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**BIOACCUMULATION OF HEAVY METALS IN SELECTED
FRESHWATER MACROPHYTES.**

A PROJECT REPORT PRESENTED BY

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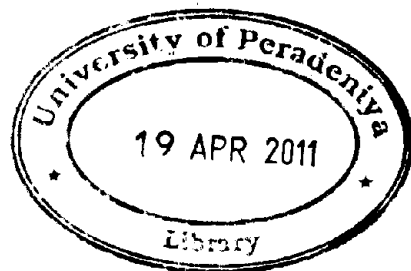
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Abstract:**BIOACCUMULATION OF HEAVY METALS IN SELECTED
FRESHWATER MACROPHYTES.**

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The "*heavy metals*" are some metallic elements whose specific gravity is greater than 4. They have no any metabolic significance or may be important as micronutrients nevertheless harmful in excessive amounts in the organisms. Naturally these elements are constituents of the rock forming minerals. Due to the anthropogenic effects which disturb the ecological balance of the nature, heavy metals become environment pollutants. The imprudent mining of mineral resources, dumping of municipal wastes and industrial effluents, excessive application of chemical fertilizers and biocides, burning of fossil fuels etc. are some of the anthropogenic effects which impose severe heavy metal burdens on the environment.

Bioaccumulation and biomagnification of heavy metals have been observed at the higher trophic levels of the operating food chains in ecosystems and organisms endure toxic effects, as a result. Plants are known to mediate materials into the food chains. It has studied that certain plant species are capable to absorb specific metals to a great extent and are termed as the hyperaccumulators.

Aquatic eco-systems are vulnerable for the environmental pollution as runoffs carry loads of pollutants into them. Benthic sediments of aquatic ecosystems contain high pollutant contents. Aquatic eco-systems are important as food reserves. Certain fresh water macrophytes bear food values as vegetables, particularly among the rural communities.

Nelumbo nucifera (Nelum: Lotous) and *Aponogeton sp.* (Kekatiya) are two of the freshwater macrophytes which are famous as vegetables in many parts of Sri Lanka. Bioaccumulation of heavy metals in these two plant species were examined in this study. With compared to the Australia - New Zealand Food Standard code (ANZFA) *Aponogeton sp.* is found to contain exceedingly high Cd levels. (i.e. > 0.1 ppm on fresh weight) Both plant types contained high Cr and Zn contents with consequent to that in the surrounding environment.