

The fishery impact on *Isidella elongata* facies: demographic, biodiversity associated and mapping analysis

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*Isidella elongata*, plays an important ecological role like habitat former, as it increases the three-dimensional habitat complexity of the otherwise flat bathyal bottoms with its candelabrum-like shape. Dense patches of bamboo corals constitute a relevant habitat for several fishes and crustaceans to feed and shelter. The *Isidella* facies (IF) represents, thus, a hotspot of biodiversity in the context of the bathyal environment. Bamboo coral, despite his key structuring species role on deep muddy bottoms, has suffered severe consequences from bottom-fishing activities, as it often co-occurs with precious fishery resources such as red shrimps. Moreover, IF is considered an example of Vulnerable marine ecosystems (VMEs) that are overall defined as a group of species, communities, or habitats characterised by hotspots of biodiversity and ecosystem functioning in the deep sea that may be exposed to the impacts of fishing activities. In this study, we explored the spatial distribution and the demographic structure over time, along with the diversity of IF associated fauna in the southern Adriatic Sea, by using a time-series data of 9 years from the Mediterranean International Bottom Trawl Survey. The increase in fishing pressure on IF has coincided with a significantly loss of biodiversity and changes in the basal diameter distribution of the colonies. A fisheries-restricted area was recently proposed in the context of the General Fisheries Commission for the Mediterranean at the Otranto Channel to help the conservation of IF and the biodiversity associated in the southern Adriatic Sea.