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Structure and seasonal variations of benthic algal communities on São Miguel (Azores)

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This paper presents the preliminary results of an ongoing investigation into the subtidal benthic marine algal communities at two sites on the island of São Miguel (Azores). The northern site (São Vicente) is more exposed to wave-action than the locality on the south coast (São Roque).

The composition of the algal communities was examined in terms of percentage cover and biomass of component species over the period of September 1993 to October 1994 at three depths (5, 10 and 15 m).

Biodiversity was variable at both sites according to depth and time of year. At S. Roque, which had the greatest species diversity, the number of species generally decreased over spring and summer from peaks in autumn-winter, while at S. Vicente, the numbers of species were more consistent throughout the year at 10 and 15m but were variable at 5m. Biomass determinations, from dry weights obtained from random, cleared quadrats (0,25m²), also showed differences between the two sites. At S. Roque, biomass was consistently low at 10 and 15m, while at 5m it was higher but more variable. The north site showed the opposite trend: lower but steady dry weights at 5m over the year, with higher but more variable values at 10 and 15m depths. The dominant species also varied between sites. At S. Roque, erect corallines were most abundant at shallow depths with *Halopteris scoparia*, *Dictyota* spp., *Zonaria tournefortii* and *Asparagopsis armata* dominant deeper, while at S. Vicente, there was a greater variety of abundant species at all three depths.

Many of the algae showed a marked seasonality in their occurrence: *Hypnea musciformis* most abundant in summer, *Chondracanthus acicularis* found mainly in autumn to winter and *A. armata* most abundant in winter-spring.

The two sites are continuing to be monitored to find whether these variations are typical and how they are caused.