

**OPTIMUM NUTRITIONAL CONDITIONS FOR THE EFFICIENT MYCELIAL
GROWTH AND ANTIOXIDANT ACTIVITY OF *Collybia reinakeana* P. Henn
URDANETA STRAIN ON BROTH MEDIA FROM NATURAL SOURCES**

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An Undergraduate Thesis Submitted to the Faculty of the Department of Biological
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**BACHELOR OF SCIENCE
(BIOLOGY)**

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ACCEPTANCE SHEET

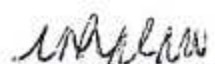
This undergraduate thesis entitled "OPTIMUM NUTRITIONAL CONDITIONS FOR THE EFFICIENT MYCELIAL GROWTH AND ANTIOXIDANT ACTIVITY OF *Collybia reinakeana* P. Henn URDANETA STRAIN ON BROTH MEDIA FROM NATURAL SOURCES" prepared and submitted by JOSHUA C. RAMOS, in partial fulfillment of the requirements for the degree of BACHELOR OF SCIENCE IN BIOLOGY, is hereby accepted.


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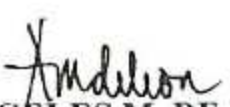

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BIOGRAPHICAL SKETCH

Joshua Coronel Ramos was born on the 17th of November 1996, in Cabanatuan City, Nueva Ecija, Philippines. He is the fourth among the five children of Dr. Raul and Concepcion Ramos. He began studying in a catholic school for six years, at the College of the Immaculate Conception, at Cabanatuan City. Afterwards, he completed his secondary education in Cabanatuan City Science High School. In pursuance of higher education, the author went to Central Luzon State University, Science City of Munoz, Nueva Ecija, to study under the BS Biology program. Having an interest in the field of mycology and bio-industrial sciences, the author conducted his undergraduate thesis under the supervision of Prof. Dr. Renato G. Reyes, a renowned mycologist in the Philippines. The author is hopeful to study and achieve a master's degree in Biology in the same university.

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ABSTRACT

RAMOS, JOSHUA C., Department of Biological Sciences, College of Arts and Sciences, Central Luzon State University, Science City of Munoz, Nueva Ecija, Philippines, **JUNE 2018, OPTIMUM NUTRITIONAL CONDITIONS AND ANTIOXIDANT ACTIVITY OF *Collybia reinakeana* P. Henn URDANETA STRAIN ON BROTH MEDIA FROM NATURAL SOURCES**

Adviser: RENATO G. REYES, Ph.D.

Collybia reinakeana P. Henn is a wild endemic mushroom in the Philippines. Cultures of *C. reinakeana* collected from Urdaneta, Pangasinan were used and the optimal liquid media for mycelial biomass production and antioxidant activity was investigated. Among six culture media types, both rice bran and oat meal produced the most luxuriant mycelia, 15 and 30 days after incubation, whereas mungbean recorded the least mycelial biomass. Antioxidant activity of *C. reinakeana* Urdaneta strain was measured using 2,2-diphenyl-1-picrylhydrazyl (DPPH) radical scavenging assay by means of Trolox equivalent antioxidant capacity (TEAC). The highest radical scavenging activity was found in mungbean (15 days) with antioxidant activity of 3.68mg TE/g, whose values is higher than the control Trolox (2.84mg TE/g). Rice bran (30 days) recorded the least antioxidant activity with 0.91mg TE/g.

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