

UNIVERSITI TEKNOLOGI MARA

EFFECTS OF INDIGENOUS PLANT *OCTOMELES SUMATRANA* ON BLOOD PARAMETERS IN RATS

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TABLE OF CONTENT

	Page	
TITLE PAGE		
APPROVAL FORM		
ACKNOWLEDGEMENT	ii	
TABLE OF CONTENT	iii	
LIST OF TABLES	v	
LIST OF ABBREVIATIONS	vi	
ABSTRACT	vii	
CHAPTER ONE	INTRODUCTION	1
CHAPTER TWO	LITERATURE REVIEW	4
2.1 Toxicity		4
2.1.1 Acute Toxicity		5
2.1.2 Sub Acute Toxicity		5
2.2 Hematological Parameters		6
2.3 Clinical Biochemical Parameters		7
2.4 Toxicity of herbs		11
2.5 Current Use of Traditional Medicine		11
CHAPTER THREE	MATERIALS AND METHODS	14
3.1 Plant Materials		14
3.2 Preparation of Plant extracts		14
3.3 Experimental Animals		14
3.4 Experimental Design		15
3.4.1 Acute Toxicity		15
3.4.2 Subacute Toxicity		15
3.5 Collection of Blood		16
3.6 Biochemical & Hematological Parameters		17
3.7 Statistical Analysis		17
CHAPTER FOUR	RESULTS	18
4.1 Acute Toxicity		18
4.2 Sub Acute Toxicity		20

ABSTRACT

Octomeles sumatrana also known as 'Binuang' is one of the traditional medicines applied by the enormous Kadazandusun communities in Borneo. Primarily, it is used as tonic or to treat stomachache, bone pain and muscle sprain. The aim of this study is to determine the potential effects and toxicity associated with the use of *Octomeles sumatrana* on blood parameters. Two group of five rats were given either the extracts (treatment group) or normal saline (control group). The water soluble extracts of *Octomeles sumatrana* bark was administered by gavage with the use of oral needle. Later, the blood samples were obtained by cardiac puncture. No mortality was observed upon administration of OS for both acute and sub acute toxicity study. However, there are changes in the blood parameters when evaluated with the conventional pharmacologic method. The result obtained, revealed the differences between the control and the treatment group biochemical properties. In acute toxicity study, the level of lymphocyte, monocyte and total protein were statistically higher than the control group and there were falls in the level of AST. From sub acute toxicity study, the level of ALT, AST, cholesterol, urea and chloride were statistically lowered in the treatment group compare to the control group.

Keywords: *Octomeles sumatrana*; Acute toxicity; Sub acute toxicity; Blood Parameters:

CHAPTER I

INTRODUCTION

Application of traditional medicines in curing certain diseases has always been used as the basis in research. The pharmaceuticals industries had and will manipulate more of the plants biodiversity in finding new cures. It was estimated by the World Health Organization (WHO) that, 80 % of the people living in developing countries rely chiefly on traditional medicine as their primary health care (Ahmad and Ismail, 2003).

The use of traditional medicine is increasingly rapidly in developed countries. In many parts of the world, policy makers, professionals and the public are wrestling with the questions about the safety, quality, availability, preservation and further development of this type of treatment intervention (MCA, 2002). The belief that the herbs' components can treat or prevent diseases, has encouraged the new generation to trust on the beneficial effects of the ingredients contained within nature's packages (Barile, 2004). Such a situation has further encouraged biological evaluation of plant product based on their traditional use through scientific selection and systematic approach.

About 50 different plants around the Crocker range vicinity in Sabah have been found and their usages were identified (Ahmad and Ismail, 2003). *Octomeles sumatrana* is one of the plants in which the therapeutic effects and other purported benefits need to be scientifically validated.