



THE EFFECT OF NATURAL VS. ARTIFICIAL SUBSTRATA ON THE DEVELOPMENT OF BENTHONIC ASSEMBLAGES INSIDE MARINAS

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The replacement of natural by artificial coastal structures has been highlighted as one of the major anthropogenic impacts on the structure and functioning of coastal communities. Here we examine the effect of substratum type on the development of benthonic assemblages in urbanised areas of the Azores. Experimental plates of natural (basalt) and artificial (concrete and fibre glass) substrata (totalling 360 plates) were deployed at 1m depth in each of two sites (10's of m apart) within each of two marinas (km's apart) in São Miguel. We further examined the effect of time of deployment on community succession by deploying half the number of plates each in winter and summer (respectively). Replicate plates will be taken at 1, 2, 3, 6 and 12 months to follow community succession. Species richness, evenness, and the cover of dominant functional groups will be sampled in each plate. Preliminary analyses showed that differences in the structure of benthonic assemblages among substrata were already apparent at very early successional stages (1 - month old) suggesting that these are mediated by habitat - specific features (e.g. micro - topography) acting on organism settlement.

Key - words: coastal urbanization; benthonic communities; succession.