Stanić, Milan Mladenović, Nevena Stanković, Genotoxic effect of the *Cotinus coggygria* extract on *Drosophila melanogaster*, *XX Savetovanje o biotehnologiji*, 13-14 mart 2015, Čačak, Srbija. Zbornik radova 20 (22), 353-359.

ISBN: 978-86-87611-35-1

2. Sanja Matić, Snežana Stanić, Milica Kanjevac, *In vivo* antigenotoxic activity of ellagic and gallic acid, *XXIV Savetovanje o biotehnologiji*, 15-16 mart 2019, Čačak, Srbija. Zbornik radova 2, 785-790.

ISBN: 978-86-87611-68-9

COBISS: 274576652

3. Jelena Katanić Stanković, Sanja Matić, Nikola Srećković, Snežana

Stanić, Vladimir Mihailović, Preliminarno ispitivanje antimikrobnog i antigenotoksičnog potencijala ekstrakata češnjače (*Alliaria petiolata*, Brassicaceae), XXV Savetovanje o biotehnologiji, 13 - 14. mart 2020. godine, Čačak, Srbija. Zbornik radova 2, 443-449.

ISBN: 978-86-87611-74-0

COBISS: 283507212.

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30. Nezrina Mihović, Sanja Matić, Jovana Muškinja, Adrijana Burmudzija, Zoran Ratković, Milan Mladenović, Nevena Stanković, Snežana Stanić, DNA damage induced by selected pyrazolines in rat liver using comet assay, *6th Congress of the Serbian Genetic Society*, 13-17 October 2019, Vrnjačka banja, Serbia, 03-08.
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39. Jelena Katanić Stanković, Eva M Pferschy-Wenzig, Sanja Matić, Rudolf Bauer, Phytochemical profile and antigenotoxic potential of *Bergenia crassifolia* (L.) Fritsch methanolic extracts, 70th International Congress and Annual Meeting of the Society for Medicinal Plant and Natural Product Research (GA), 28-31 August 2022, Thessaloniki, Greece.
40. Nikola Srećković, Jelena Katanić Stanković, Vladimir Mihailović, Sanja Matić, *In vitro* protective potential of the *Lunaria annua* L. aerial part and root extracts against DNA oxidative damage. 14th Symposium on the flora of southeastern Serbia and neighboring regions is held from 26th to 29th June 2022 at Kladovo.
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41. Nikola Srećković, Jelena Katanić Stanković, Vladimir Mihailović, Sanja Matić, Do *Lysimachia vulgaris* methanol extracts have a DNA protective potential against oxidative damage? 14th Symposium on the flora of southeastern Serbia and neighboring regions is held from 26th to 29th June 2022 at Kladovo.
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42. Sanja Matić, Vladimir Cvetković, Ivan Milovanović, Ana Bijelić, Niko Radulović, *In vivo* antigenotoxic properties of *Hericium erinaceus* ethanolic extract. 8th International Electronic Conference on Medicinal Chemistry session General, 1–30 Nov 2022.
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<p>M51</p> <p>1. Jelena Katanić Stanković, Stefanie Nikles, San-Po Pan, <u>Sanja Matić</u>, Nikola Srećković, Vladimir Mihailović, Rudolf Bauer, The qualitative composition and comparative biological potential of <i>Lunaria annua</i> L. (Brassicaceae) extracts, <i>Kragujevac Journal of Science</i> 2022, 44, 75-89.</p> <p>M53</p> <p>1. <u>Sanja Matić</u>, Snežana Stanić, Slavica Solujić-Sukdolak, Tanja Milošević, Comparative analysis of acetonic and watery pollen extract of <i>Ambrosia artemisiifolia</i> L. on <i>Drosophila melanogaster</i>, <i>Kragujevac Journal of Science</i>, (2008), vol. 30, str. 99-104. ISSN 1450-9636 UDC: 532.5:537.633</p> <p>2. Snežana Stanić, <u>Sanja Matić</u>, The role of modern genetic in prevention and diagnosis of rare diseases, <i>Kragujevac Journal of Science</i>, (2017), vol. 39, str. 131-136. DOI:10.5937/KgJSci1739131S ISSN 1450-9636 UDC 575.1:612.6.052.4:17.23</p> <p>3. <u>Sanja Matić</u>, Snežana Stanić, Milica Kanjevac, Genotoxic effect of gallic and ellagic acids in somatic and germ cells of <i>Drosophila melanogaster</i>, <i>Kragujevac Journal of Science</i>, (2019), vol. 41, str. 69-76 DOI: 10.5937/KgJSci1941069M ISSN 1450-9636 UDC 575.167: 595.773.4:547.562</p>	
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CITATION OF SCIENTIFIC PAPERS

Based on the Scopus database, the total number of heterocitations of published papers is 597. Based on the number of heterocitations, the Hirsch (h) index is 14.

BRIEF DESCRIPTION OF RESEARCH IN THE PREVIOUS PERIOD

Dr. Sanja Matić made a significant scientific contribution in the field of Biology, especially Genetics and Genotoxicology. The researches were directed in two directions: the first refers to tests of potential genotoxic activity, ie. abilities of agents of natural (plant extracts) and artificial origin (selected secondary plant metabolites) to induce DNA damage in *in vitro* and *in vivo* conditions; while the second one is aimed at examining the protective activity of biologically active substances in germinal and/or somatic cells in organisms of different organizational levels in *in vitro* and *in vivo* conditions.

Examination of the *in vitro* antigenotoxic activity of methanolic extracts of roots and/or aerial part of *Lythrum salicaria* L., *Pulmonaria officinalis* L., *Alliaria petiolata* Bieb., *Onosma sericea* Willd. and *O. stenoloba* Hausskn. ex Riedl., *Ajuga orientalis* L., *Arnebia densiflora* (Nordm.) Ledeb., ethanolic extracts of the roots of the plant *Salvia verticillata* L. obtained by different extraction methods, extracts obtained from the plant *Opuntia dillenii* (Ker Gawl.) Haw. using different solvents (ether, ethyl acetate, ethanol and water) and selected pure components (forskolin, pinitol, hesperetin and four newly synthesized cis- and transplatin -L-Zn(terpi) complexes) aims to detect the degree of DNA protection after damage induced by hydroxyl and peroxy radicals, which encourages further research and their potential use for nutritional and/or pharmacological purposes.

After testing methanolic extracts and components in conditions that simulate physiological conditions, ie. *in vitro* conditions, genotoxic activity and DNA protective potential were investigated *in vivo* using a test for the detection of sex-linked recessive lethal mutations in the eukaryotic model organism *D. melanogaster* and using the Comet test in *D. melanogaster* and Wistar rats with the aim of obtaining results that would most closely reflect the physiological significance of the tested agents.

The research included the biological activities of the extracts of the mentioned plants and pure components with the aim of confirming their

traditional application and examining the pharmacological action in *in vitro* and *in vivo* conditions. The achieved results have a significant contribution to the examination of the genotoxic effect and potential antigenotoxic activity of both the tested medicinal plants and the tested synthesized agents.

BRIEF DESCRIPTION OF PLANNED RESEARCH IN THE NEXT PERIOD

Determination of the genotoxic activity of plant extracts or chemical compounds present in them aims to determine the potential activity assumed on the basis of their chemical composition and chemical structure. After examining the potential of plant extracts or their secondary metabolites in conditions that simulate physiological conditions (*in vitro*), those that exhibit the best biological activities can be selected and tested *in vivo* using laboratory animals and obtain results that would most closely speak about the physiological significance of the plant itself.

Examination of the *in vitro* antigenotoxic activity of plant extracts and pure components aims to detect the degree of DNA protection after damage induced by hydroxy and peroxy radicals. By applying DNA isolated from experimental model organisms using Biorobots and kits for automatic DNA purification as well as DNA markers, the degree of DNA damage and the degree of DNA protection induced by extracts, chemical compounds present in them and nanoparticles will be detected. Based on the obtained results, it is possible to assess the genotoxic and antigenotoxic potential of the tested agents of natural origin, which will further direct the course of research towards antigenotoxic activity and *in vivo* conditions using *in vivo* tests (test for the detection of sex-linked recessive lethal mutations in the eukaryotic model organism *D. melanogaster*, Comet test in *D. melanogaster* and Wistar rats and Micronucleus test for *in vivo* detection of bone marrow damage).

An increasing number of nanomaterials are produced and used for commercial purposes (in medicine, pharmacy, technology, electronics and telecommunications), but in addition to the interest in potential benefits, there is growing concern about the potential harmfulness of their impact on

the environment and people. Nanoparticles, due to their surface capabilities and small dimensions, have the ability to penetrate biological barriers, have an affinity for metals, and therefore can attach medical drugs to themselves for the targeted site of action in the body. These same properties can also make them toxic to living things. For the aforementioned reasons, in the following period it is planned to examine the impact of industrially important nanoparticles such as metal nanoparticles (e.g. Fe) and oxides (e.g. TiO₂ and CeO₂) on the degree of DNA damage using tests for the detection of genetic changes in organisms of different organizational levels in *in vitro* and *in vivo* conditions.

It is also planned to investigate the anti-inflammatory activity of plant extracts, pure compounds and nanoparticles in *in vivo* conditions in carrageenan-induced paw edema of experimental animals (albino Wistar rats) by determining the percentage of inhibition of development or the ability to reduce hind paw edema in a certain time interval.