



CENTRAL LUZON STATE UNIVERSITY



SCREENING OF ANTIFUNGAL, ANTIOXIDANT AND TERATOGENIC
ACTIVITY OF *Morus alba* L. LEAVES (ALFONSO VARIETY)

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An Undergraduate Thesis Submitted to the Faculty of the Department of
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Requirements for the Degree

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Department of Biological Sciences

APPROVAL SHEET

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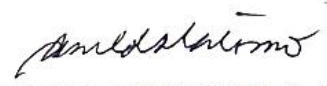

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ABSTRACT

VILORIA, MARIE JOY T., Bachelor of Science in Biology, Department of Biological Sciences, College of Arts and Sciences, Central Luzon State University, Science City of Munoz, Nueva Ecija, Philippines, June 2017, **SCREENING OF ANTIFUNGAL, ANTIOXIDANT AND TERATOGENIC ACTIVITY OF *Morus alba* L. LEAVES (ALFONSO VARIETY)**

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This study was conducted to determine the different potential exhibited by the leaves of *Morus alba* L. (Alfonso variety), a monoecious, deciduous tree from the family Moraceae. Screening of antifungal property, antioxidant and teratogenic was evaluated to expound the nutraceutical supplements and medicinal worth of *M. alba* L. Ethanol and hot water extract of *M. alba* L. was assayed using disc diffusion method against *Aspergillus niger* and *Rhizopus oryzae*. DPPH radical scavenging assay of Kolak et al. (2006) and Folin-Ciocalteu method as described by Hodzic et al., (2009) was used to evaluate the antioxidant activity. For the evaluation of teratogenicity, fertilized embryos of zebrafish (*Danio rerio*) were exposed to various concentrations of *M. alba* L. leaves hot water extract and were assessed after 12, 24, 36 and 48 hours post treatment application. Results showed that both ethanol and hot water extracts possessed an antifungal activity against *R. oryzae* showing zone of inhibition. On the other hand, *A. niger* showed no inhibitory activity which means that it was not sensitive to the extract. Methanolic extract of *M. alba* L. exhibited antioxidant activity, the study revealed that *M. alba* L. registered high DPPH



radical scavenging activity and total phenolic content. Hot water extracts *M. alba* L. showed different toxic effects including mortality, dysmorphic features and coagulation. Growth retardation and limited movement were the observed teratogenic effects of *M. alba* L. leaves extract on developing *D. rerio* embryos.



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