



**ANTS AND BEETLES COLONIZATION ON  
BURNT AND NOT BURNT RABBIT CARCASSES  
IN PUNCAK ALAM SELANGOR**

**By**

**MARJAN HANANIE BINTI MAZLAN**

**Thesis submitted in partial fulfilment for  
Bachelor of Medical Laboratory Technology (Hons)  
Faculty of Health Sciences  
Universiti Teknologi Mara**

**2015**

## DECLARATION

"I hereby declare that the thesis is my original work and has not been submitted previously or currently for any other degree at UiTM or any other institutions."



---

(Marjan Hananie Binti Mazlan)

UiTM ID 2012409922

## TABLE OF CONTENTS

		PAGE
<b>AUTHOR'S DECLARATION</b>		ii
<b>ACKNOWLEDGEMENT</b>		iii
<b>TABLE OF CONTENTS</b>		iv
<b>LIST OF TABLES</b>		ix
<b>LIST OF FIGURES</b>		x - xi
<b>LIST OF ABBREVIATIONS</b>		xii
<b>ABSTRACT</b>		xiii
<b>CHAPTER 1</b>	<b>INTRODUCTION</b>	
1.1	Background of study	1 - 2
1.2	Objectives of study	3
1.3	Problem statement	3
1.4	Hypothesis of study	3
<b>CHAPTER 2</b>	<b>LITERATURE REVIEW</b>	
2.1	Forensic study	4
2.2	Forensic entomology	4

## ABSTRACT

Forensic entomology is the application and study of insect biology to criminal matters. A study has been conducted to see the ants and beetles colonization as predators on burnt and not burnt rabbit carcasses. The study was carried out in an open area near Water Tank 1, UiTM Puncak Alam Campus Kuala Selangor at Latitude of N 3° 12.0456' and Longitude of E 101° 26.8446'. Four male rabbits from *Oryctolagus cuniculus* species were used in this experimental study. In burnt case study, two rabbit carcasses were poured with petrol and served as burnt carcasses, while another two carcasses were placed in cages without any manipulation that acts as control. The control carcasses were used to see the comparison of the decomposition rate and the predators' colonization were different or otherwise. This study findings show that, colonization of ants on not burnt and burnt rabbit carcasses shows some different patterns. The frequency of ants visiting the not burnt rabbit carcasses is higher compare to burnt rabbit carcasses. For not burnt, ants frequency is 932 ants, while for burnt ants frequency are 723. In addition, the diversity of ants species visiting not burnt rabbit carcasses also higher than the burnt rabbit carcasses. The diversity of beetles' species also does not contain much difference between not burnt rabbit carcasses and burnt rabbit carcasses. Types of beetles' species were found on the carcasses were, *Staphylinidae paderus species*, *Cicindela repanda species*, *Cicindela unipunctata* and *Melanotus communis complex species*. This study had provided a new knowledge on the role and diversity of ants and beetles as predators on carcasses.

## CHAPTER 1

### INTRODUCTION

#### 1.1 Background of study

Insects are a term derived from *insectum* from Latin word which mean cut or segmented into pieces. Insects are the largest group of animals on land. Insects occupy any habitat and can be predators, prey, herbivores or even the decayer (Smith, 1986)

Insects belong to subdivision of animal kingdom under phylum Arthropoda and class Insecta. They are characterised by having an external jointed skeleton encased the body (Heckroth, Fiala, Gullan, Idris, & Maschwitz, 1998)

Forensic entomology is one of the broad branches of Forensic Sciences. The use of insects to be included into component of the evidence in legal cases especially when involving with death (Amendt, Krettek, & Zehner, 2004). Insects are routinely the first organisms to arrive on a dead body and they colonize on the carcasses as it is their large food resource as it decomposes. (Henssge & Madea, 2004)

Carion or also known as decaying flesh is very alluring to insects associated with different stages of decomposition. To be knowledgeable