Population structure and connectivity patterns of needlefish *Tylosurus crocodilus* in tropical coastal waters: an assessment using otolith chemistry analysis

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The study is on the population structure and connectivity patterns of the needlefish *Tylosurus crocodilus* in coastal waters of Tanzania (including the islands of Zanzibar, Pemba and Mafia). *T. crocodilus* is a highly abundant fish caught by artisanal fishers in coastal habitats across Tanzania. Surgical removal of otoliths from 68 fish individuals ranging from 30 to 101 cm in total length (TL) caught from different habitats (including mangrove, seagrass meadows, lagoons, coral reef and offshore habitats) was done between May and November 2016. Water samples for the corresponding habitats were also collected. Laser abrasion by inductively coupled plasma mass spectrometry (ICP-MS) was done at Lund University. Elements of Li, B, Mg, Mn, Fe, Co, Cu, Zn, As, Rb, Sr, Mo, Ru, Cd, Sn, Sb, Ba, Hg, Tl, Pb, Bi, Th and U were quantified. Results from this study are suggested to give an indication of population structure and connectivity patterns of *T. crocodilus*; such information is adequate for understanding the population dynamics of this valuable species, and important for management of this and other belonids in the tropical seascape.

Keywords: Population structure, connectivity patterns