

Distribution of Mangrove Species in the Jaffna District, Sri Lanka**Rajkumar P.^{1*}, Wijesundara C.², Ranawana K.²**¹*Posgraduate Institute of Science, University of Peradeniya, Peradeniya, Sri Lanka*²*Department of Zoology, University of Peradeniya, Peradeniya, Sri Lanka*

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Abstract

Mangroves are woody, seed-bearing, and highly specialised trees and shrubs that grow in the intertidal zone. They provide suitable habitats for a large number of migratory and resident bird species and other aquatic organisms and possess a high ecotouristic value. Jaffna district harbors some of the major mangrove sites in Sri Lanka, with large extents of undisturbed mangroves. Mangrove diversity and distribution has never been studied in Jaffna district since 1969 due to three-decade long armed conflict that prevailed in the entire northern part of Sri Lanka. The objective of the present study was to identify the mangrove species and their distribution in the Jaffna District. The study was conducted in the Jaffna district from 2014 to 2018. Line transects and spot-check methods were used to determine the distribution and abundance of mangrove species. Distribution of mangroves in the entire district was surveyed using GPS and the distribution maps were prepared using Q-GIS and ArcView. Then the distribution maps were intersected with Grama Niladhari Division maps and mangrove species distribution was evaluated Grama Niladhari Division wise. The current distribution map was compared with the distribution map of 1969. The mangrove species recorded in the present study are *Excoecaria agallocha*, *Lumnitzera racemosa*, *Rhizophora mucronata*, *Aegiceras corniculatum*, *Avicenna marina*, *A. officinalis*, *Ceriops tagal*, *B. cylindrica* and *Pemphis acidula*. Of these, *Bruguiera cylindrica* on the Island of Sirudivu, *C. tagal* on Mandaitivu Island and *A. corniculatum* from Sarasalai to Chempianpattu were first records of these species in Jaffna district. *Avicenna marina* is the dominant species which was recorded in high salinity areas especially in southern and western parts of Jaffna and the Islands. These areas are associated with the Jaffna Lagoon. *E. agallocha*, *L. racemosa* and *R. mucronata* are the most common species in other parts of the district. They are commonly found in the northern and eastern parts of the district and these areas are connected to Thondamanaru and Upparu lagoons. *A. officinalis*, *C. tagal*, *B. cylindrica* and *A. corniculatum* are restricted to mainland Jaffna District. Mangroves are distributed in 60 Grama Niladhari Divisions (totaling 3,680.83 ha) where large extents (over 100 ha) of mangroves are found in 15 divisions (totaling 3,099.58 ha). Thirty five divisions support smaller extents of mangroves. High density of tall trees of *Rhizophora mucronata* were found from Sarasalai to Chempianpattu in the middle part of the Thondamanaru lagoon. New mangrove stands are establishing in some parts of islands such as Kerativu and Thanankilappu areas and they are absent in some parts of the southern part of Jaffna District compared to the distribution map of 1969. This may be due to clearing of mangroves in these areas. The study revealed that nine true mangrove species, belonging to five families occur in the Jaffna District, distributed over a large number of Grama Niladhari divisions. At present, improper road constructions, hotel development, construction of a sea water exclusion barrage at Thondamanaru, and lack of awareness on mangrove ecosystems have negatively impacted on these ecosystems. Hence, more attention should be given to protect the mangrove ecosystem and environmentally friendly development activities should be promoted to conserve them.

Keywords: Mangroves, Thondamanaru lagoon, Distribution, Species, Jaffna district