

Acclimation to UV irradiance in *Gracilaria chilensis* Bird, McLachlan & Oliveira (Gigartinales, Rhodophyta)

Molina, Ximena

Montecino, Vivian

Photoautotrophs can cope with an increase in ultraviolet (UV) irradiance in the aquatic environment, through protection and acclimation mechanisms (i.e. synthesis of UV-absorbing compounds). This capacity has been proven to vary according to the organism's sensitivity. To quantify variations of this capacity between the different parts of macroalgae, an in vitro study was performed with the tips, cystocarps and thalli segments of *Gracilaria chilensis*. Whole algae incubated during 3 days at high and low PAR, supplying UV-B ($4.6 \mu\text{W cm}^{-2}$) during 2 hours showed, as predicted, an increase in absorption (OD) at 320 nm of the different parts, after the first day of exposure to UV-B. The tips presented the highest increase in the standardized OD at 320 nm relative to cystocarps and thalli segments; their mean percentage of increase was 38% and 29% at low and high PAR, respectively. The lowest sensitivity was consistently found in the thalli segments, while the highest was in the tips. The tips