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Assemblages of the bathyal decapod crustaceans community in the Canary Islands

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In the framework of the European Initiative Interreg III-B project PESCPROF-1 (MAC/4.2/M12), the deepwater epi- and benthic decapod crustaceans occurring off the Canary Islands between 150 and 3000 m of depth were studied. Specimens were collected using three types of baited traps (bottom and floating) during eight cruises along the slope of the island of Gran Canaria in 2003 and 2004. Collecting was carried out following a strategy based on experimental fishing operations. Cluster analysis for fishing operations showed four differentiated groups of samples: a transition shelfslope assemblage comprising 26 operations carried out at 120?317 m depth; an upper slope assemblage comprising 24 operations carried out at 361?690 m depth; a middle slope assemblage comprising 26 operations carried out at 770?1932 m depth; and a deep slope assemblage comprising 16 operations carried out at 1935?2554 m depth. Similarity between main groups was very close to zero and significant differences occurred in community composition among sites (ANOSIM, $p < 0.05$). Cluster analysis for the decapod crustaceans revealed four associations: the first consisted of eurybathic species of the shelf-slope ecotone (150?300 m depth) such as *Plesionika holthuisi*, *Plesionika narval*, *Plesionika martia*, *Parthenope macrochelos*, *Homola barbata*, *Maja goletziana*, *Dardanus arrosor*, *Calappa granulata*, *Plesionika edwardsii* and *Systellaspis pellucida*; the second was composed of bathyal species mainly distributed in the upper slope (300?700 m depth) such as *Plesionika williamsi*, *Plesionika ensis*, *Heterocarpus ensifer*, *Plesionika martia*, *Penaeopsis serrata*, *Goneplax rhomboides*, *Polychaetes typhlops*, *Eumunida bella*,

Aristaeomorpha foliacea, *Aristaeopsis edwardsiana*, *Chaceon affinis*, *Cancer bellianus*, *Bathynectes maravigna* and *Paromola cuvieri*; the third comprised middle slope species (900?1700 m depth) such as *Sergia robusta*, *Sergia splendens*, *Acanthephyra eximia*, *Rochinia carpenteri*, *Heterocarpus laevigatus*, *Heterocarpus grimaldii* and *Benthesicymus bartletti*; and the last consisted of lower slope species (1900?2600 m depth) such as *Chaceon inglei* and *Oplophorus spinosus*.

Correspondence analysis used to examine patterns of species assemblages in relation to water mass present in the Canary Islands (Surface Water, SW: 0?200 m depth; Eastern North Atlantic Central Water, ENACW: 200?800 m depth; Mediterranean Water with lentils of Antarctic Intermediate Water, MW?AIW: 800?2000 m depth; and North Atlantic Deep Water, NADW: 2000?3000 m depth) showed four groups. Dimension 1 separated the assemblages corresponding to the transition zone between the insular shelf and the upper slope (transition between SW and ENACW), as well as the bathymetric region of the ENACW from the MW?AIW and the NADW. Dimension 2 pointed out a clear separation between the shelf-slope and the ENACW area. Results showed species narrowly attached to the groups determined, as well as other species widely distributed between areas which are *Paromola cuvieri*, *Aristaeomorpha foliacea* and *Homola barbata* between the upper slope and the ENACW, or *Chaceon affinis* between ENACW and MW?AIW.