PREVALENCE AND MEAN INTENSITY OF *COSMOCERCAORNATA* (NEMATODA: COSMOCERCIDAE) AND ITS POTENTIAL AS A BIO-ACCUMULATOROF LEAD (Pb) FROM THE INTESTINAL TRACT OF *HOPLOBATRACHUS OCCIPITALIS* (ANURA: DICROGLOSSIDAE)

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ABSTRACT

Parasites, especially cestodes and acanthocephalans, have been found to have high bio-accumulation capacity for pollutants. This study was aimed at evaluating the capacity of the nematode parasite, *Cosmocerca ornata*, to bioaccumulate lead (Pb) in comparison with amphibian tissues and environmental samples. The amphibian, *Hoplobatrachus occipitalis*, was collected weekly from Atala-Degema, Degema Local Government Area, Rivers State, Nigeria, using the visual encounter and acoustic survey (VEAS) method for a period of eight weeks. The number collected during a 2-hour search was transported to the Laboratory, euthanized in chloroform vapour and dissected within 24hr of capture using standard techniques. *Cosmocerca ornata* was identified using keys, and isolated for Pb analysis. The liver and gastro-intestinal tract were excised from the amphibians and stored in ice along with *C. ornata*specimens. Top soil samples were also collected weekly, using a soil augar. The concentration of lead in the samples was determined using Atomic Absorption Spectrophotometer. A total of forty *H. occipitalis* specimens were examined over the study period. The mean concentration of Pbin the samples were: 1.37mg/kg, 1.30mg/kg, 1.10mg/kg and 1.16mg/kg in the parasite, liver, intestine and soil samples, respectively. Higher concentrations were recorded in the parasite, though statistical analysis showed differences were not significant ($p>0.05$).The results indicate that *C. ornata*

actively absorbs Pb from the amphibian host. It is recommended that researchers investigating the concentration and effects of pollutants in vertebrate tissues should also examine the parasites of such hosts.

Key words: environmental parasitology, parasites, nematode, bio-accumulation, heavy metal pollution.