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ZBORNIK SAŽETAKA
BOOK OF ABSTRACTS

IV SIMPOZIJUM BIOLOGA I EKOLOGA REPUBLIKE SRPSKE

sa međunarodnim učešćem – SBERS2020
Prirodno-matematički fakultet, Univerzitet u Banjoj Luci
12-14. novembar 2020.

IV SYMPOSIUM OF BIOLOGISTS AND ECOLOGISTS OF REPUBLIC OF SRPSKA

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SEASONAL VARIABILITY IN CORRELATION PATTERNS AMONG Iris variegata L. GENOTYPES GROWING IN CONTRASTING LIGHT CONDITIONS

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Higher plants have developed protection mechanisms in order to diminish the effects caused by the presence of free radicals generated during high irradiance, and one of the detoxification mechanisms is the synthesis of secondary metabolites. In this study we investigated the amount and pattern of individual phenotypic responses (represented through targeted phenolics content in 68 genotypes of *Iris variegata*) to seasonal changes in environmental conditions under two experimental light regimes. The goal was to examine how environmental stressors mold the interrelationships between metabolite traits. Genotypes of *I. variegata* were collected in Deliblato sands Special Nature Reserve in Serbia, from two types of natural habitats (exposed and shade) and transferred into the experimental field conditions providing either 1. high light intensity and higher red / far red light ratio and 2. low light intensity and lower red / far red light ratio. After period of acclimatization leaves were collected during spring, summer and fall of one experimental year and subjected to UHPLC/qqqMS quantification of 10 selected phenolic compounds belonging to the groups of phenolic acids, flavonoids and xanthones. The correlations between all studied compounds within two light treatments and three seasons were in almost all cases significant and positive. Number of statistically significant correlations markedly decreased through the vegetative period in both light treatments. The experiment was conducted on a large number of genotypes of *I. variegata* and points to the need of involving a number of factors in future ecological and evolutionary researches.

KEYWORDS: correlation patterns, phenolic compounds, light treatments, within season variability, *Iris variegata*