Abstract

The objective of this work was to evaluate the acute toxicity of formalin and histopathological effects on the Amazon ornamental fish, bluespotted corydora (Corydoras melanistius). A randomized design was used, with ten concentrations of formalin (40%) (0, 3, 6, 12, 25, 50, 100, 150, 200 and 250mg.L-1) with four replicates and five fish per container (3L) in static system for 96 hours. The moribund fish were killed and fixed in 10% formalin to proceed the histopathological analysis of gill, liver and kidney. At the end of this experiment the following mortality rates (%) were obtained in increasing order of exposure: 0, 0, 0, 0, 0, 65, 85, 100, 100 and 100%. The lethal concentration 50% (LC50-96h (I)) estimated was 50.76 mg.L-1 with regression of $y = 0.51x$, and $r^2 = 0.80$. Further, in higher concentrations morphological changes as gill hyperplasia, with filling of interlamellar spaces, disorganization of liver arrangement, and necrosis in kidney were observed. In this study, the formalin can be considered slightly toxic to bluespotted corydora, and cause morphological changes when exposed to high concentrations. The use of formalin to treat of ornamental fish in the inner river of capture with wrong concentration can provoke negative environmental and biological effects.

Keywords

Lethal concentration, corydora, formaldehyde, toxicity, histology, Amazon.