

Fish species diversity and their distribution in Negombo Lagoon

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Lagoons are ecosystems that provide many ecosystem services including provision of habitats for plant and animal species. However, these ecosystems are at a great risk of declining species diversity due to anthropogenic influence. Fish species are one of the most impacted biotic components in these ecosystems. Fish species in the Negombo lagoon are also under a greater risk owing to the pressure exerted by the increasing population and anthropogenic activities in and around the surrounding areas. Therefore, this study attempts to assess the fish species diversity and their distribution in the Negombo lagoon. A field survey was conducted to identify the species based on habitat heterogeneity. Twelve samples from natural habitats, seven from artificial habitats and four from semi-natural habitats were stratifically selected for the survey. A total of 23 samples were selected covering two banks of the lagoon. A cast net with a mesh size of 1.25 inches was used to catch the fish for enumerating, and observations were carried out three consecutive times in each sample. Richness and diversity of fish species were calculated by using Margalef richness index and Shannon-Weiner diversity index of the fish species. Excel-stat and Arc GIS soft wares were interactively used for data analysis. A total of 20 fish species were enumerated belonging to 7 orders, 18 families and 19 genera. Among them, *Mystus gulio* was found as the most common species, while *Brachirus orientalis* was the rarest species. According to the findings the highest species diversity was found in left bank, with 1.1877 Shannon-Weiner index. The highest species abundance was recorded from the right bank, reporting 0.9289 abundance index. The highest overall richness was found in the left bank, with the value of 1.7765 Margalef richness index. The highest diversity and species richness could be identified from the left bank of the lagoon.

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