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PREVALENCE AND ANTIMICROBIAL SUSCEPTIBILITY TESTING OF *Vibrio parahaemolyticus* ISOLATED FROM FRESH WATER AND FRESH WATER FISH IN NEGERI SEMBILAN

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Final Year Project Report Submitted In Partial Fulfillment of the Requirement for the Degree of Bachelor of Science (Hons.) Biology In the Faculty of Applied Sciences Universiti Teknologi MARA

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This final year project report entitled "Prevalence and Antimicrobial Testing of *Vibrio parahaemolyticus* Isolated from Fresh Water and Fresh Water Fish In Negeri Sembilan'' was submitted by Siti Faranabila Bt Mohammad Yaacob, in partial fulfilment of the requirement for the Degree of Bachelor of Sciences (Hons.) Biology, in the Faculty of Applied Science, and was approved by

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ABSTRACT

PREVALENCE AND ANTIMICROBIAL SUSCEPTIBILITY TESTING OF *Vibrio parahaemolyticus* ISOLATED FROM FRESH WATER AND FRESH WATER FISH IN NEGERI SEMBILAN

Vibrio parahaemolyticus is a Gram negative bacteria that can cause a systemic infection in fish called Vibriosis and also as a main foodborne disease in seafood that easily deteriorates in quality, colors and flavors. A total of 36 samples were collected from *Oreochromis* sp. (Red Tilapia) and fresh water samples in Negeri Sembilan. The sampling was done on the gills, intestinal tracts, flesh and also the fresh water samples. In this study, *Vibrio parahaemolyticus* were identified by morphological testing and the growth of green centered colonies on the Thiosulfate Citrate Bile Sucrose (TCBS) agar. These samples were analyzed using Most Probable Number (MPN) method. The prevalence of *Vibrio parahaemolyticus* was found to be 100% in intestinal tracts followed by 88% prevalence in gills and only 44% found in the flesh part of fish samples. However, the presence *Vibrio parahemolyticus* was at 56%. The density of *Vibrio parahemolyticus* in the whole samples was ranged from $7.5x10^3$ to $2.4x10^7$ MPN/g. Almost all strain shows a multiple resistance towards all four antibiotics tested with a Multiple Antibiotic Resistant (MAR) index ranging from 0.5 to 0.8 respectively. This results however will indicate that another potential source of food safety issues to consumers.