Species composition and diversity of fish assemblages associated to anchored FADs in the Western Indian Ocean

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Résumé

Species composition and diversity of fish assemblages around anchored FADs in the Maldives, Seychelles and Mauritius were investigated using the Underwater Visual Census (UVC) technique. A total of 48 UVCs were performed in all three countries on four selected FADs in each country. A total of 37 species belonging to 20 families were observed during the study in all three countries. The Carengidea family was the most dominant in all three countries with Caranx sexfaciatus, Elagatis bipinnulata and Decapeterus macarellus being the most occurent species. The fish assemblages observed consisted of pelagic fish as well

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as coral fish species which contributed to the higher species richness observed at certain FADs. Several indices were computed to provide an integrated view of diversity. Overall, the Maldives displayed the highest mean diversity per FAD (e.g. species richness and evenness: Shannon H' = 1.05, SD ± 0.31) followed by the Seychelles (Shannon H' = 0.81, SD ± 0.34) and lowest being in Mauritius (Shannon H' = 0.66, SD ± 0.27). Large variations in species richness of assemblages were observed during the study ranging from 2 to 16 species per observation. A Principal Coordinates Analysis (PCoA) based on Bray-Curtis distances between assemblages suggests a latitudinal effect on their composition and abundances; the Maldives and Mauritius assemblages being the most different, with an intermediate overlap with the Seychelles.

Mots-Clés: Indian Ocean, diversity, UVC, fish assemblages, FADs