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Institute for Biological Research „Siniša Stanković", University of Belgrade

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– Programme and Abstracts –

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Microscopic analysis of *Tacitus bellus* leaves infected with *Fusarium verticilloides*

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In this paper different microscopic techniques were applied to study the colonization of *Tacitus bellus* leaves by the fungi *Fusarium verticilloides*. *Fusarium verticilloides* (teleomorph *Gibberella moniliformis*) is widespread microscopic pathogen that can infect vegetative and reproductive organs of different plant species. *Tacitus bellus* Moran & J. Meyran, syn. *Graptopetalum bellum*, family Crassulariaceae, is micropropagated by direct shoot organogenesis on MS medium with 0.1 mg/l benzylaminopurine and 0.1 mg/l α-naphtalenacetic acid, and then rooted and maintained on plant growth regulator-free MS medium. Twenty-four hours after infection of *in vitro* cultivated *Tacitus bellus* plants, by spores of *Fusarium verticilloides*, there was no visible symptoms of plant infection. Third day after infection mycelium was well developed along the entire plant. Microscopic analysis revealed that the hyphae penetrate into the leaf through stomata. Well developed, solid mycelium was observed in the mesophyll leaf cells on the fifth and seventh days of the infection. However, the structure of mesophyll tissues of this succulent plant, even in an advanced stage of infection, was not significantly disrupted.

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Jasmonic acid effects on the morphogenesis and photosynthetic pigment concentrations in seleceted bryophyte species grown in *in vitro* culture

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The present study investigated the influence of exogenously added jasmonic acid on the morphogenesis and the concentration of photosynthetic pigments in the selected bryophite species: *Atrichum undulatum*, *Bryum alpinum*, *B. argenteum*. The moss *A. undulatum* was grown on the sugar enriched MS medium, whereas the species *B. alpinum* and *B. argenteum* were grown on the MS media without sugars. The plants were grown for six weeks in long-day conditions (16/8 h photoperiod). Four different jasmonic acid concentrations were added to the media. Biomass production in species *A. undulatum* and *B. alpinum* increased in the presence of lower concentrations of exogenously added jasmonic acid compared to control biomass production. The analysis of photosynthetic pigment concentrations was conducted as well. This analysis showed an increase of total pigment concentrations at lower levels of applied jasmonic acid and a decrease of pigment concentrations at higher levels of the applied jasmonic acid. No significant dependence on the levels of pigments with regard to the concentration of jasmonic acid was noted in the case of *B. argenteum*.