

CAN THO UNIVERSITY
COLLEGE OF AQUACULTURE AND FISHERIES

**FLOFENICOL AND ENROFLOXACIN RESISTANCE
IN HETEROTROPHIC BACTERIA ISOLATED FROM
SNAKEHEAD (*Channa striatus*) AND CLIMBING
PERCH (*Anabas testudineus*) FARMS IN THE MEKONG
DELTA**

By

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A thesis submitted in partial fulfillment of the requirements for
the degree of Bachelor of science in Aquaculture

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Abstract

The purpose of this study was to identify the heterotrophic bacteria which were isolated from climbing perch (*Anabas testudineus*) and snakehead (*Channa striatus*) farms in the Mekong Delta at genus level by basic morphological, physiological and biochemical tests. In each bacterial genus, two isolates were chosen to test with 4 antimicrobial agents by using disk diffusion method and to determine minimal inhibitory concentration (MIC). Five genera had been identified including *Edwardsiella*, *Aeromonas*, *Pseudomonas*, *Staphylococcus* and *Streptococcus* from the total of 84 isolates. The results of antibiotic susceptibility test indicated the majority isolates were sensitive to florfenicol (9 isolates) and doxycycline (7 isolates) in the total of 10 isolates tested. Highest resistance was detected to amoxicillin (7 isolates), followed by enroflorxacin (2 isolates). The MIC values of florfenicol and enroflorxacin were low in most of the cases. The MIC value of florfenicol was from 0.25-0.5 ppm while the range value of enroflorxacin was slightly higher (1-32 ppm).

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**THE EFFECT OF VITAMIN C ON STRESS REDUCTION OF
Pangasianodon hypophthalmus CATFISH
UNDER TRANSPORTATION CONDITION**

By

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Abstract

A variety of methods has been employed to reduce the adverse effects during transport on fish. This research aimed to determine the suitable levels of vitamin C supplement in feed to reduce stress of the striped catfish (*Pangasianodon hypophthalmus*) fingerlings under transportation conditions. More specifically, this study was conducted to find out the changes in plasma cortisol, glucose and hematological parameters of the striped catfish fingerlings fed with and without C supplementary diets before stressing the fish using a model of practical transportation conditions. The concentrations of Vitamin C added into the feeding diets were 0, 20, 30 and 40 mg/kg. Fed with Vitamin C diet for 2 weeks, fish were then applied to the practical transportation procedure model with three replications for each treatment as follows: fish from experimental tanks were scoped out and kept in hapa for 20 minutes; then kept in carrying baskets for 10 minutes; stocked in tanks with high density (4,000 fish/m³ equal to the density of transportation in boats) for 4 hours; scoped and kept again in carrying baskets for 10 minutes then finally released into tanks with normal conditions.

The results showed that the plasma cortisol concentrations sampled at different points of time of fish fed without vitamin C diet or low vitamin level diets (20 and 30 mg/kg) significantly increased in comparison to those before the application of transportation process. In contrast, no significant difference in the cortisol levels of the fish fed high vitamin C diets (40 mg/kg) was found. Plasma glucose concentrations of the fish fed with 40 mg/kg vitamin C diets were also lower than those without vitamins C or with lower levels (20 and 30 mg/kg). The number of erythrocyte and leukocyte of the fish fed vitamin C diets did not change during 4 hours of transportation. This research indicated that pre-feeding vitamin C diets for the striped catfish fingerlings would help to reduce stress during transportation.

Key words: striped catfish, stress, vitamin C, plasma cortisol, glucose,

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