

**ISOLATION AND IDENTIFICATION OF BACTERIA ASSOCIATED
WITH DISEASED TILAPIA (*Oreochromis niloticus* Linneaus)
CULTURED IN A TAAL LAKE FISH CAGE**

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Bachelor of Science in Biology
Major in Microbiology



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ABSTRACT

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This study was conducted to compare the bacterial counts of diseased tilapia sampled during the dry and wet season; isolate different bacteria from the diseased tilapia; determine the morphological and physiological characteristics of isolated bacteria, identify bacteria pathogenic to tilapia; and determine antibiotic resistance of pathogenic bacterial isolates.

Diseased tilapia samples taken from the Taal Lake fish cage were observed to have exhibited loss of scales, fin and gill defects, pop-eye, enlargement of stomach and abdominal dropsy symptoms. High bacterial counts (6.23×10^7 to 6.94×10^7 cfu/ml) were recorded from dry season samples.

A total of 40 bacteria were isolated. Thirty two of these were positive in the pathogenicity test and caused mortalities of healthy tilapia fingerlings.

Based on cultural, morphological, and physiological characterizations, pathogenic isolates were identified to belong to the following genera: *Aeromonas*, *Flavobacterium*, *Edwardsiella*, *Vibrio*, *Enterobacter*, *Serratia*, *Alcaligenes* and *Bacillus*. Three isolates remained unidentified.

The bacterial strains, *Aeromonas*, *Pseudomonas*, *Edwardsiella* *Flavobacterium* were found to be most pathogenic among the isolates. Majority of isolates were resistant to oxytetracycline, erythromycin, ampicillin, chloramphenicol and furazolidone.

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