



**UNIVERSITI PUTRA MALAYSIA**

***THE RANGING BEHAVIOR OF BARN OWL (TYTO ALBA JAVANICA)  
TRANSLOCATED FROM PADDY FIELDS TO URBAN AREAS***

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**Thesis submitted in fulfillment of the requirement for the Degree of Bachelor of  
Science Agriculture in the Faculty Agriculture**

**The ranging behavior of barn owl (*Tyto alba javanica*) translocated from paddy  
fields to urban areas.**

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## CERTIFICATION

This project report entitled to compare between males and females of barn owl with regard to its utilization of the home range or the foraging area is prepared by MOHD EZUDDIN SHAH BIN AHMAD ZABIDI submitted to the Faculty of Agriculture in fulfillment of the requirement of PRT 4999 (Final Year Project) for the award of degree of Bachelor of Agricultural Science.

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## LIST OF CONTENT

| <b>LIST</b>  | <b>PAGE</b> |
|--|-------------|
| <b>CERTIFICATION</b>                                 | i           |
| <b>ACKNOWLEDGEMENT</b>                               | ii          |
| <b>LIST OF CONTENT</b>                               | iii         |
| <b>ABSTRACT</b>                                      | v           |
| <b>CHAPTER 1 INTRODUCTION</b>                        |             |
| 1.1 Introduction                                     | 1           |
| 1.2 Objectives                                       | 3           |
| <b>CHAPTER 2 LITERATURE REVIEW</b>                   |             |
| 2.1 History of <i>Tyto alba javanica</i> in Malaysia | 4           |
| 2.2 Rat problem in the urban area                    | 6           |
| 2.3 Biological control of rats                       | 9           |
| <b>2.4 Classification</b>                            | 10          |
| <b>2.4.1 Taxonomy</b>                                | 11          |
| <b>2.4.2 Habitat</b>                                 | 12          |
| <b>2.4.3 Food habits</b>                             | 12          |
| <b>2.4.4 Reproduction</b>                            | 12          |
| <b>2.4.5 Physical description</b>                    | 13          |
| <b>2.4.6 Mortality</b>                               | 13          |
| <b>2.4.7 Distribution</b>                            | 14          |
| <b>2.4.8 Circadian Rhythm of Barn Owl</b>            | 14          |

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|                   |  |     |
|-------------------|--|-----|
| <b>CHAPTER 3</b>  | <b>MATERIALS AND METHODS</b>           |     |
|                   | 3.1 Study site                         | 16  |
|                   | 3.2 Tracking                           | 17  |
|                   | 3.2.1 Radio telemetry                  | 17  |
|                   | 3.3 Data analysis                      | 19  |
| <b>CHAPTER 4</b>  | <b>RESULTS AND DISCUSSION</b>          | 20  |
| <b>CHAPTER 5</b>  | <b>CONCLUSION &amp; RECOMMENDATION</b> | 32  |
| <b>REFERENCES</b> |  | vii |
| <b>APPENDICES</b> |  | xii |

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## Abstract

The Barn Owl *Tyto alba* is common in most part of the world. There are 33 subspecies in all and protected in most countries. The particular sub species in Malaysia is *T. alba javanica* and is protected under the Wildlife Protection Act 1972 (Act 176) and the Environment Protection Act 2010. It has been encouraged to breed in artificial nest boxes provided in oil palm and rice field since it is an efficient predator rats. The idea of using the barn owl as a biological control of rats has recently been implemented in the city for the same purpose. Barn owls have been released in batches of two or three individuals in Subang Jaya has been observed to hunt and feeding well. The objective of study is to investigate the ranging behaviour of barn owls in urban area. Female raptors are known for their territorial behaviour, maintaining an exclusive area around the nest box. Whereas male may range over an extensive area encompassing several nest boxes defended by females. Males may tolerate the presence of other males when food is abundant. These are the observations made in oil palm and rice field. The second objective is to estimate the home range and core area size of *tyto alba*. In this study, radio telemetry is employed to investigate the ranging pattern of males and females in the city, whereby the habitat make-up and nature is totally different than agricultural area where vegetation is the main attribute. At least three males and three females will be radio tagged and followed for at least three months, with a frequency of a total of seven nights of tracking every month. The difference between male and female home range pattern and area utilized will be analysed with BIOTAS, software which enable the calculations of range size of animals based on two different methods - Minimum Convex polygon (MCP) and the kernel method. It is projected that the pattern of

home range used and size would be comparable with studies previously conducted in agricultural land and open fields.





## CHAPTER 1

### INTRODUCTION

#### 1.1 Introduction

The Barn Owl, *Tyto alba* is common in most part of the world. There are 33 subspecies in all and protected in most countries. A medium-sized (14-20 inches) owl, the Barn Owl is most easily identified by its tan head and body, pale breast, triangular facial disk (most owl species have round faces) and brown eyes. Part of a small group of owls mostly found in Australasia, this species is unlikely to be confused with owl species outside of its own family. Male and female Barn Owls are similar to one another in all seasons. Barn Owls occur across much of the globe. In the New World, this species occurs from extreme southern Canada and the northern United States south to the southern tip of South America, including the islands in the Caribbean. In the Old World, this species occurs in most of Europe, Africa, South Asia, and Australia (Scopoli, 1769).

There are 36 subspecies including *T. alba javanica*, found in peninsular Malaysia and also in sumatra and java islands of Indonesia (Tylor, 1994). Due to its wide distribution, the barn owl has been extensively studied (Bunn et al., 1982; Newton et al., 1991; Eason et al., 2002). since 1970's its distribution had rapidly expanded and the status changed from rare in the late 1960's to common (Duckett, 1984; Duckett and Karrupiah, 1990). The barn owl is a protected species

under the Wildlife Protection Act 1972 (Act 176) and the Environment Protection Act 2010.



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The particular sub species in Malaysia is *Tyto alba javanica* which inhabit an enormous variety of open and semi-open habitats. These habitats include forest edges, grassland, scrub, meadows, agricultural fields, and even urban and suburban areas. *T. alba javanica* eat a variety of small animals, primarily rodents (including mice, voles, and shrews). Like most owls, *T. alba javanica* hunt at night, listening for movement in the undergrowth with their superb hearing and swooping down to capture prey. It is primarily active at night.

In Malaysia, *T. alba javanica* has been encouraged to breed naturally to control rats by boosting its numbers through provision of nest boxes in several crops, such as in oil palm plantation (Chia and Lim 1995), cocoa (Lee and Ho 1999) and rice fields (Hafidzi and Naim 2003). The increase population of *T. alba javanica* in peninsular Malaysia was influence with the phenomenal increase in oil palm plantation.

The idea of using the barn owl as a biological control of rats has recently been implemented in the city for the same purpose. Rat population in the city is particularly high for the abundant food source and suitable condition for live.

Since the barn owl is largely distributed in the rural and plantation area, the ecology and behaviours in the city and urban area is anticipated to be different. The pray species and range is also different in the city, therefore this will influence the ranging and activity pattern of the owls. .

The objective of study is to investigate the raging behaviour of barn owls in the urban area. Female raptors are known for their territorial behaviour, maintaining an exclusive area around the nest box. Whereas male may range over an extensive area encompassing several nest boxes defended by females. It also to estimate the home range and core area size of *T. alba*, whereby the habitat make-up and nature is totally different than agricultural area where vegetation is the main attribute.

## 1.2 Objectives

- 1.2.1 To investigate the raging behaviour of barn owls in the urban area
- 1.2.2 To estimate the home range and core area size of *Tyto alba*

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