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Original Research

Evaluation of Antioxidant Response and Histopathological Alterations in *Cyprinus carpio* and *Oreochromis niloticus* Infected with Zoonotic Bacterial, *Aeromonas hydrophila*

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Abstract

Aeromonas hydrophila is one of the major virulent zoonotic bacterial diseases that adversely affect the health of farmed fish, inducing higher mortalities. The current study focused on comparing the resistance of the Common carp, *Cyprinus carpio*, and Nile tilapia, *Oreochromis niloticus,* to *Aeromonas hydrophila* infection by investigating the antioxidant responses and histopathological alterations. Juveniles of *C. carpio* and *O. niloticus* were randomly alienated into a control group (uninfected) and a challenged group infected with 100 µL of *A. hydrophila*. Samples of liver, kidney, and spleen were collected post-infection for 7 days to monitor antioxidant response, including glutathione peroxidase (GPX), superoxide dismutase (SOD), and catalase (CAT), and the assessment of the histopathological alteration in the vital organs. The antioxidant indicators showed significant alterations post-exposure to *A.*

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