

**MOLECULAR IDENTIFICATION AND PHYTOCHEMICAL PROFILING OF
MICROALGAE USING THIN LAYER CHROMATOGRAPHY**

KASSANDRA JLEN B. MARIANO

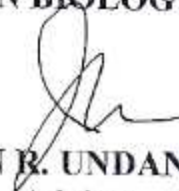
An Undergraduate Thesis Submitted to the Faculty of the Department of Biological
Sciences, College of Arts and Sciences, Central Luzon State University,
Science City of Muñoz, Nueva Ecija, Philippines
in Partial Fulfillment of the Requirements
for the Degree of

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

JUNE 2018

ACCEPTANCE SHEET

This undergraduate thesis entitled "MOLECULAR IDENTIFICATION AND PHYTOCHEMICAL PROFILING OF MICROALGAE USING THIN LAYER CHROMATOGRAPHY" prepared and submitted by **KASSANDRA JLIN B. MARIANO**, in partial fulfillment of the requirements for the degree of **BACHELOR OF SCIENCE IN BIOLOGY (MICROBIOLOGY)**, is hereby accepted.


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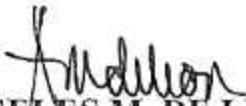

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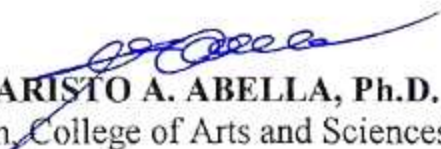
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BIOGRAPHICAL SKETCH

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ACKNOWLEDGEMENT

The researcher would like to extend her sincerest gratitude to the following persons for their support and her inspiration in the completion of this paper.

To her dear adviser, Dr. Jerwin R. Undan and critic, Dr. Angeles M. De Leon for their advice for making this work possible.

To the Department of Biological Sciences for allowing the researcher to conduct her experiment in their laboratories and to the Center for Natural Sciences, Saint Mary's University in Bayombong, Nueva Vizcaya for allowing the researcher's samples to be analyzed in their laboratory.

To her co-advisees and other thesis students in Tuklas Lunas Center, Ms. Resean Lapuz and Ms. Kresta Padilla for guiding and facilitating her during the conduct of the study.

To all the people who in way one or another shared their contributions – morally, financially, and sympathetic understanding that contributed immensely in the completion of this thesis.

And most especially to her parents, Mr. Jesey M. Mariano and Mrs. Evangeline B. Mariano who initially inspired, gave support and trust which boosted her confidence to overcome all the odds and challenges while writing this research work.

Above all, to the Almighty God, for all the spiritual guidance, grace and strength.

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ABSTRACT

MARIANO, KASSANDRA JLIN B., Department of Biological Sciences, College of Arts and Sciences, Central Luzon State University, Science City of Muñoz, Nueva Ecija, Philippines, **JUNE 2018, MOLECULAR IDENTIFICATION AND PHYTOCHEMICAL PROFILING OF MICROALGAE USING THIN LAYER CHROMATOGRAPHY**

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The study was focused on the molecular identification of the microalgae and evaluation of the phytochemicals it contain through thin layer chromatography.

The genomic DNA was extracted and was subjected to PCR amplification using nrDNA ITS and *rbcL* gene markers. The sample was amplified by using ITS gene marker. After the sequencing procedure, it was revealed in the BLAST analysis that the sample has 95% similarity to *Dictyosphaerium* sp. and was found out that the morphological characters of the two conform. The similarity of the morphological characters of the two supports the successful molecular identification of the microalgae with the use of ITS gene marker.

On the other hand, the results of the phytochemical screening revealed that phenols, steroids, triterpenes, essential oils, anthraquinones, coumarins, anthrones, phenolics compounds, tannins, alkaloids, and flavonoids were present in one sample and the other was also positive for all the constituents tested except for tannins. The phytochemical screening showed that the microalgae sample contain phytochemicals that have great importance in the medicinal field which can be used for future studies.

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