

Extremely low genetic diversity in *Uca annulipes* (H. Milne-Edwards, 1937) in deforested mangroves

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The fiddler crabs *Uca annulipes* are common dominant species in mangrove forest. They are well known for their engineering activities of burrowing in sediments, which enhance soil aeration and makes unavailable food to be available for other marine organisms. Salt farming is a threat to mangrove ecosystem in some countries of Africa and Asia. It involves clearing of mangroves to pave the way for construction of solar pans. This study took place along the Tanzania coast, where about 75 % of the salt is produced in solar pans, which are located in mangrove areas. Mitochondrial Cytochrome Oxidase subunit I (COI) sequences from 138 and 126 individuals inhabiting mangrove sites around the salt ponds and sites with no salt ponds were used to investigate whether there is shift in genetic diversity due to salt farming activities. Extremely low genetic diversity was obtained from populations residing in deforested mangrove sites around salt ponds. The differences in genetic diversity between populations from mangrove sites around salt ponds and sites without salt ponds were significant ($p < 0.05$). The cause of this extremely low genetic diversity may be due to inbreeding within the populations that resulted from isolations of these populations due to fragmentation of the habitat. These results have implication on conservation of coastal resources and sampling strategy in the field.

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