

RESEARCH ARTICLE

Histopathological effects of Lead on muscles of *Clarias gariepinus*

Idris A.Y. and *Babatunde M.M.

Department of Biological Sciences, Kaduna State University, Kaduna, Nigeria

*Corresponding Author: Email: modupebabatunde58@yahoo.com

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Abstract

The acute toxicity test of lead to *Clarias gariepinus* juveniles and the rate of bioaccumulation absorbed in the muscles and intestine of *Clarias gariepinus* juveniles was investigated. At the end of the 96hours the Muscles were rinsed in 10% formalin and preserved for further analysis. In this study, the LC₅₀ values of *Clarias gariepinus* at 96h period was determined to be 50.12 mg/L. Results obtained from this study showed that lead (Pb(NO₃)₂) was bioaccumulated in the muscles of the *Clarias gariepinus* juveniles during the 96hrsLC₅₀ and shows extensive histological changes in the muscles exposed to the various lead concentrations of 100 mg/L, 75 mg/L and 50 mg/L. The lead concentration disturbed the homeostasis and led to physiological disorders in their functions and subsequently led to the death of the juvenile *Clarias gariepinus*. The muscles of *Clarias gariepinus* juveniles inhabiting the lead medium showed hemorrhage, hemosiderin, fatty degeneration and necrosis in connective tissue of hypodermal layer as well as degeneration, necrosis and edema in muscle fiber layer. The elimination of lead released into the environment through diverse sources should be considered in order to safeguard wildlife, ecosystems, and public health.

Key words: Secretion, Muscle, *Clarias gariepinus*, Necrosis, Degenerative inflammation, Hemorrhage, Toxicity, Lead