

**FUNCTIONAL ACTIVITIES AND IMMUNOSTIMULATING POTENTIAL OF
ETHANOL EXTRACT OF BROWN SEAWEEDS ON NILE TILAPIA
AGAINST *Aeromonas hydrophila***

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An Undergraduate Thesis Submitted to the Faculty of the Department of Biological
Sciences, College of Arts and Sciences, Central Luzon State University,
Science City of Muñoz, Nueva Ecija, Philippines
in Partial Fulfillment of the Requirements
for the Degree of

**BACHELOR OF SCIENCE IN BIOLOGY
(Major in Zoology)**

JUNE 2018

ACCEPTANCE SHEET

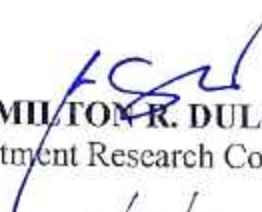
This undergraduate thesis entitled "**FUNCTIONAL ACTIVITIES AND IMMUNOSTIMULATING POTENTIAL OF ETHANOL EXTRACT OF BROWN SEaweeds ON NILE TILAPIA AGAINST *Aeromonas hydrophila***" prepared and submitted by **PRINCESS LEANNE G. RIEGO**, in partial fulfillment of the requirements for the degree of **BACHELOR OF SCIENCE IN BIOLOGY (ZOOLOGY)**, is hereby accepted.


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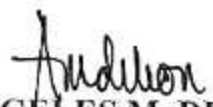

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BIOGRAPHICAL SKETCH

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ACKNOWLEDGMENT

The author would like to express her pure appreciation to all people who willingly gave their time and effort to accomplish this undergraduate thesis paper.

To her adviser, Dr. Cynthia C. Divina, for her proficient ideas and suggestions, helpful assistance during the thesis work, encouragement to finish the study, and for checking the paper.

To her critic, Mr. Jay G. Merculio, for his suggestions, understanding, and considerations during thesis work.

To the college and department research coordinator, Mr. Rich Milton R. Dulay, for patiently checking the format of this paper.

To her family for their patience, guidance, love and financial support, and for serving as her inspiration.

To her friends and roommates, especially Jhomelyn Abelende, for aiding during thesis work, and Janine and Grace, for helping out throughout the conduction, as well as Lois and Rodene.

The author would also like to extend her greatest gratitude to Sir Marlon Alejandro for providing the seaweed samples, Sir Don Dumale for identifying the seaweeds collected, Ma'am Juliet Hagunoy (FAC) for the never-ending support and guidance during work on immunostimulation assay, Kuya JP for providing pure culture of *Aeromonas hydrophila*, Sir Karl Marx for guidance in the protocol of fish care and challenge test, and other students of BS Fisheries for helping out when problems arise during thesis work.

Last but not the least, the author wishes to express her sincere gratefulness to God, whom she owes everything including her blessed knowledge, patience, motivation, and determination to finish the study.

The author's wholehearted appreciation is extended to those people who were not mentioned but have partaken on this productive work. Thank you for your help and consideration. God bless us all!

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ABSTRACT

RIEGO, PRINCESS LEANNE G., Department of Biological Sciences, College of Arts and Sciences, Central Luzon State University, Science City of Munoz, Nueva Ecija, Philippines, **JUNE 2018, FUNCTIONAL ACTIVITIES AND IMMUNOSTIMULATING POTENTIAL OF BROWN SEAWEEDS ETHANOL EXTRACT ON NILE TILAPIA AGAINST *Aeromonas hydrophila***

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Immunostimulants increase resistance to infectious disease, not by enhancing specific immune responses, but by enhancing non-specific defense mechanisms. In the present study, *Turbinaria ornata* and *Sargassum polycystum* were assessed for the phytochemical composition, antioxidant activity, antibacterial activity, and immunostimulating potential in Nile Tilapia against *Aeromonas hydrophila*. Phytochemical screening of the extracts revealed the presence of alkaloid, terpenoids, steroids, flavonoids, coumarins, and quinones, and absence of tannins, saponins, phenols, and glycosides. *T. ornata* and *S. polycystum* showed radical scavenging activity of 22% and 23.02%, respectively. Ethanol extract *T. ornata* and *S. polycystum* showed weak bacterial inhibitory activity *A. hydrophila* with diameter zone of inhibitions of 7.67 mm and 7.72 mm respectively after 24 hours of incubation. Immunostimulation assessment of the extract revealed that extract supplemented fish had increased in leukocyte level, normalized erythrocyte, reduced clinical symptoms of the pathogen, low mortality rate and high index of efficacy possibly indicate increase of immune system function of immunostimulating activity of the *T. ornata* and *S. polycystum*.

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