



Effects of 4-nonylphenol on blood cells of the African catfish *Clarias gariepinus* (Burchell, 1822)

Imam A. Mekkawy, Usama M. Mahmoud, Alaa El-Din H. Sayed

Abstract:

In the present work, the destructive effects of the 4-nonylphenol on one of the most economically important Nile fishes namely African catfish (*Clarias gariepinus*) were studied. Apoptosis, erythrocytes alterations, micronucleus test and blood parameters count were used as biological indicators to detect those effects. After exposure to sublethal concentrations of 4-nonylphenol (0, 0.05, 0.08 and 0.1 mg/l), apoptotic red blood cells with many malformations and micronucleated erythrocytes were recorded. Decrease in the blood parameters such as red blood cells (RBCs), hemoglobin (Hb), package cell volume (PCV), mean corpuscular hemoglobin concentration (MCHC), platelets, white blood cells (WBCs), lymphocytes, basophils, monocytes and increase in mean corpuscular volume (MCV), mean corpuscular hemoglobin (MCH), neutrophils, eosinophils indicated the negative effects of 4-nonylphenol. It was concluded that, the 4-nonylphenol caused genotoxicity in erythrocytes with many malformations in shape and number indicated with other blood parameters.

Keywords:

4-Nonylphenol. Blood. Cell. Micronucleus. *Clarias gariepinus*

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