



Trophodynamic studies of the CONDOR seamount (Azores , Portugal, North Atlantic)

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Seamounts are widespread and abundant topographic features of the world's oceans and yet knowledge on their biodiversity and ecosystem functioning are scarce. They are common features in the Azores archipelago EEZ and are extremely important ecosystems in the region, as hotspots of marine life and for fisheries.

CONDOR is a multidisciplinary project which integrates scientific research, management and public outreach. This integrated project is implementing an underwater observatory on the Condor seamount, in the Azores, for a better understanding of oceanographic and biological processes occurring at seamounts.

Seamount ecosystem trophic structure and functioning was studied covering the pelagic environment (zooplankton, ichthyoplankton, mesopelagic organisms and top predators) and the sea bed habitats (demersal fishes and benthonic macrofauna). Stable carbon and nitrogen isotopic signatures were determined on these species and compared to other samples from the Mid-Atlantic Ridge (South and North of the Azores). The values overlap and cover a large range within feeding types, indicating a strong overlap in food sources and a high degree of competition for food. The highly mobile benthopelagic predators/scavengers, are at the top trophic position with the higher nitrogen values, and represent a major link with the benthopelagic food web through their feeding on pelagic prey. Trophic guilds were established, and the role of fishes on the benthic hardrock fauna was investigated.