



A Preliminary Assessment of Mangrove Species Diversity at Punkuduthivu and Ponnalai in Jaffna Peninsula, Sri Lanka

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Mangroves are unique and highly productive coastal ecosystems, enriching coastal waters, safeguarding coastlines, and provide a wide range of essential ecosystem services. They are characterized mainly by the presence of unique mangrove trees, which are specially adapted to thrive in saline, waterlogged soils with fluctuating tidal conditions. These ecosystems provide habitat for a diverse range of fauna inhabiting brackish water environments. The present study was carried out to identify and document different mangrove species occurring at two selected locations (Punkuduthivu and Ponnalai) in the Jaffna peninsula from March to September, 2025. Mangrove species were identified to the species level based on the morphological characteristics of leaves, fruits, stems, flowers, and roots using standard taxonomic keys. The present study identified three species namely *Avicennia marina* (Family: Acanthaceae), *Rhizophora mucronata* (Family: Rhizophoraceae) and *Excoecaria agallocha* (Family: Euphorbiaceae). Field observations revealed that *Avicennia marina* was more prevalent than *E. agallocha* in the Punkuduthivu area. In the Ponnalai area, *R. mucronata* was identified as the dominant species followed by *A. marina*. In addition to the true mangroves, three mangrove associates, namely *Salicornia* sp., *Suaeda maritima*, and *Sesuvium* sp., were recorded at both study locations. As a preliminary assessment, this study establishes essential baseline information on mangrove and mangrove-associated species in the selected locations. In the future, these findings will be helpful in guiding restoration initiatives, biodiversity conservation, and the sustainable management of mangrove ecosystems in the Jaffna Peninsula.

Keywords: Coastal waters, Mangroves, Mangrove associates, Restoration, Species diversity