DETECTION OF LEAD AND MERCURY CONTENT OF WILD FRUITING BODIES OF MACROFUNGI COLLECTED IN TUMAUINI, ISABELA

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ACCEPTANCE SHEET

This undergraduate thesis entitled **"DETECTION OF LEAD AND MERCURY CONTENT OF WILD FRUITING BODIES OF MACROFUNGI COLLECTED IN TUMAUINI, ISABELA"** prepared and submitted by **RALPH EDDIESON M. BALBIN**, in partial fulfilment of the requirements for the degree of **BACHELOR OF SCIENCE IN BIOLOGY**, is hereby accepted.

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BIOGRAPHICAL SKETCH

The author, Ralph Eddieson Macugay Balbin was born on the 10th day of October, 1996 in Tumauini, Isabela, Philippines. He was the last and the only male of the five children of Edelmar and Dolores M. Balbin. He currently resides at #208 Barangay Lapogan, Tumauini, Isabela. He began studying at Lapogan Elementary School for six years. Then he completed his secondary education at Regional Science High School – Cagayan Valley. The author always wanted to become a lawyer but to continue the family tradition and pursue higher education, the author went to Central Luzon State University, Science City of Munoz, Nueva Ecija and took the degree Bachelor of Science in Biology. The author had his On-the-Job Training at Bureau of Fisheries and Aquatic Resource, Regional Mariculture Technodemo Center, Lucap, Alaminos City, Pangasinan. Having an intent to work in the Department of Natural Resources, the author is interested in the field of Biodiversity conservation and conducted his thesis with the supervision of Dr. Evaristo A. Abella, Ph.D., Dean of the College of Arts and Sciences and a professor in Biodiversity.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

LIST OF APPENDIX FIGURES

ABSTRACT

BALBIN, RALPH EDDIESON M., Department of Biological Sciences, College of Arts and Sciences, Central Luzon State University, Science City of Munoz, Nueva Ecija, Philippines, **FEBRUARY 2019, DETECTION OF LEAD AND MERCURY CONTENT OF WILD FRUITING BODIES OF MACROFUNGI COLLECTED IN TUMAUINI, ISABELA.**

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Wild macrofungi were collected in the three different sites of Tumauini, Isabela for the detection of the presence of lead (Pb) and mercury (Hg) using cold vapor and flame atomic absorption spectrometer. The collected species include *Agaricus bisporus, Cystolepiota* spp., *Pycnoporus* spp., *Lentinus tigrinus, Trametes versicolor, Ganoderma lucidum, Trametes hirsuta, Paneolus* spp., Species 9, Species 10, and Species 11. Among the eleven macrofungi, eight showed the presence of lead namely: *A. bisporus, Cystolepiota* spp., *Pycnoporus* spp., *L. tigrinus, T. versicolor, Paneolus* spp., Species 10, and Species 11. *Pycnoporus* spp. recorded the highest amount of lead (15 mg / kg) while *L. tigrinus* had the lowest (1.5 mg / kg). Four macrofungi were detected to contain mercury namely: *A. bisporus, Cystolepiota* spp., *T. versicolor,* and Species 11, in which Species 11 had the highest amount of mercury (1.4 mg / kg). The mercury content of the four samples were found higher than the acceptable amount of mercury in the bloodstream (0.01 mg / kg). Therefore, people should be cautious of eating wild mushrooms since they might contain heavy metals naturally accumulated from their substrates.

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