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Preliminary Study of Coccolithophores in São Miguel, Açores

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Marine phytoplankton is commonly subdivided in several categories according to cell dimensions. Calcareous nannoplankton includes the smallest fraction of the protists. They produce calcium carbonate scales of varied shapes and functions and are responsible for 90% of marine primary production. Due to this biogenic production of CaCO_3 coccolithophores play an important role in the CO_2 sink in the oceans and at the same time it allows to be preserved in the sedimentary record. Water samples were collected in October/November, January/February and April 2002 and 2003 at four different places of São Miguel (São Vicente at the north coast, Porto de Ponta Delgada and at 500 meters and 3 nautical miles from São Roque in the south of the Island), using a Rittcher & Wiese bottle and a 20 μ net. The samples for global phytoplankton, coccolithophores, salinity, pH and chlorophyll *a*, were made at one or two levels in the water column, depending of the depth of the place. Species were identified and quantified in order to study seasonal variations within the associations. This is a pioneer work in Açores in what concerns the study of coccolithophorid assemblages during a seasonal time series.

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Macroalgal diversity in relation to environmental factors in the northern Baltic Sea

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In the species poor Baltic Sea, biological communities are assumed to be mainly regulated by abiotic factors. This is supported by phytobenthic studies showing that large-scale distribution patterns are correlated mainly with salinity, depth and type of substrate. We show that small-scale variation in species composition may also to a large part be explained by abiotic factors, as exemplified by analyses of macroalgal diversity in the northern Baltic Sea. According to multivariate analyses, 50 % of the variation at 4 m depth was explainable by local abiotic factors, and up to 61 % at 10 m depth. At all studied depths, the two first ordination axes were typically highly correlated with cover of sediment on the rock, degree of wind exposure and/or physiognomy of the transect. Variation in species depth distribution was explainable up to 92 % by degree of exposure and sediment cover. The investigated diving transects partly included revisits to sites established 50 years ago, enabling an evaluation of changes in macroalgal species composition over time. Responses of individual species and implications for their distributional dynamics will be presented.

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