BOOK of ABSTRACTS

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(23rd SPPS Meeting)

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Institute for Biological Research "Siniša Stanković"
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Analysis of amplification of microsatellite loci in *Iris pumila*

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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. pumil*a 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

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