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Surveying the deep marine resources of Macaronesia – Towards a responsible exploitation.

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In the framework of the project series PESCPROF-1, 2 & 3 (2003-2007), the deepwater benthic megafauna occurring off the Canary, Madeira and Azores islands between 250 and 2500 m of depth has being studied and their potential fishery resources ascertained and assessed, as an alternative to over-exploited traditional fisheries. A major objective of this survey in the Macaronesian region (Northeast and Eastern Central Atlantic) is to gather a core of oceanographic, biological, ecological and fisheries data, in order to build up a scientific and technological basis which will support management measures for a responsible exploitation in a near future according to the FAO ecosystem-based approach. Upon conclusion of research activities, the information and know-how gathered should guarantee anticipative regulations and precautionary management of these potential small-scale fisheries to be developed in restricted deep-sea grounds off the islands. Specimens were collected using four types of baited traps and two types of longlines during a series of cruises along the upper and mid-slopes of these islands and neighbouring seamounts, between 2003 and 2006. Catches were obtained following a strategy based on experimental fishing operations at seven depth intervals (mean depth at 250, 500, 750, 1000, 1500, 2000 and 2500 m). At least eight species of decapod crustaceans and fishes (200-1100 m), and at least 13 species of decapod crustaceans and fishes (1000-2500 m), can be considered of potential interest to local fisheries and further studies on them should be done (in order to identify the stock unit, assess the total biomass by stock and establish the MSY to be applied in the earlier steps of exploitation). The striped soldier shrimp Plesionika edwardsii (Pandalidae) aroun 250 m and the

red deep-sea crab Chaceon affinis (Geryonidae) around 750 m appeared to be the most important new target resources from a biological and commercial point of view. Data gathered also confirm previous assumption of the fishery potential of common mora Mora moro (Moridae) around 1000 m. Regarding the fishing gear used, several innovative modifications have been adopted in order to comply with the following main criteria: use as much environment-friendly materials as possible, have low impact on seabed and high specific selectivity (minimizing the bycatch). Complying with these criteria should be mandatory in any future commercial exploitation of these newly found resources. These potential small-scale fisheries should be capable to produce spin-off activities of socioeconomical interest for the local fishermen communities, e.g. transference of specific technology, hand-making of traps, promotion and commercialisation of new deepwater products on the local (and European) markets, and new and qualified employment. This research was cofunded by the EU FEDER, INTERREG III-B projects, ref. MAC/4.2/M12, 03/MAC/4.2/M8 and 05/MAC4.2/M11.