

Effect of Water Polluted with Zinc Sulphate on Survival, Behaviour, Carbohydrate Metabolism and Blood Parameters of Cichlid Fish, *Oreochromis niloticus* (Linnaeus, 1758)

H.F. Al-Kahem, M.J.K. Shamsi and Zubair Ahmed

Department of Zoology, College of Science, King Saud University, P.D. Box 2455, Riyadh 11451, Saudi Arabia.

Abstract. The effect of zinc on the freshwater fish, *Oreochromis niloticus* was assessed in static condition. LC_{50} for 96 hours of time was computed as 93.32 mgL⁻¹. Remarkable changes in the behaviour of fish exposed to the sublethal concentrations of zinc were observed. Frequency of occurrence of aggressive behaviour (threat and nip) and discomfort movements (fin-flickering, partial jerk and S-jerk) was increased in the fish exposed to zinc. A significant ($P < 0.01$) depletion in muscle and liver glycogen of toxicant exposed fish was recorded. Haemoglobin concentrations were increased at all the concentrations tested. An increase in the level of serum protein, triglycerides, cholesterol and glucose after zinc exposure was registered. These changes were more pronounced in higher concentrations.

Key Words: Zinc, acute toxicity, Sub-lethal effects, Carbohydrate metabolism, haematological effect, *Oreochromis niloticus*.