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ISSN 2061-6716 (Print), 2063-6725 (Online) 4th CC 2017 Abstract
http://abpa.ektf.hu/ *Poster*

EFFECTS OF SALT, OXIDATIVE STRESS AND PERCHLORATE TREATMENTS ON THE ACTIVITY OF PHOTOTROPHIC ENERGY TRANSFORMING SYSTEM IN INTACT CRYPTOBIOTIC CRUSTS ORIGINATED FROM DIFFERENT HABITATS

A só, oxidáló ágensek és perklorát hatása a különböző termőhelyekről származó intakt kriptobiotikus kérgek fotoautotrof energiaátalakítására

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Surviving and photosynthetic activity of intact cryptobiotic crusts (CBCs) collected in different desert types was examined during exposure to different Mars-like conditions at 10, 30, 200 and 400 μE m^{-2} s^{-1} actinic light intensities. The aim was to analyse the survival rate and photochemical efficiency of the examined crusts by chlorophyll fluorescence induction method. Photochemical efficiency was expressed as effective quantum yield ($\Delta F/F_m'$). Salt, oxidative and perchloric acid treatments were realized on different samples, respectively. Several samples survived the extreme salt and oxidative stresses induced out- and inside of the cell and the aggressive perchloric acid treatments. Their photosynthetic apparatus operated at a promising level both during stress conditions and recovery time. The best survivors were those organisms which were collected from very salty and very dry habitats. Since extremophiles organise to CBCs, the results also suggest testing them in the context of their inside community and microenvironment besides the single organisms. Our results indirectly support the DDS-MSO hypothesis.