

ISOLATION AND IDENTIFICATION OF CITROBACTER
SPP. FROM TILAFIA (OREOCHROMIS SPP)

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**ISOLATION AND IDENTIFICATION OF *Citrobacter* spp. FROM TILAPIA
(*Oreochromis* spp)**

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**This project report is submitted in partial fulfillment of the requirement of the
degree of Bachelor of Science in Agrotechnology (Aquaculture)**

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ABSTRACT

Citrobacter spp. is a member of the family *Enterobacteriaceae*. They are commonly called a group of bacteria that inhabit the intestine tract of humans and other animals. In fish, *Citrobacter* spp. infection may cause skin ulcerative lesions, distended abdomen, pale liver, darkened spleen, watery kidney and bloody exsudate in gastrointestinal system in fish. Bacteria of the genus *Citrobacter* are inhabitants of the intestinal tract of fish and are present in sewage, surface waters and in food contaminated with faeces material and soil. This study was conducted to isolate and identify *Citrobacter* spp from tilapia hybrid fry from aquaculture fresh water ponds. Yersinia Selective Agar, medium for the selective cultivation of *Yersinia* spp. were used to obtain pure cultures of *Citrobacter* spp. 100 µl of bacteria cultures were spread-plating by using a sterile hockey-stick onto medium. The plates were allowed to incubate for 24 to 48 hours at 37 °C. Eleven of red colonies were isolated and inoculated into 2 % Sodium Chloride, TSA Agar. The isolates were identified using series of conventional tests. Dendrogram were constructed and elucidated a tree of two main clusters (*A* and *B*) where a similarity between the isolates in sub-cluster of A 1, A2 and B1 were observed.

Eleven isolates of *Citrobacter* spp were successfully identified using series of Morphological tests, Biochemical tests and Physiological tests in all eleven bacterial isolates. Phenotype relationship showed that 2 isolates, isolates 7 and 11 were of same strains. Isolates 7 and 11 showed close similarity of 84.62 % and 76.92 %, respectively to *Citrobacter freundii*.