



Antibacterial activity of cutaneous against *Aeromonas hydrophila* in mature goldfish (*Carassius auratus*)

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Abstract

Cutaneous as a source of mucus component has several roles, in addition to breath and osmotic regulation and protection, it could be involved in stability, resistant against diseases and reproduction. The current study was conducted to evaluate the antimicrobial activity of cutaneous against *Aeromonas hydrophila* in both male and female goldfish, *Carassius auratus*. Fish sex and maturity were monitored according to the histological assay. The antibacterial activity has been recorded during two-separated maturity stages. The results showed that females' mucosal antibacterial activity was significantly higher than such males ($P < 0.05$) during final maturation. In this study, cutaneous immune role was the target of reproductive system that could probably become more involved in females.

Keywords: *Aeromonas hydrophila*, Cutaneous, Estrogens, Goldfish, Immune system