

## **Structure of macrophyte communities in a freshwater wetland and their relative capacity of nitrogen retention**

W. M. P. Jayawardhana and M. D. Amarasinghe

*Department of Botany, University of Kelaniya, Kelaniya.*

Species richness of macrophyte species in the inlets, outlet and the centre of Iriyawetiya wetland at Kelaniya was determined with a view to understanding the relative contribution of constituent species in removing nitrogen from the water column and sediment of the wetland. Samples of vegetation were obtained using 0.5 m x 1 m floating quadrats, placed along line transects laid perpendicular to the shoreline.

A total of 11 macrophyte species were recorded from the three sectors of the wetland and among them only one (*Isachne globosa*) was found common to all three sectors. Inlet was the most rich in species than the rest of the wetland. *Ipomea aquatica* was the most frequently encountered species in the inlets and the outlet. *Isachne globosa* and *Leersia hexandra* which recorded the highest biomass (310 g/m<sup>2</sup> and 555 g/m<sup>2</sup> respectively) were the dominant species while *Pistia stratiotes* and *Commelina diffusa* also recorded relatively high biomass/ m<sup>2</sup> in the outlet. Being an abandoned paddy field, most of the macrophytes recorded from Iriyawetiya are those that typically occur in paddy fields.

C:N of the above macrophytes was determined as an indicator of their relative capacity to remove nitrogen from water/ sediment and retain them in the plant tissues. Except for *Ipomea aquatica* in the inlet and *Isachne globosa* and *Leersia hexandra* in the central part of the wetland, C:N of roots of all the species was lower than that of the shoot, indicating more nitrogen to be retained in the root tissues. *Pistia stratiotes* (a floating plant) in the inlet recorded the highest root: shoot of retained nitrogen (4.473) and *Leersia hexandra* (a rooted species) showed the lowest