

581
17A

**SPECIES COMPOSITION AND DIVERSITY OF MANGROVES IN
MADU GANGA MANGAL**

A PROJECT REPORT PRESENTED BY

M. G. MANOJ PRASANNA

to the Board of Study in Plant Sciences of the
POST GRADUATE INSTITUTE OF SCIENCE

*In partial fulfillment of the requirement
for the award of the degree of*

MASTER OF SCIENCE IN PLANT SCIENCE

of the

**UNIVERSITY OF PERADENIYA
SRI LANKA
2008**

625838



Abstract

**SPECIES COMPOSITION AND DIVERSITY OF MANGROVES IN
MADUGANGA MANGAL****M. G. Manoj Prasanna**Biodiversity Secretariat
Ministry of Environment & Natural Resources
Sri Lanka.

Mangroves are found in inter tidal areas of tropical and sub tropical and subtropical coastlines. They are salt tolerant woody plants species found along lagoons, bays, and estuaries. Mangrove substratum is inundated twice a day by high tides. These inter tidal plant communities of different families show remarkable adaptations to survive in saline and water logged soils. In Sri Lanka, mangroves are distributed discontinuously along the shore line. The extent of mangroves in Sri Lanka is about 12,000 ha which is about 0.01% of the total land area. However, a recent estimate of the extent of mangals in Sri Lanka indicates that the total area covered by mangroves in 2002 is about 6,080 ha. There are 20 true mangrove species found in Sri Lanka.

Major objective of this project was to study the floristic composition and the diversity of mangroves in selected localities in Madu Ganga estuary. Study of floristic richness, vegetation structure and spatial distribution of key mangroves in Madu Ganga estuary were the other objectives of the study.

This study was carried out using belt transect method. Each transect was five meter in length and the length dependant to the width of mangal. Each transect was 5 m in width and its length extends up to the landward margin of the mangal. Each transect was divided to 5 X 5 m sub plots.

Structural diversity of six sites was studied in terms of floristic composition, density and basal area.

Eleven true mangrove species were recorded in the Madu Ganga mangal. The highest stand density value recorded from Site 6 at Polathukanda which was 26,800 plants/ha. *Acrostichum aureum* and *Rizophora apiculata* were the dominant species of this mangal. Higher basal area of the mangrove stands in Site 1 indicates greater maturity of trees than in other sites. Shannon diversity index of Site 4 (1.7) which is at Gorakagoda shows the maximum value among six sites. So it was the highest diverse site in Madu Ganga where the tree species are more evenly distributed than in other sites in the Madu Ganga mangal.

The clearance of mangrove for cinnamon cultivation and house construction is the major threat in the Madu Ganga mangal. For the conservation of this valuable mangal the awareness building among villagers is very important.