## D-54 Bioaccumulation of heavy metals in *Oreochromis mossambicus*

Mayuri R Wijesinghe[1], Y N A Jayatunga[1], R Hewamanna[2]
([1]*Dept. of Zoology,* [2]*Radioisotope Centre, Univ. of Colombo, Colombo 3*)

The bioaccumulation of the heavy metals Cu, Zn, Fe, Mn, Cd, Cr, Ni, Ti and Pb in the organs of *Oreochromis mossambicus* was investigated. The fish were

collected from the Beira Lake and Weras Ganga in the Colombo district. The work was carried out during March - July 1995.

The organs that were subject to analysis were the muscle, gills, gonad, kidney and liver. The different length classes of the fishes were analyzed separately. The X-Ray Fluorescence Method was used for the analysis. The metal concentrations are given in ìg $g^{-1}$ dry organ weight.

There was a significant difference in the metal levels in the different organs ($p<0.05$;one way ANOVA). The liver was seen to be the highest accumulator of Cu, Fe and Mn. A high level of Zn was observed in the gills, liver, kidney and gonads. A high level of Cd was recorded in the kidney and the gills, whilst Ti was high in the kidney and liver. Cr and Pb levels in both the kidney and liver were high. With Ni, no clear pattern was discernible. Bioaccumulation was very low in the muscle, with the exception of Cd (3.88±7.9) and Pb (0.5±03), where relatively high amounts were observed.

The concentrations of heavy metals in the organs suggest that the levels are sufficiently high to pose a risk to fish and other fauna and a potential health hazard (particularly from Cd and Pb) for the people who consume the fish.