...MICROBIAL SUSCEPTIBILITY PROFILE OF ENTERIC ...TERIAL ISOLATES FROM TILAPIA (*Oreochromis niloticus*) ...D BANGUS (*Chanos chanos*) SOLD IN WET MARKETS

Thesis

MAY M. GATDULA

College of Arts and Sciences
CAVITE STATE UNIVERSITY
Indang, Cavite

October 2010

ANTIMICROBIAL SUSCEPTIBILITY PROFILE OF ENTERIC BACTERIAL ISOLATES FROM TILAPIA (*Oreochromis niloticus*) AND BANGUS (*Chanos chanos*) SOLD IN WET MARKETS

Undergraduate Thesis
Submitted to the Faculty of the
Biological Science Department
Cavite State University
Indang, Cavite

In partial fulfillment of
the requirements for the degree of
Bachelor of Science in Biology

MAY M. GATDULA
October, 2010

ABSTRACT

GATDULA, MAY MOJICA. Antimicrobial Susceptibility Profile of Enteric Bacterial Isolates from Tilapia *(Oreochromis niloticus)* and Bangus *(Chanos chanos)* Sold in Wet Markets. Cavite State University, Indang, Cavite. Adviser: Dr. Yolanda A. Ilagan.

This study was conducted to assess the antimicrobial susceptibility profile of enteric bacteria from tilapia and bangus.

Ninety (90) bacteria were isolated by dilution plating using Cetrimide Agar (CA), Brilliant Green Agar (BGA), Violet Red Bile Agar (VRBA) and Eosin Methylene Blue (EMB). These isolates were identified based on their morphological and physiological characteristics.

Disk diffusion assay was utilized to test the susceptibility of these bacterial isolates to the following antibiotics: ampicillin, clindamycin, oxacillin, norfloxacin, lincomycin, nitrorurantion, fosfomycin, ciprofloxacin, nalidixic acid, erythromycin, rifampicin, tetracyline, oxytetracycline, streptomycin and chloramphenicol.

All isolates were resistant to rifampicin; 91.11% to clindamycin; 56.67% to ampicillin; 41.11% to oxacilllin; and 22.22% to chloramphenicol. One hundred percent (90) of the isolates were susceptible to fosfomycin; 96% to ciprofloxacin; 87.78% to streptomycin; 86.67% to oxytetracyline and 80% nalidixic acid. This implies that fosfomycin, ciprofloxacin, streptomycin, oxytetracyline and nalidixic acid could be used in treating diseases of tilapia and bangus.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

LIST OF APPENDIX TABLES

ANTIMICROBIAL SUSCEPTIBILITY PROFILE OF ENTERIC BACTERIAL ISOLATES FROM TILAPIA (*Oreochromis niloticus*) AND BANGUS (*Chanos chanos*) SOLD IN WET MARKET

MAY MOJICA GATDULA

An undergraduate thesis manuscript submitted to the Department of Biological Sciences, Cavite State University, Indang, Cavite in partial fulfillment of the requirements for graduation with the degree of Bachelor of Science in Biology. With Contribution No. AS 2009-2010 025. Prepared under the supervision of Dr. Yolanda A. Ilagan

---

INTRODUCTION

Fish culture is a very important industry (Sakai, 1999). It is a main source of livelihood for majority of families in some regions of the country. According to United Nations Food and Agriculture Organization (2005), Philippines, China, Egypt, Indonesia, and Thailand are the principal tilapia producing countries of about 2.3 million metric tons (mt) total global production. In 2004, Philippines, Indonesia and Taiwan account for 47.7%, 42.1% and 9.9%, respectively of the world's bangus production. The country produced 285 metric tons but exported less than 1% (925 metric tons) of bangus in 2005 (FMECD, 2004).

Fish meat is extremely perishable. Its safe consumption requires adequate sanitary conditions from the moment of catch, through preparation, sale and consumption (Albuquerque et al., 2007). Regulations governing aquaculture production vary greatly between countries. However, the enforcement of any national regulations regarding