

# BOOK OF ABSTRACTS

## 3rd International Conference on Plant Biology (22nd SPSS 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**

**3<sup>rd</sup> International Conference  
on Plant Biology  
(22<sup>nd</sup> SPPS Meeting)**



9-12 June 2018, Belgrade

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# PROGRAMME



Monday 11<sup>th</sup> 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 *Centaureum* 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 12<sup>th</sup> June

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



**SECTION 3**

**Biodiversity,  
Conservation and  
Evolution of Plants**

Plants as sessile organisms are considerably influenced by different environmental factors, as well as by pollution. Reaction to different pollution types in higher plants could depend on whether it was monocotyledon or dicotyledon, annual or perennial, woody or herbaceous. Changes in the environment could reflect in altered physiology, anatomy, morphology or development. In order to determine the 'normal state' of a given monitoring model system, we have to determine specificities of every single reaction. Developmental instability, measured by estimates of fluctuating and radial asymmetry, is an exception, because an optimal level *i.e.* perfect symmetry is predefined.

In our research we are testing biomonitoring potential of different vegetative and reproductive traits, as well as of developmental instability measures in invasive woody species with broad distribution - *Robinia pseudoacacia*, in widely planted ornamental *Iris germanica* and in natural populations of Dwarf Bearded Iris - *Iris pumila* that inhabits protected natural areas.

**Keywords:** anthropogenic pollution, biomonitoring, developmental instability

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#### SELECTED TALKS

### **Morphological diversity of functionally distinctive floral organs in *Iris pumila*: Does the flower color matter?**

ST3-1

Sanja Budečević, Sanja Manitašević Jovanović, Ana Vuleta, Katarina Hočevlar, Branka Tucić  
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Flowers are complex phenotypic structures composed of four functionally distinct organs arranged in concentric floral whorls: sepals in the first, petals in the second, and two inner whorls consisting of reproductive structures: stamens in the third whorl and tricarpeal gynoecium, in the centre. Color, size and shape of these floral organs are considered to be important signals that can attract the pollinators, advertising the plants' floral reward (commonly nectar and pollen). Here we use the methods of geometric morphometrics to compare size and shape variation of three functionally different floral organs: falls, standards and style arms, among five distinct color morphs (blue, violet, dark blue, dark violet and yellow). Pairwise comparisons of the centroid size means showed that all floral organs differed significantly among the analysed color phenotypes. The mean shape of falls, standards and style arms appeared to be flower color-specific as well, but most noticeably between yellow - on one side, and blue/violet morphs - on the other. Procrustes ANOVAs revealed the significant presence of directional and fluctuating asymmetry for falls and standards among all five color morphs, with the exception of style arms. The observed morphological diversification of floral organs among distinctive *I. pumila* color phenotypes could be the adaptive outcome of the interactions with their pollinators.

**Keywords:** shape, flower color, morphological diversity, *Iris pumila*, floral organs





**ANALYSIS**  
LABORATORY EQUIPMENT



BIO-RAD ekskluzivni partner u Srbiji za Life Science



**Tehnomanija**



**BELCHIM**  
CROP PROTECTION



**NATUZZI**  
ITALIA