



BOOK of **ABSTRACTS**

4th INTERNATIONAL CONFERENCE ON PLANT BIOLOGY (23rd SPPS Meeting)



**6-8 OCTOBER 2022
BELGRADE**

Serbian Plant Physiology Society

**Institute for Biological Research “Siniša Stanković”
National Institute of Republic of Serbia, University of Belgrade**

Faculty of Biology, University of Belgrade

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Belgrade, 2022

CIP - Каталогизacija y publikaciji - Narodna biblioteka Srbije, Beograd

581 (048)

INTERNATIONAL Conference on Plant Biology (4 ; 2022 ; Belgrade)

Book of Abstracts / 4th International Conference on Plant Biology [and] 23rd SPPS Meeting, 6-8 October 2022, Belgrade ; [organized by] Serbian Plant Physiology Society [and] Institute for Biological Research "Siniša Stanković", University of Belgrade [and] Faculty of Biology, University of Belgrade ; [editor Milica Milutinović]. - Belgrade : Serbian Plant Physiology Society : University, Institute for Biological Research "Siniša Stanković" : University, Faculty of Biology, 2022 (Zemun : Alta Nova). - 169 str. : ilustr. ; 24 cm

Tiraž 30. - Registar.

ISBN 978-86-912591-6-7 (SPPS)

1. Društvo za fiziologiju biljaka Srbije. Sastanak (23 ; 2022 ; Beograd)

a) Ботаника - Апстракти

COBISS.SR-ID 74996233

4th International Conference on Plant Biology
(23rd SPPS Meeting)
6-8 October, Belgrade

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Publishers

Serbian Plant Physiology Society
Institute for Biological Research "Siniša Stanković" – National Institute of Republic of Serbia,
University of Belgrade
Faculty of Biology, University of Belgrade

Editor

Milica Milutinović

Graphic design

Dejan Matekalo

Prepress

Marija G. Gray

Printed by

Alta Nova, Zemun

Print run

30 pcs

Belgrade, 2022

Analysis of amplification of microsatellite loci in *Iris pumila*

PP4-9

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Utilization of microsatellite molecular markers was analyzed in *Iris pumila* and five other species belonging to the same genus: *I. humilis*, *I. sibirica*, *I. pseudacorus*, *I. spuria* and *I. variegata*, which inhabit the northern part of the Republic of Serbia. We selected 40 EST-SSR markers previously reported for the genus *Iris*. Sixteen markers that showed polymorphism were chosen for further research. To examine the potential of the selected microsatellite loci analysis in the detection of different *I. pumila* clones, we selected 18 individuals of this species that belonged to different genotypes. Optimization of amplification was performed for all 16 microsatellite loci: temperature program of the PCR protocol and number of amplification cycles were optimized as well as primer and DNA concentrations used in the reactions. Seven markers that were variable across the analyzed individuals were selected. The final analysis was performed using only 5 microsatellite loci since high-quality amplification for two loci was not possible. No greater deviations in the length of the fragments from the expected were observed, except for one primer. All microsatellite loci contained three-nucleotide repeats. *I. pumila* is tetraploid species and in several plants the presence of four alleles were observed. The observed number of alleles per locus ranged from 3 to 9. In the results obtained across 18 *I. pumila* individuals using 5 microsatellite markers, 17 multilocus genotypes were observed.

Keywords: *Iris pumila*, EST-SSR markers, multilocus allelic phenotype

Acknowledgment: This study was supported by the Ministry of Education, Science and Technological Development of the Republic of Serbia contract number 451-03-68/2022-14/200007.