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hand, transitional waters of the Azores are located at the geomorphologically peculiar Fajãs of São Jorge Island, with a strong human influence on their margins, bed and communication with the sea. The knowledge of Azorean coastal waters quality based on the known quality parameters required by WFD is fragmentary and there is no temporal data series. Bibliography is dispersed and of variable quality. The present project aims at gathering temporal data to clarify the status of these water masses and to develop and test methodologies that will be used in future monitoring programmes.

P3.30

High-latitude species of marine amphipods are less adaptable to climate change than their temperate counterparts

Rastrick SPS, Whiteley NM

To further examine the adaptability of polar marine invertebrates to climate change, metabolic rates (MR) and thermal tolerances were determined in several species of ecologically important marine gammarid amphipods living at different latitudes (78-38°N). Comparisons were made between an Arctic species, *Gammarus setosus*, a cold-temperate species, *G. oceanicus*, and a warm-temperate species with Mediterranean ancestry, *G. locusta*. MRs, measured as rates of oxygen uptake, were taken at the habitat temperatures recorded at the time of capture and scaled to a standard wet mass of 1mg. Between species, MRs were significantly lower (Kruskal-Wallis $P < 0.001$) in *G. setosus* and arctic populations of *G. oceanicus* than in *G. locusta*. Thermal tolerance and aerobic scope also decreased at higher latitudes. Arctic populations (78°N) of *G. oceanicus* had significantly (Kruskal-Wallis $P < 0.05$) lower MRs than more temperate populations (58°N). In contrast, latitude had no effect on the MRs of *G. locusta*. When acclimated to a common temperature, more northerly populations of *G. locusta* exhibited an up-regulation of MR. This was not observed in *G. oceanicus* which exhibited greater temperature dependence. It appears that warm-temperate species compensate for temperature-related changes in MRs, whereas the Arctic/cool-temperate species do not. Such differences could be related to their ancestral origins and thermal histories, as well as latitudinal variations in the thermal-stability and total energy budget of the environment. This may lead to species-related differences in the ability to survive further environmental change.

P3.31

Does the oligogulonate-activated oxidative burst affect the defensive capacity of *Saccharina latissima*?

Rickert E, Weinberger F

We investigated the response of surface associated living bacteria after eliciting the brown alga *Saccharina latissima* with homooligomeric guluronic acid. This oligosaccharide is generated during enzymatic microbial attacks upon the alginic cell wall matrix of kelps and triggers an oxidative burst followed by a measurable release of hydrogen peroxide into the surrounding medium. Previous laboratory studies have shown for kelps that oligogulonate activates or induces defensive mechanisms against endophytic algae and epiphytic bacteria. It was reported that inhibition of the oxidative burst in *Macrocystis pyrifera* and *Laminaria digitata* directly resulted in a loss of the defensive

capacity against epiphytic bacteria. In our field study, in contrast, an induced oxidative burst in *S. latissima* did not significantly affect the number of associated living bacteria. Moreover, sporophytes treated and untreated with oligogulonate and exposed in the Baltic Sea at 16 psu developed similarly well, suggesting that *S. latissima* regulates the dispersion of epiphytic bacteria either through oligogulonate-induced gene expression or in another effective way. We also present additional laboratory experiments regarding the defence capacity of *S. latissima*.

P3.32

New additions to the Azorean algal flora with ecological observations on rhodoliths formations

Rosas-Alquicira EF, Couto RP, Neto AI, Riosmena-Rodríguez R

Nongeniculate coralline algae are abundant and ecologically important at the Azorean littoral. Despite their importance and abundance, they have been only sporadically investigated with a few papers reporting their presence in the archipelago. This study reports for the first time the occurrence in the Azores of *Spongites yendoi*, *Lithophyllum corallinae* and *Phymatolithon calcareum*. The first two were found in Ilhéu de Vila Franca-São Miguel Island, while the third in Lajes do Pico-Pico Island. All the species were found as rhodolith-forming species. In each locality the depth range and approximated area of rhodoliths were obtained in situ, while the cover percentage and rhodolith sampling was done from three 20 m long transects, where four quadrats (25 cm x 25 cm) per transect were randomly selected. For each rhodolith the mean branch density and sphericity level was also obtained. Significant differences were found on the percentage cover, maximum length and sphericity between both Islands, the higher values registered for São Miguel. No significant differences were found on the mean density and branch density between both Islands. The sphericity differences between isles seem to be influenced by the hydrodynamic conditions but further studies are necessary to confirm this. Further studies on the taxonomy of the nongeniculate coralline algae in the Azores will be important to determine the real biodiversity of this group in the area.

P3.33

Are the reported coralline red seaweeds species for the Macaronesian region taxonomically still valid?

Rosas-Alquicira EF, Riosmena-Rodríguez R, Neto AI

The Macaronesian region, characterized by a mixed algal flora with temperate and tropical elements, is considered as an important biodiversity hot spot in the north-eastern Atlantic. The Order Corallinales is an important element in this region, with records going back to the 1800's (Canaries Archipelago) and many specimens housed in different herbariums. The taxonomy of this group has been re-evaluated on the last century but only a few species were reviewed. As a result there is no consensus on the nomenclature of most species, neither a revision of the coralline red algae taxonomy in the Macaronesian. This work is the first critical recompilation of the Macaronesian coralline red algal species. It aims to clarify nomenclatural problems and re-evaluate the Macaronesian Corallinales. The published information for the region was reviewed