



CENTRAL LUZON STATE UNIVERSITY



**PHYTOCHEMICAL SCREENING AND DETERMINATION OF THE
BIOLOGICAL ACTIVITIES OF *Bambusa vulgaris* var. *striata* (Loodd
ex Lindel) AND *Dendrocalamus asper* (Schult ex Backer)
SHOOT EXTRACTS**

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An Undergraduate Thesis Submitted to the Faculty of the Department of
Biological Sciences, College of Arts and Sciences Central Luzon
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BACHELOR OF SCIENCE IN BIOLOGY

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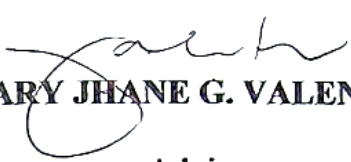
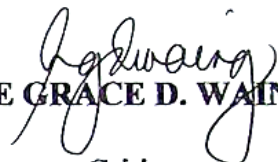


Republic of the Philippines
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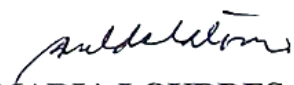
The Undergraduate Thesis Entitled; **PHYTOCHEMICAL SCREENING AND DETERMINATION OF THE BIOLOGICAL ACTIVITIES OF *Bambusa vulgaris* var. *striata* (Lood ex Lindel) AND *Dendrocalamus asper* (Schult ex Backer) SHOOT EXTRACTS** prepared and submitted by **BON JOVI R. BAGUISTAN** in partial fulfillment of the requirements for the degree **BACHELOR OF SCIENCE IN BIOLOGY** is hereby approved and accepted.


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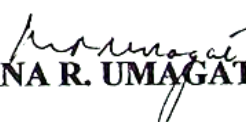
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TABLE OF CONTENTS

| | PAGE |
|---|------|
| TITLE PAGE | i |
| APPROVAL SHEET | ii |
| BIOGRAPHICAL SKETCH | iii |
| ACKNOWLEDGEMENT | v |
| TABLE OF CONTENTS | vii |
| LIST OF TABLES | x |
| LIST OF FIGURES | xi |
| LIST OF APPENDICES | xiii |
| LIST OF APPENDIX TABLES | xiv |
| LIST OF APPENDIX FIGURES | xv |
| ABSTRACT | xvi |
| INTRODUCTION | 1 |
| Background of the Study | 1 |
| Objectives of the Study | 3 |
| Significance of the Study | 3 |
| Scope and Limitations of the Study | 4 |
| Time and Place of the Study | 4 |
| REVIEW OF RELATED LITERATURE | 5 |
| Plants | 5 |
| Medicinal Plants | 5 |
| Bamboo | 6 |
| Botanical Description of Bamboo Species | 7 |
| <i>Bambusa vulgaris</i> var. <i>striata</i> | 7 |
| <i>Dendrocalamus asper</i> | 8 |



| | |
|---|-----------|
| Bamboo Shoots | 9 |
| Fermented bamboo shoots | 9 |
| Nutritional Value of Bamboo Shoot | 10 |
| Proteins and amino acids | 10 |
| Fibers and mineral production of bamboo shoots | 11 |
| Carbohydrates and fats | 12 |
| Phytochemicals | 12 |
| Different extractions for phytochemical analysis | 13 |
| Phytochemical analysis of bamboo | 14 |
| Biological Role of Phytochemicals | 14 |
| Antibacterial Activity of Bamboo Extracts | 15 |
| Antioxidant Activity of Bamboo Extracts | 16 |
| MATERIALS AND METHODS | 17 |
| Collection of Plant Materials | 17 |
| Preparation of Ethanol Extracts | 17 |
| Preparation of Hot Water Extracts | 18 |
| Sub-study 1. Screening of Phytochemical Composition of Bamboo Shoot Extracts | 18 |
| Test for alkaloids | 18 |
| Test for cardiac glycosides | 19 |
| Test for flavonoids | 19 |
| Test for saponins | 19 |
| Test for steroids | 19 |
| Test for tannins | 20 |
| Test for terpenoids | 20 |
| Sub-study 2. Determination of Biological Activity of Bamboo Shoot Extracts | 20 |
| Evaluation of the Antibacterial Activity | 20 |
| Preparation of inoculum | 20 |
| Preparation of McFarland 0.5 | 21 |
| Preparation of Mueller Hinton Agar | 21 |
| Preparation of the assay plates | 21 |
| Preparation of the paper disc | 22 |
| Eradicant test | 22 |
| Protectant test | 22 |
| Determination of the Antioxidant Activity | 23 |
| DPPH radical scavenging assay | 23 |
| Total phenolic content | 24 |
| Data Gathered | 25 |
| Statistical Analysis | 25 |



| | |
|---|----|
| RESULTS AND DISCUSSION | 26 |
| Screening of Phytochemical Composition of Bamboo Shoot Extracts | 26 |
| Evaluation of the Antibacterial Activity of Bamboo Shoot Extracts | 34 |
| Eradicant test against <i>E. coli</i> | 34 |
| Eradicant test against <i>S. aureus</i> | 35 |
| Bamboo shoot extracts as protectant | 38 |
| Protectant test against <i>E. coli</i> | 38 |
| Protectant test against <i>S. aureus</i> | 39 |
| Antioxidant Activity of Bamboo Shoot Extracts | 40 |
| DDPH Radical scavenging activity | 40 |
| Total phenolic content | 42 |
| SUMMARY, CONCLUSION, RECOMMENDATION | 44 |
| Summary | 44 |
| Conclusion | 45 |
| Recommendations | 45 |
| LITERATURE CITED | 46 |
| APPENDICES | 54 |



LIST OF TABLES

| TABLE | | PAGE |
|-------|--|------|
| 1 | Treatments used in the antibacterial activity | 21 |
| 2 | Phytochemical composition of hot water and ethanol shoot extracts of <i>B. vulgaris</i> var. <i>striata</i> and <i>D. asper</i> | 26 |
| 3 | Diameter zone of inhibition of <i>B. vulgaris</i> var. <i>striata</i> and <i>D. asper</i> shoot extracts against <i>S. aureus</i> at of 12 and 24 hrs incubation | 34 |
| 4 | Diameter zone of inhibition of <i>B. vulgaris</i> var. <i>striata</i> and <i>D. asper</i> shoot extracts against <i>S. aureus</i> at of 12 and 24 hrs incubation | 36 |
| 5 | Diameter zone of colonization of <i>E. coli</i> in <i>B. vulgaris</i> var. <i>striata</i> and <i>D. asper</i> shoot extracts at 12 and 24 hours of incubation | 39 |
| 6 | Diameter zone of colonization of <i>E. coli</i> in <i>B. vulgaris</i> var. <i>striata</i> and <i>D. asper</i> shoot extracts at 12 and 24 hours of incubation | 39 |
| 7 | Radical scavenging activity and total phenolic content of bamboo shoots hot water and ethanol extract | 41 |



LIST OF FIGURES

| FIGURE | | PAGE |
|--------|---|------|
| 1 | <i>B. vulgaris</i> var. <i>striata</i> (Golden bamboo) plant | 7 |
| 2 | <i>D. asper</i> (Giant bamboo) plant | 8 |
| 3 | Results of the phytochemical screening for cardiac glycosides: Brown ring indicates the presence of cardiac glycosides in <i>B. vulgaris</i> var. <i>striata</i> HWE (A), <i>B. vulgaris</i> var. <i>striata</i> EE (B), <i>D. asper</i> HWE (C) and <i>D. asper</i> EE (D) | 27 |
| 4 | Results of the phytochemical screening for flavonoids: Yellow coloration indicates the presence of flavonoids in <i>B. vulgaris</i> var. <i>striata</i> HWE (A), <i>B. vulgaris</i> var. <i>striata</i> EE (B), <i>D. asper</i> HWE (C) and <i>D. asper</i> EE (D) | 28 |
| 5 | Results of the phytochemical screening for saponins: the presence of persistent frothing were observed in <i>B. vulgaris</i> var. <i>striata</i> HWE (A), <i>B. vulgaris</i> var. <i>striata</i> EE (B), <i>D. asper</i> HWE (C) and <i>D. asper</i> EE (D) | 30 |
| 6 | Results of the phytochemical screening for steroids: Violet to blue or green precipitate indicates the presence of steroids in <i>B. vulgaris</i> var. <i>striata</i> HWE (A), <i>B. vulgaris</i> var. <i>striata</i> EE (B), <i>D. asper</i> HWE (C) and <i>D. asper</i> EE (D) | 30 |
| 7 | Results of the phytochemical screening for tannins: the presence of brownish green to blue black was observed in <i>B. vulgaris</i> var. <i>striata</i> HWE (A), <i>B. vulgaris</i> var. <i>striata</i> EE (B), <i>D. asper</i> HWE (C) and <i>D. asper</i> EE (D) | 31 |
| 8 | Results of the phytochemical screening for terpenoids. The formation of reddish brown in the interface was observed for the presence of terpenoids in <i>B. vulgaris</i> var. <i>striata</i> HWE (A), <i>B. vulgaris</i> var. <i>striata</i> EE (B), <i>D. asper</i> HWE (C) and <i>D. asper</i> EE (D) | 32 |
| 9 | Results of the phytochemical screening for alkaloids. The white precipitate or turbidity was observed for the presence of alkaloids. <i>B. vulgaris</i> var. <i>striata</i> HWE (A), <i>B. vulgaris</i> var. | |



| | | |
|----|--|----|
| | <i>striata</i> EE (B), <i>D. asper</i> HWE (C) and <i>D. asper</i> EE (D) | 33 |
| 10 | Antibacterial activity of bamboo shoot extracts against <i>E. coli</i> at 12 hrs (A, B), and 24 hrs of incubation (E, F), against <i>S. aureus</i> at 12 hrs (C,D) and 24 hrs of incubation (G,H). (T1) <i>B. vulgaris</i> var. <i>striata</i> HWE, (T2) <i>B. vulgaris</i> var. <i>striata</i> EE, (T3) <i>D. asper</i> HWE, (T5) Streptomycin sulfate, (T4) <i>D. asper</i> EE, (T6) Sterile distilled water | 36 |



LIST OF APPENDICES

| APPENDIX | | PAGE |
|----------|--|------|
| A | Analysis of Variance Tables | 55 |
| B | Certificate of Analysis for Antioxidant and Total Phenolic Content | 58 |



LIST OF APPENDIX TABLES

| APPENDIX TABLE | | PAGE |
|-------------------|---|------|
| 1 | Analysis of variance of different treatments as eradicant against <i>E.coli</i> at 12 hours of incubation | 55 |
| 2 | Analysis of variance of different treatments as eradicant against <i>E.coli</i> at 24 hours of incubation | 55 |
| 3 | Analysis of variance of different treatments as eradicant against <i>S. aureus</i> at 12 hours of incubation | 55 |
| 4 | Analysis of variance of different treatments as eradicant against <i>S. aureus</i> at 24 hours of incubation | 56 |
| 5 | Analysis of variance of different treatments as protectant against <i>E.coli</i> at 12 hours of incubation | 56 |
| 6 | Analysis of variance of different treatments as protectant against <i>E.coli</i> at 24 hours of incubation | 56 |
| 7 | Analysis of variance of different treatments as protectant against <i>S. aureus</i> at 12 hours of incubation | 57 |
| 8 | Analysis of variance of different treatments as eradicant against <i>S. aureus</i> at 24 hours of incubation | 57 |



LIST OF APPENDIX FIGURES

| APPENDIX FIGURE | | PAGE |
|--------------------|---|------|
| 1 | Analysis of antioxidant activity of bamboo shoots | 58 |
| 2 | Total phenolic content of bamboo shoots 1 | 59 |
| 3 | Total phenolic content of bamboo shoots 2 | 60 |
| 4 | Assignatories | 61 |



ABSTRACT

BAGUISTAN, BON JOVI R. Bachelor of Science in Biology, Department of Biological Sciences, College of Arts and Sciences, Central Luzon State University, Science City of Muñoz, Nueva Ecija, Philippines, June 2017. **PHYTOCHEMICAL SCREENING AND DETERMINATION OF THE BIOLOGICAL ACTIVITIES OF *Bambusa vulgaris* var. *striata* (Lood ex Lindel) and *Dendrocalamus asper* (Schult ex Backer) SHOOT EXTRACTS.**

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This study was conducted to determine the presence of phytochemicals such as alkaloids, cardiac glycosides, flavonoids, saponins, steroids, tannins, and terpenoids. Additionally, the antibacterial and anti-oxidant properties of *B. vulgaris* var. *striata* and *D. asper* shoot extracts were also evaluated. The antibacterial property was evaluated using disc diffusion method against two pathogens *E. coli* and *S. aureus*. Meanwhile, DPPH radical scavenging assay was used for the determination of the antioxidant activity and the total phenolic content of the shoot extracts.

The phytochemical screening of four shoot extracts revealed the presence of cardiac glycosides, flavonoids, terpenoids, and saponins. In addition, steroids are also present in ethanol extract of *B. vulgaris* var. *striata* and *D. asper* shoot while tannins were present only in ethanol extract of *B. vulgaris* var. *striata* shoots.

For the antibacterial activity, the ethanol extract of *B. vulgaris* and *D. asper* shoots showed a minimal eradicating activity against *E. coli* and strong eradicating



activity against *S. aureus* and at 12 and 24 hours of incubation. In addition, ethanol extract of *B. vulgaris* var. *striata* showed protectant activity against *E.coli* and *S. aureus* at all incubation period.

Furthermore, the antioxidant activity of ethanol extract of *D. asper* showed the highest radical scavenging activity with a mean of 64.80%. Meanwhile, the highest total phenolic content was recorded in *B. vulgaris* var. *striata* ethanol extract with 49.90 mg AAE/g sample. The antioxidant activity and total phenolic content has the potential candidate as a good source of natural antioxidant as they fight against free radicals.



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