

A PRELIMINARY STUDY ON THE PRESENCE OF HEAVY METALS IN AQUATIC PLANTS FROM A FRESHWATER WETLAND AT KELANIYA

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Aquatic plants are known for uptake of heavy metals from water and sediments. This very feature qualifies these plants as wastewater treatment agents. Capacity to absorb heavy metals however, varies among plants. Three aquatic plants, *Pistia stratiotes* (floating), *Limnocharis flava* (rooted) and *Ipomoea aquatica* (rooted plant with floating runners) from Iriyawetiya wetland at Kelaniya were tested for the presence of copper, zinc, lead, nickel, cadmium, manganese, tin and chromium in the plant tissues.

P. stratiotes, *L. flava* and *I. aquatica* plants were collected from the inlets, outlets and the middle part of the wetland and above heavy metal concentrations in acid-digested root and shoot samples were measured separately using atomic absorption spectrophotometer.

Tin (Sn) is the heavy metal that was found in relatively large quantities in all three plants, and *Ipomoea aquatica* recorded the highest content of Sn. Next highest occurrence was observed with Cr and the contents were highest in the rooted plant, *L. flava*, indicating that the sediment loads of Cr may be greater than the load in the water column. All other heavy metals occur in relatively low concentrations in all three plant species, indicating partly the lower loading rates of these heavy metals in Iriyawetiya wetland.

Occurrence of heavy metals in the roots was generally higher than that of the shoots. Greater Cr concentrations were recorded from roots of floating species, *P. stratiotes* and *I. aquatica* than the rooted species, *L. flava*.

Except for cadmium (in *P. stratiotes*) and manganese (in *L. flava* and *I. aquatica*), content of all the other heavy metals that occur in the plants that have been collected from the inlets was greater than that of those collected from the outlet, indicating the wetlands' capacity to remove heavy metals from water and sediment through plant uptake.