Structure and composition of subtidal seaweed assemblages in the Marine Reserves from Canary Islands: spatial variation and environmental factors

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In the present comunication a study of the structure and composition of seaweed assemblages in the three Canary Marine Reserves (Reserva Marina de La Palma, Reserva Marina del Mar de Las Calmas y Reserva Marina de la Graciosa e Islotes al Norte de Lanzarote) was carried out. The sampling was developed during different campaigns from December 2004 and December 2006. A total of 24 stations were established. In each of these a sampling of depth strata (5-10 m, 10-15 m and 15-20 m) took place. In every strata the cover of seaweeds was estimated with a 25x25 cm square. Sea urchin *Diadema antillarum* density was also determined by way of 10x2 m lineal transects. Data of different environmental variables such as sedimentation, substrate type, wave exposure, slope and rock roughness were taken too.
The results reveal an important spatial variation in the structure and composition of the assemblages along the three reserves. The Reserva Marina de La Palma and Mar de las Calmas have very similar assemblages, where *Lobophora variegata* is dominant. In both reserves the bottoms are similar, and both are located in the southwest with similar conditions of wave exposure. The other hand in the Reserva Marina de La Graciosa the bottoms are dominated by crustose coralline algae and fucaceae (*Cystoseira*, *Sargassum*), although these last ones are limited to localities with greatest wave exposure.
In the environmental variables studied sedimentation is responsible for the greatest differences between assemblages, after this variable come *D. antillarum* density and wave exposure. Finally other variables such as type substrate, rock roughness and depth explain a small part of the variation between assemblages.
Part of the spatial variation between reserves is caused by the oceanographic differences existent, as the waters of Reserva de La Graciosa are 1,5-2 °C colder than the waters of Reserva Marina de La Palma and Reserva del Mar de Las Calmas, and the effects of *D. antillarum* are greater in Reserva de La Graciosa.

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