

**BIOLOGICAL ACTIVITIES OF *Bambusa vulgaris* AS
MEDICINE POTENTIAL**

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ABSTRACT

BIOLOGICAL PROPERTIES OF *Bambusa vulgaris* AS MEDICINE POTENTIAL

In this study, ethanol and hot water extracts from the shoots of *Blumeana* var. *Luzonensis*, *Bambusa vulgaris*, and *S. brachycladum* were examined for their phytochemical, antibacterial, and antioxidant capabilities. All of the bamboo shoot extracts mentioned contain cardiac glycosides, flavonoids, saponins, tannins, and terpenoids, per phytochemical study. Only the ethanol extracts of *B. blumeana* var. *Luzonensis* and *S. brachycladum* shoots contained steroid. At 12 and 24 hours of incubation, *S. brachycladum* shoot ethanol extract had the largest zone of inhibition with 8.68 mm and 8.36 mm, respectively, in an eradicator test against *E. coli*. At 12 and 24 hours of incubation, *S. brachycladum* shoot hot water extract created the broadest zone of inhibition against *S. aureus*, with 13.40 mm and 15.32 mm, respectively. Meanwhile with 7.14 mm and 9.97 mm for the protectant test, *E. coli* created the smallest zone of colonisation in *blumeana* var. *Luzonensis* ethanol extract. *S. aureus* established the smallest zone of colonisation in *S. brachycladum* shoot ethanol extracts after 12 hours of incubation, measuring 6.28 mm, whereas *B. blumeana* var. *luzonensis* ethanol extracts produced the smallest zone in after 24 hours of incubation. Furthermore, antioxidant research revealed that all bamboo shoot extracts were capable of scavenging DPPH radicals. The shoot ethanol extract of *B. blumeana* var. *luzonensis* produced the best yield, with 64.80% radical scavenging activity and 27.59 mg AAE/g sample phenolic content. The studied bamboo shoot extracts also contained phytochemicals, which led to their antibacterial and anti-oxidant properties as a result of the findings of this study.

TABLE OF CONTENT

	Page
ACKNOWLEDGEMENT	iii
TABLE OF CONTENT	iv
LIST OF TABLE	vi
LIST OF FIGURE	vii
LIST OF ABBREVIATIONS	vii
ABSTRACT	ix
ABSTRAK	x
CHAPTER 1 INTRODUCTION	
1.1 Background of study	1
1.2 Problem statement	4
1.3 Research questions	5
1.4 Significance of study	5
1.5 Objectives of study	5
1.6 Scope and limitation of study	6
CHAPTER 2 LITERATURE REVIEW	
2.1 Bamboo Shoot also plays an important role in medicine potential	7
2.1.1 <i>Bambusa vulgaris</i>	8
2.1.2 <i>Bambusa blumeana</i> var. <i>Luzonensi</i>	10
2.1.3 <i>Shizostachy brachcladum</i>	12
2.2 Phytochemical screening analysis	12
2.2.1 Phytochemical screening of alkaloid test	2
2.2.2 Phytochemical screening of cardiac glycoside	13
2.2.3 Phytochemical screening of flavonoids	14
2.2.4 Phytochemical screening of saponins	15
2.2.5 Phytochemical screening of steroids	16
2.2.6 Phytochemical screening of tannins	17
2.2.7 Phytochemical screening for terpenoids	18
2.3 Medicinal functions of <i>Bambusa vulgaris</i>	19
2.3.1 Bamboo as anti-cancer property	19
2.3.2 Bamboo shoot as an antioxidant property	21
2.3.3 Bamboo as an anti-ulcer activity	24
2.3.4 Bamboo as an antibacterial activity	24
2.3.5 Bamboo as antidiabetic activity	26
2.3.6 Bamboo as anti-inflammatory	28
2.3.7 Bamboo as anti-microbial activity	29
2.3.8 Bamboo as antipyretic	30
2.4 Screening of Phytochemical Composition of different type of bamboo's shoot	32
2.4.1 Phytochemical screening of <i>Bambusa</i>	33

CHAPTER 1

INTRODUCTION

1.1 Background of study

Herbal medicine represents one of the most important fields of traditional medicine all over the world. To promote the proper use of herbal medicine and to determine their potential as sources for new drugs, it is essential to study medicinal plants, which have folklore reputation in a more intensified way. Contrary to the synthetic drugs, antimicrobials of plant origin are not associated with side effects and have an enormous therapeutic potential to heal many infectious diseases (Parekh and Chanda, 2007). According to Singh and Das (2011), the medicinal applications of bamboo in the traditional medicine system were first mentioned around 500 AD.

Bamboo sap and stem shavings were used in various therapeutic applications. The ancient Indian system of medicine, Ayurveda, recommends the use of bamboo and its products for treating various illnesses. Bamboo manna, also known as “Banslochan” or “Tabashir” in the Indo-Persian system of medicine, is a very important drug extracted from the substance at the hollow internodes of bamboo and was reported to have many medicinal properties (Filgueiras TS *et al.*, 2004). Bamboo is the longest grass as well as fastest grower plant in the world. It belongs to the family Poaceae (González ME *et al.* , 2002). Bamboo is one of the forest plant which has been used extensively, especially its shoot and wood. Bamboo shoots have a long history of being used as a source of both food