



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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Bioactivity of different *Asplenium ceterach* L. extracts

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Methanol (ME) and dichloromethane (DCM) extracts of rustyback fern (*Asplenium ceterach* L.) sporophytes were analyzed for antioxidant properties by thin layer chromatography (TLC)-based bioautography, using DPPH as detection reagent, and comparatively tested for their antimicrobial and antibiofilm activity. Bioautography assay indicated that rustyback fern ME extract had significant antioxidant potential and moderate α -amylase activity, in comparison to the other extract used in the study. Antibacterial and antifungal activity of plant extracts against 6 bacteria and 6 fungi strains was assessed by microdilution method and the results are presented as minimal inhibitory concentration and minimal bactericidal/fungicidal concentration. Both extracts showed significant antibacterial and antifungal potential against all tested strains, although in variable degree. The Gram-negative *Escherichia coli* and Gram-positive *Bacillus cereus* were the most sensitive bacteria, whereas the most sensitive fungus was yeast *Candida krusei*. Furthermore, tested extracts have shown significant capability to prevent *Candida albicans* biofilm establishment with no significant difference between the two extracts examined, and inhibition range of 72%–74%. The results of the present study highlight *A. ceterach* extracts as a significant source of bioactive compounds, which support their potential use against diseases caused by multi-drug resistant microorganisms.

Keywords: rustyback fern, antimicrobial activity, antioxidative potential

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