BOOK of ABSTRACTS

4th INTERNATIONAL CONFERENCE ON PLANT BIOLOGY

(23rd SPPS Meeting)

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Institute for Biological Research "Siniša Stanković"
National Institute of Republic of Serbia, University of Belgrade

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Flowering trends in *Iris pumila* in Deliblato Sand: Ten years after

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In 2012 we selected 35 experimental plots in *Iris pumila* L. (dwarf bearded iris) natural population in natural reserve Deliblato Sand, Serbia. Flowering was monitored in 2013, 2014 and 2015 on selected more than 4 000 square meters, and opening of every individual flower on *I. pumila* clones was recorded. Data revealed steady decline in number of flowering individual plants (ramets) through analyzed years. The same spots were revisited in 2021 and 2022 flowering seasons and occurence of all flowers was recorded by introducing drone digital photography in our long term study. Preliminary analysis on the subsample of monitored spots reveals that detected trend of decline in number of flowering ramets was not reversed after ten years. Detected long term trend has significant implications for studies of evolutionary relationship between vegetative and sexual modes of reproduction in this species, as well as possible conservation management strategies in the face of environmental change. Additional methods that can reveal evolutionary consequences of observed population dynamics on maintenance of within population genetic polymorphism (with special emphasis on flower color polymorphism and variability on DNA level) are discussed. We propose application of field spectography to huge flower color polymorphism observed in analyzed species coupled with pigment HPLC analysis on studied population level, as well as microsatellite genetic analyses of studied population composition as most suitable and efficient lines of further research of those topics in the studied populations.

Keywords: flowering phenology, sexual and vegetative reproduction, polymorphism maitenance

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