# MORPHOLOGICAL AND MOLECULAR IDENTIFICATION OF MICROALGAL ISOLATES AND ITS EFFECT ON YIELD AND AGRONOMIC CHARACTERISTICS OF RICE (*Oryza sativa* L.)

**LILIAN JOY S. LASCANO**

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## ABSTRACT

**LASCANO, LILIAN JOY S.,** Department of Biological Sciences, College of Arts and Sciences, Central Luzon State University, Science City of Munoz, Nueva Ecija, Philippines, **JUNE 2019, MORPHOLOGICAL AND MOLECULAR IDENTIFICATION OF MICROALGAL ISOLATES AND ITS EFFECT ON YIELD AND AGRONOMIC CHARACTERISTICS OF RICE (*Oryza sativa* L.)**

Adviser: JERWIN R. UNDAN, Ph.D
Co-Adviser: JOHN DAVE AQUINO, M.Sc.

Algal species are one of the very diverse organisms which cover a very large taxon. Some are eukaryotic while some are prokaryotic. Aside from their diversity, they have been studied for their potentials in various fields including medicine, industry, and agriculture. In this study, algal isolates from freshwater areas in Minalungao and Pantabangan, Nueva Ecija were identified and tested for rice improvement with regards to height and yield using NSIC Rc 222 rice variety. Identity of isolates labeled as MIN1, MIN2, and PAN are *Desertella yichangensis*, *Chlorellales* sp., and *Coccomyxa* sp. respectively. With few literatures available regarding *D. yichangensis*, maximum likelihood tree suggest a close relationship between *D. yichangensis* and *Coccomyxa* sp. based on a fragment of their DNA sequences obtained using rbcL primer. These isolates has no major effect on rice regarding on all parameters used including height and yield. Response of rice is primarily due to various microalgal species that interacted with each other in addition to other factors including temperature, sunlight, water, air, and humidity.

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