

RESPONSES OF SUBTIDAL ALGAE TO UV RADIATION AND GRAZING IN ANTARCTICA

G L Campana¹, M L Quartino¹, A K Wulff², C Wiencke³, F Momo⁴

¹*Instituto Antartico Argentino, Buenos Aires, Argentina*, ²*Goteborg University, Goteborg, Sweden*, ³*Alfred Wegener Institute for Polar and Marine Research, Bremerhaven, Germany*, ⁴*Universidad de General Sarmiento, Buenos Aires, Argentina*

The effects of ambient UVR and grazing on the structure of the community of antarctic subtidal macro and microalgae were evaluated in a field experiment carried out in a hard-bottom site at 2m depth in Potter Cove (King George Island, South Shetland).

Total cell number, richness, diversity and evenness of the community (composed by macroalgal propagules and diatoms) were followed for ten weeks.

At a macroscopical level (>2mm), green algae settlement was delayed in UVBR treatments, whereas colonial diatoms were not affected.. At the microscopical level (>0.2mm), red algae settlement was affected by UVR and grazing. Diatoms were not affected by UV radiation whereas grazing significantly reduced the total cell number and the species diversity, by reducing evenness.

Our findings suggest that UVR and grazing play a key role in structuring the benthic producers community .Thus, the result of the interaction of both studied factors are expected to affect the structure and dynamics of the benthic system and cause modifications of the energy and matter flows through the coastal food web.