BOOK OF ABSTRACTS

3rd International Conference on Plant Biology

(22nd SPPS Meeting)

9-12 JUNE 2018
BELGRADE

Serbian Plant Physiology Society

Institute for Biological Research "Siniša Stanković", University of Belgrade

Faculty of Biology, University of Belgrade

3rd International Conference on Plant Biology

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9-12 June 2018, Belgrade

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PROGRAMME

Saturday 9th June

09:00-14:00	*Registration*	
14:00-14:30	*Opening Ceremony*	

Section 2 • Plant Stress Physiology

Chairs: Sonja Veljović-Jovanović & Ivana Maksimović

14:30-15:00	(Plenary lecture) **Hrvoje Fulgosi**	Sifting the elements of FNR-TROL bifurcation
15:00-15:30	(Plenary lecture) **Autar Mattoo**	Tomato (*Solanum lycopersicum*) lipoxygenase (LOX) gene family: Delineating gene members associated with growth, development and abiotic stresses
15:30-15:50	(Invited talk) **Tamara Rakić**	Two-year study of ecophysiological parameters of *Miscanthus* × *giganteus* grown on tailing pond at the mine "Rudnik" (Serbia)
15:50-16:10	(Invited talk) **Vladimir Crnojević**	Data science in biosystems
16:10- 16:40	*Coffee break*	
16:40-17:00	(Invited talk) **Ingeborg Lang**	Tolerance to heavy metals – some examples in bryophyte species
17:00-17:15	(Selected talk) **Predrag Bosnić**	Silicon mediates sodium (Na+) transport in maize under moderate NaCl stress
17:15-17:30	(Selected talk) **Milan Borišev**	Dynamics of Cd accumulation and metabolic adaptation of *Salix alba* grown hydroponically
17:30- 17:45	(Selected talk) **Slavica Dmitrović**	Nepetalactone-rich essential oil mitigates BASTA-induced ammonium toxicity in *Arabidopsis thaliana* L. by maintaining glutamine synthetase activity
17:45-18:00	*Group Photo*	
18:00-19:00	*Poster session: Plant Stress Physiology (Section 2)*	
19:00-21:00	*Welcoming cocktail (Rectorate of the University of Belgrade)*	

Sunday 10th June

09:00-14:00 *Registration*

Section 1 • Plant Growth, Development, Metabolism and Nutrition

Chairs: Snežana Zdravković-Korać & Miroslav Nikolić

09:30-10:00	(Plenary lecture) **Guido Grossmann**	Cellular growth regulation in roots - how to adapt in a complex environment
10:00-10:20	(Invited talk) **Ondrej Novák**	Tissue- and cell-specific analysis of phytohormones
10:20-10:40	(Invited talk) **Ksenija Radotić**	Plant cell walls – mechanical and chemical modifications underpin growth and stress response
10:40-11:00	(Invited talk) **Herman Heilmeier**	Bioavailability of elements for effective phytoremediation and phytomining: the role of rhizosphere processes
11:00- 11:30	*Coffee break*	
11:30-11:50	(Invited talk) **Václav Motyka**	Comprehensive phytohormone profiling during Norway spruce (*Picea abies*) somatic embryogenesis
11:50-12:05	(Selected talk) **Danijela Paunović**	Are receptor tyrosine kinases chimeric AGP's?
12:05-12:20	(Selected talk) **Jelena Pavlović**	Silicon increases iron use efficiency in cucumber- a strategy 1 model plant
12:20-12:35	(Selected talk) **Katarina Ćuković**	Characterization of *Arabidopsis GLN1;5* knockout mutant
12:35- 14:00	*Lunch break*	

Sunday 10th June

Section 4 • Phytochemistry

Chairs: Vuk Maksimović & Vladimir Mihailović

14:00-14:30	(Plenary lecture) **Alain Tissier**	Engineering plant diterpenoid pathways in yeast: increasing yield and expanding product diversity
14:30-14:50	(Invited talk) **Roque Bru Martinez**	Metabolic engineering and elicitation strategies to produce stilbenoids in plant cell cultures
14:50-16:10	(Invited talk) **Sokol Abazi**	New fatty acids discovered for the first time in *Vitex agnus-castus*
16:10-16:30	(Invited talk) **Peđa Janaćković**	Do plant volatiles reflect taxonomy?
16:30- 17:00	*Coffee break*	
17:00-17:20	(Invited talk) **Angelos Kanellis**	The *Cistus creticus* terpene synthase gene family
17:20-17:40	(Invited talk) **Marina Soković**	Terpenes and terpenoids: linking bioactivity, opportunities and challenges
17:40-18:00	(Invited talk) **Jules Beekwilder**	Plant terpenes and bioplastics
18:00-18:15	(Selected talk) **Jelena Dragišić Maksimović**	Enzymatic behavior of edible berries – "Beroxidases"
18:15-18:30	(Selected talk) **Elma Vuko**	Inhibition of satellite RNA associated cucumber mosaic virus infection by essential oil of *Micromeria croatica* (Pers.) Schott
18:30-18:45	(Selected talk) **Dorisa Çela**	Structure elucidation of a new alkaloid and other 11 known compounds isolated from *Gymnospermium* species
18:45-19:45	***Poster sessions: Plant Growth, Development, Metabolism and Nutrition; Phytochemistry (Sections 1 and 4)***	

Monday 11th June

Section 5 • Applications in Agriculture, Pharmacy and Food Industry

Chairs: Jasmina Glamočlija & Slavica Ninković

09:00-9:30	(Plenary lecture) **Mondger Bouzayen**	New factors controlling fruit development: epigenetic modifications associated with the fruit set transition in tomato
09:30-10:00	(Plenary Lecture) **Andrew Allan**	New breeding technologies for fruit trees
10:00-10:20	(Invited talk) **Slađana Žilić**	Food and pharmacy application of anthocyanins originating from colored grains
10:20-10:40	(Invited talk) **Eligio Malusa**	Microbial-based inputs: opportunities and challenges for sustainable and resilient agricultural productions
10:40-11:10	*Coffee break*	
11:10-11:30	(Invited talk) **Dragana Miladinović**	Old problems, new tools - Integrated approach to oil crop breeding
11:30-11:45	(Selected talk) **Brankica Tanović**	Prospects of cabbage leaf debris use in the control of *Fusarium* wilt of pepper
11:45-12:00	(Selected talk) **Nina Devrnja**	Effects of tansy essential oil on fitness and digestion process of gypsy moth larvae
12:00-12:15	(Selected talk) **Zora Dajić-Stevanović**	Advantages and limitations of phytogenic feed additives
12:15-14:00	*Lunch break*	

Monday 11th June

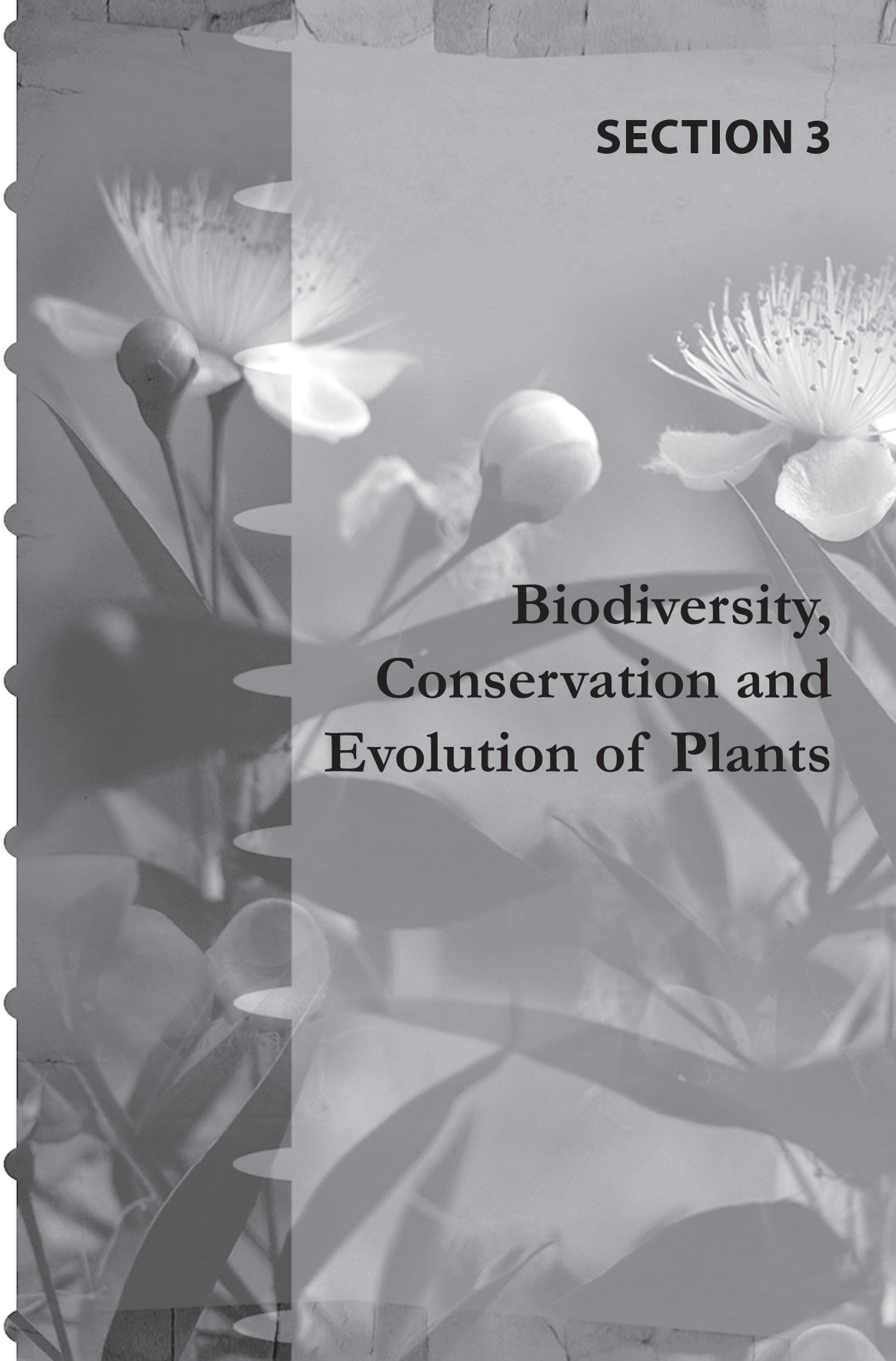
Section 3 • Biodiversity, Conservation and Evolution of Plants

Chairs: Jelena Aleksić & Aleksej Tarasjev

14:00-14:30	(Plenary lecture) **Hendrik Poorter**	Meta-Phenomics: Converting data into knowledge
14:30-15:00	(Plenary lecture) **Antonio Granell Richart**	The biodiversity present in European tomato, phenotypes galore and a first insight in the underlying genetics
15:00-15:20	(Invited talk) **Zlatko Šatović**	Origin and genetic diversity of Croatian common bean landraces
15:20-15:50	*Coffee break*	
15:50-16:10	(Invited talk) **Aneta Sabovljević**	Conservation physiology of bryophytes
16:10-16:30	(Invited talk) **Nataša Barišić Klisarić**	Biomonitoring: Plants' (in) perspective
16:30-16:50	(Selected talk) **Sanja Budečević**	Morphological diversity of functionally distinctive floral organs in *Iris pumila*: Does the flower color matter?
16:50-17:05	(Selected talk) **Žaklina Marjanović**	First data on arbuscular mycorrhizal communities from selected climatic borderline forest ecosystems of the Balkan Peninsula
17:05-17:20	(Selected talk) **Tijana Banjanac**	Verification of interspecies hybridization within the genus *Centaurium* Hill using *EST-SSR* molecular markers
17:20-18:20	*Poster sessions: Applications in Agriculture, Pharmacy and Food Industry; Biodiversity and Conservation, Evolutionary Plant Biology (Sections 5 and 3)*	
18:20-18:30	*Closing Ceremony*	
18:30-19:00	*SPPS General Assembly Meeting*	
21:00-01:00	*Gala dinner: Restaurant "Vizantija"*	

Tuesday 12th June

10:00-16:00	*Excursion: Special Nature Reserve "Carska bara"*



SECTION 3

Biodiversity, Conservation and Evolution of Plants

POSTER PRESENTATIONS

Flower color polymorphism in *Iris pumila* - Why we definitely need *in situ* reflectance spectroscopy in population analysis and evolutionary studies of this model system

PP3-1

Aleksej Tarasjev, Nataša Barišić Klisarić, Stevan Avramov, Danijela Miljković, Uroš Živković (tarasjev@ibiss.bg.ac.rs)

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Dwarf bearded iris - *Iris pumila* L. is a perennial clonal plant that exhibits huge flower colour polymorphism with white, yellow and various shades of purple and violet flowers. Maintenance of such polymorphism is very interesting evolutionary question in its own right. Moreover, flower colour is also used in determining individual clones, their size and population diversity - all very important aspects of further population and evolutionary studies on this model system. However, visual identification or use of digitalized images, while being a necessary first step, is not sufficient for this task. They are often subjective, dependent on light conditions, and covering only part of the spectrum - one that is visible to humans. In published papers that utilized flower colour in *I. pumila*, number of analyzed different colour variants ranged from nine to only three colour classes. Chemical analysis of different colour variants is a very useful tool and has also been applied, but it is hardly applicable for most population level analyses. We therefore consider portable reflectance spectrometer as the best available tool for those multiple tasks, and present preliminary results of its application *in situ* with wavelengths chosen to match the visible spectrum of *I. pumila* main pollinators.

Keywords: flower colour polymorphism, spectroscopy, reflectance, *Iris pumila*

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Characterization of ns rapeseed germplasm collection based on the content of fatty acids and tocopherols

PP3-2

Ana Marjanović Jeromela[1], Mirjana Jankulovska[2], Nada Grahovac[1], Zvonimir Sakač[1], Nada Lečić[1], Dragana Miladinović[1], Vladimir Miklič[1] (ana.jeromela@ifvcns.ns.ac.rs)

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Rapeseed (*Brassica napus* L.) is the most common source of vegetable oils in Europe. One of the main breeding objectives is to create rapeseed genotypes with highly appreciated nutritional characteristics. The aim of this study was to investigate fatty acid and tocopherol constituents (α-, β-, γ-tocopherols) in a collection of 49 NS rapeseed genotypes and to identify genotypes with desired content of fatty acids and tocopherols using multivariate statistical methods: principal