

**HISTOLOGICAL AND CELLULAR STRUCTURE CHANGES OF
COMMON CARP *Cyprinus carpio* (L.) FISH AS BIOMARKERS OF LIFE
ONTAMINATION WITH HEAVY METALS IN WATER AND SEDIMENTS
OF THE EUPHRATES RIVER CITY OF NASIRIYAH - IRAQ**

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ABSTRACT

Concentration of heavy metals (Cd,Cu,Pb and Zn) in water and sediments of the Euphrates River in the extende part within Thi Qar city- Iraq was Measured. Some of water and sedimints Was taken from three sites was selected depending on level of water contamination. The site1 is located north-west of Thi Qar city, while the site 2 is 5 km south of site1downstream near electric power station, site 3. is located under the influence of human activity for the city and is a distance of 10 km from the site2. The control group was represent by water and sedimint as will as fish collection from seas scince center - Basrah university.The water and sedimints in all sites was transferred to the labratory and divided into three groups and each group divided into three replications contain 30 juvenal fish. All experimntal fish was caughed from ponds of Basrha university. bioaccumulation for heavy metals in gills, liver and putitary gland as well as ultrastructure of hepatocytes was study during of 7 , 28 and 45 days was detriminated in study sites. The results was illustrated that the site3. is recorded the highest values of the elemints concentration compare with othe sites , While the bioaccumulation of heavy metals (Cd, Cu, Pb and Zn) was notced in site 3 and 2. Ultrastructure of hepatocytes in 45 days was appeared small size of lysosomes, organelles damage, hypertrophy of mitochondira, aggrgation of faty drops, necrosis and degeneration of golgi complex as well as vaculation of cytoplama.theses cellular changes was most obvious in site3. Histopathological changes was Observed in gills and putitary glands and represented by hyperplasia, edges spherical, integration of secondary lamella, inflamation, necrosis, degeneration,Hemorrhage, Congestion, odema and fibrosis . While the putitary gland was showed that odema, Inflammation, increase number of basic cells , degeneration pyknotic . all these histological changes was most most obvious in site3 compare with other sites.

Keywords: Comman Carp , Bioacumulation , Cellular Changes , Histological Changes , Fresh Water , Sediment , Euphrates River , Thi Qar.