

Connectivity of *Amphiprion akallopisos* (skunk anemone fish) in the Indian Ocean

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The dispersal of the skunk anemone fish (*Amphiprion akallopisos*) is limited to the larval stage, because during their adult life these tropical fish live in symbiosis with sea anemones and do not migrate. The species has a disjunct distribution with subpopulations in the eastern and the western part of the Indian Ocean. Larval dispersal enables anemone fishes like *A. akallopisos* to disperse over long distances. Genetic studies, as well as studies on defensive behaviour and colour pattern, have shown that considerable regional intra species variety exists in the genus *Amphiprion*, notwithstanding the species' capacity of long distance dispersal through pelagic larvae. The goal of this master thesis is to examine the connectivity between the eastern and the western subpopulations of *A. akallopisos* as well as connectivity on a smaller scale, within these subpopulations, studying the genetic population structure. DNA will be extracted from fin clips of specimens from different parts of the Indian Ocean. Mitochondrial DNA (control region) will be amplified using Polymerase Chain Reaction and sequenced. From these sequences, a haplotype network will be made and an Analysis of Molecular Variances (AMOVA) will be conducted, which permit to interpret geographical connectivity within this species. The study contributes to a better understanding of coral reef connectivity and tropical fish species distribution and dispersal. It also serves management purposes by providing useful information for the management of Marine Protected Areas.