

## Species composition, distribution and abundance of butterflyfish relative to reef substrate types in Djibouti

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The Species composition, distribution and abundance of the butterfly fish, Family Chaetodontidae, relative to reef benthic structure were investigated at 18 sites along the coastal area and offshore Islands of Djibouti. The investigated area was divided geographically into four regions as Sept Fréres, Moucha Maskali, Tadjourah Nord and Tadjourah Sud. Estimated coverage of each substrate types was examined with point intercept methods according to Reef Check protocol. Visual censuses of Chaetodontidae were performed on the belt transect based on the line used for the substrate study.

Live coral cover ranged from 5.0 % to 71.9 % and the average was 38.1 %. The site groupings as results of statistical analysis and MDS ordination from substrate data roughly divides the reef benthic structure of Djibouti into 3 regions; southern mouth of Red Sea, offshore islands of Capital City and Gulf of Tadjourah. The separation of southern mouth of Red Sea from the other regions coincides with cluster analysis results from fish data. This likely indicate that the biotic community as reef benthic structure is major factor to regulate the composition, distribution and abundance of Chaetodontidae. Chaetodontidae segregate their habitat in relatively small areas, maintaining populations supported by varied substrate composition.