TOXICITY OF THE AQUEOUS LEAF EXTRACT OF DATILIS (*Muntingia calabura*) ON THE FRY AND FINGERLING OF *Oreochromis niloticus*

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ABSTRACT

A 96-hour static bioassay on the effects datilis (*Muntingia calabura*) leaf extract on the fry and fingerlings of *Oreochromis niloticus* was conducted to determine the Average Median Lethal Concentration (LC_{50}) of datilis (*Muntingia calabura*) leaf extract on the fry and fingerlings of *Oreochromis niloticus* and to describe the behavioral responses of the fish to the extract. The assay consisted of six treatments: 0, 12.5, 25, 50, 100, and 200 ppm concentrations of the extract. Physico-chemical conditions (e.g. temperature, pH, salinity, dissolved oxygen, ammonia, nitrite, and hardness level of water) were monitored. Results showed that the average LC_{50} at the 12, and 24-hour period of the extract in fingerlings (128.61 and 82.37 ppm) were significantly higher ($P<0.05$) than in the fry (65.45, and 60.99) respectively. Mortality was higher at higher concentrations than at lower concentrations of the extract. Highest mortality was in 200 ppm followed by 100 ppm, then 50 ppm. No death occurred in 0, 12.5 and 25 ppm concentrations of the extract. Mortality was also significantly higher ($P<0.05$) in fingerlings than in fry. The fish exhibited avoidance - response reaction and loss of equilibrium. Possibly the death and unusual behavior manifested by the fish may be due to saponins present in the extract. Physico-chemical conditions were within the tolerable range for the fish hence, these may not have contributed to the death of fish. This study provides preliminary data on the toxic effects of the aqueous leaf extract of datilis on the fry and fingerlings of *Oreochromis niloticus*.