

**DIVERSITY OF ICHTHYO FAUNA AT THE UPPER NORTHERN BASIN OF THONDAMANARU LAGOON, JAFFNA, SRI LANKA**

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An assessment of fish diversity is essential to maintain ecological stability and the lagoon fisheries. This study examined the fish fauna at the upper northern basin of Thondamanaru Lagoon. Samples were collected fortnightly from November 2021 to October 2022 from three selected sampling sites (L1- beyond the barrage, in front of the fieldwork centre, L2- near the barrage and in front of Selva Sannathikovil and L3-near the sand bar) at the upper northern basin of Thondamanaru lagoon, with the help of fishermen. Collected fishes were identified to the species level at the laboratory by using their morphological characters. This survey showed the occurrence of 45 species belonging to 27 families and eight orders. Perciformes is numerically the largest with 32 species, followed by Clupeiformes with five species, Beloniforms and Cichliformes with two species each. Beryciformes, Pleuronectiformes, Gonorynchiformes and Siluriformes were represented by single species only. *Sardinella albella* (14%) was the most abundant fish species in L3. *Oreochromis mossabicus* (29%) and *Gerres abbreviatus* (55%) were abundant in L1 and L2, respectively. The highest Shannon Diversity index ( $H'$ ) was in L3 ( $H' = 5.9257$ ), whereas the minimum was found at L2 ( $H' = 1.0207$ ). At the same time, the highest Simpson's index was in L1 ( $D = 0.1966$ ), while the minimum was at L3 ( $D = 0.0561$ ). The highest abundance of ichthyo fauna was recorded in L3, followed by L1, and L2. This study revealed the impact of barrage construction across the lagoon on the diversity, distribution and abundance of ichthyo fauna, supporting the conservation and management of fishery resources in this lagoon.

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