



Mosquito fish, *Gambusia affinis* (Baird & Girard, 1853) as Bioindicator for Water Pollution with Lead

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Abstract: Acute and sub-chronic tests with lead were conducted on mosquitofish (*Gambusia affinis*) by determining LC₅₀ values and their 95 confidence interval end points for 24, 48, 72 and 96 hr exposure. The LC₅₀ were estimated as 9.6, 6.95, 4, 3 mg/L for 24, 28, 72 and 96hr respectively. The behavioural response observed in the fish was erratic swimming, loss of reflex, hyperactivities and hyperventilation. These effects increased with increasing concentration of the lead and duration of exposure. The concentration factor for lead in the *Gambusia affinis* ranged between 0.0093 and 0.022. The histological examination of the gills of the fish after acute and subchronic exposure (34days) showed pathological changes and alterations such as epithelial necrosis, hypertrophy of the epithelial cells and epithelial separation. This study investigated the occurrence of resistance to lead in the Mosquitofish, and the results showed elevated lead resistance in testing fishes as a result of acclimation (physiological) after were kept for 34 days under safe concentration of lead.

Keywords: *Gambusia affinis*, LC₅₀, Resistance to lead, Responses, Bioindicator

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