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 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 (BIOLOGY)

JUNE 2018

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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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.

ACKNOWLEDGMENT

The author would like to express his utmost gratitude to the following:

Firstly, to his siblings and most especially his parents, Raul E. Ramos and Concepcion C. Ramos, for their unending love and support;

To his friends, Nico, Ralph, Roy, Ken, Virgil, Levi, Phillip and Carl for giving hope to the researcher during when he has none for himself, and;

To the staff of the Department of Biological Sciences and its affiliated institutions, especially Ate Liezl and Kuya Dennis; the staff of the CLSU-IAO, Eric, Jawo, and Louis, for even their small involvement played a significant part of this study;

To his co-advisees, Ma'am Arriane Julian, Mark Adrian Del Rosario, Mike Andre Malonzo, and John Paolo Padua, for their unconditional assistance during the study;

To his thesis buddy, Dominic Sanjaya B. Wijayawickrama, who remained and lended a helping hand from the beginning until the end of the study;

To the members of the panel, Dr. Sofronio P. Kalaw and Mr. Rich Milton R. Dulay, for examining his research without reservation and for their constant encouragement throughout the course of his research study, and;

Last but certainly not the least, to his sensei, Prof. Dr. Renato G. Reyes, for guiding him during his study, for inspiring him with life lessons so that he can be the best version that he may be, and for the many opportunities that he shared with him.

May the university continue to produce role models and innovators who not only instruct, but also inspire students to be passionate and excellent in their academic fields. The researcher is grateful for studying Biology in Central Luzon State University and its applications to his future endeavors will be invaluable.

TABLE OF CONTENTS

	PAGE
LIST OF FIGURES	vii
LIST OF APPENDICES	viii
LIST OF APPENDIX TABLES	ix
LIST OF APPENDIX FIGURES	x
ABSTRACT	xi
INTRODUCTION	1
Background of the Study	1
Objectives of the Study	2
Significance of the Study	2
Scope and Limitation of the Study	3
Time and Place of the Study	3
REVIEW OF RELATED LITERATURE	4
Mushrooms	4
Genus *Collybia*	4
Collybia reinakeana P. Henn	5
Influence of culture media on the mycelial growth of mushrooms	6
Antioxidants	7
MATERIALS AND METHODS	8
Source and Revival of Strain	8
Sub - study 1: Influence of Nutritional Factors on the Mycelial Growth	8
Preparation of Coconut water	8
Preparation of Rice Bran Decoction	9
Preparation of Corn Meal Decoction	9
Preparation of Oat Meal Decoction	10
Preparation of Mungbean Decoction	10
Preparation of Soybean Decoction	10
Inoculation of Cultures and Incubation	11
Sub - Study 2: Assessment of Antioxidant Activity of *C. reinakeana* Urdaneta Strain by DPPH Assay	12
Data Gathered	12
Incubation period	12

Mycelial Dry Weight 12
Antioxidant Activity 12
Experimental Lay-out 12
Statistical Analysis 13

RESULTS AND DISCUSSION 14

Sub - study 1: Influence of Nutritional Factors on the Mycelia 14
Influence of culture media on the rate of total mycelial colonization 14
Influence of the culture media on the dry mycelial weight 15
Sub - study 2: Antioxidant Activity of *C. reinakeana* by DPPH Radical Scavenging Assay 18
Antioxidant activity of *C. reinakeana* Urdaneta Strain 18

SUMMARY, CONCLUSION AND RECOMMENDATION 21

Summary 21
Conclusion 21
Recommendation 22

LITERATURE CITED 23

APPENDICES 27

LIST OF FIGURES

FIGURE		PAGE
1	Influence of culture media on the mycelial biomass of *C. reinakeana* Urdaneta strain 15 days after incubation.	15
2	Influence of culture media on the mycelial biomass of *C. reinakeana* Urdaneta strain 30 days after incubation.	15
3	Influence of culture media on the mycelial weight of *C. reinakeana* Urdaneta strain 15 days after incubation.	16
4	Influence of culture media on the dry mycelial weight of *C. reinakeana* Urdaneta strain 30 days after incubation.	16
5	Influence of culture media on the radical scavenging activity of *C. reinakeana* Urdaneta strain 15 and 30 days after incubation.	19

LIST OF APPENDICES

APPENDIX		PAGE
A	Statistical Analysis	25
B	Documentation	26

LIST OF APPENDIX TABLES

APPENDIX TABLE		PAGE
1	Analysis of variance of dry weight (15 days)	25
2	Analysis of variance of dry weight (30 days)	25
3	Analysis of variance of antioxidant activity	25

LIST OF APPENDIX FIGURES

APPENDIX FIGURE		PAGE
1	Culture of C. reinakeana Urdaneta strain on Potato dextrose agar (PDA)	27
2	Sub-culturing C. reinakeana Urdaneta strain in petri dishes with PDA	27
3	Preparation of broth media	27
4	Dispensing of broth media in glass jars	27
5	Inoculation of mycelial discs of C. reinakeana Urdaneta strain on broth media	27
6	Incubation of cultures	27
7	C. reinakeana Urdaneta strain grown on different types of indigenous broth media Air-drying the harvested mycelial mats	28
8	Air-drying the harvested mycelial mats	28
9	Oven-drying the harvested mycelial mats	28
10	Pulverizing of dried mycelial mats	28

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**

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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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