



**UNIVERSITI PUTRA MALAYSIA**

***BEHAVIORAL ANALYSIS OF CAPTIVE MALAYAN TAPIRS  
(*Tapirus indicus*)***

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BEHAVIORAL ANALYSIS OF CAPTIVE MALAYAN TAPIRS

*(Tapirus indicus)*



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A project paper submitted to the  
Faculty of Veterinary Medicine, Universiti Putra Malaysia  
As partial fulfillment of the requirement for the  
DEGREE OF DOCTOR OF VETERINARY MEDICINE

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**CERTIFICATION**

It is hereby certified that I have read this project paper entitled “**Behavioral Analysis of Captive Malayan Tapirs (*Tapirus indicus*)**”, by Norhafizah Binte Kamisan and in my opinion it is satisfactory in terms of scope, quality, and presentation as partial fulfillment of the requirement for the course VPD4999 – Final Year Project

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**DEDICATION**

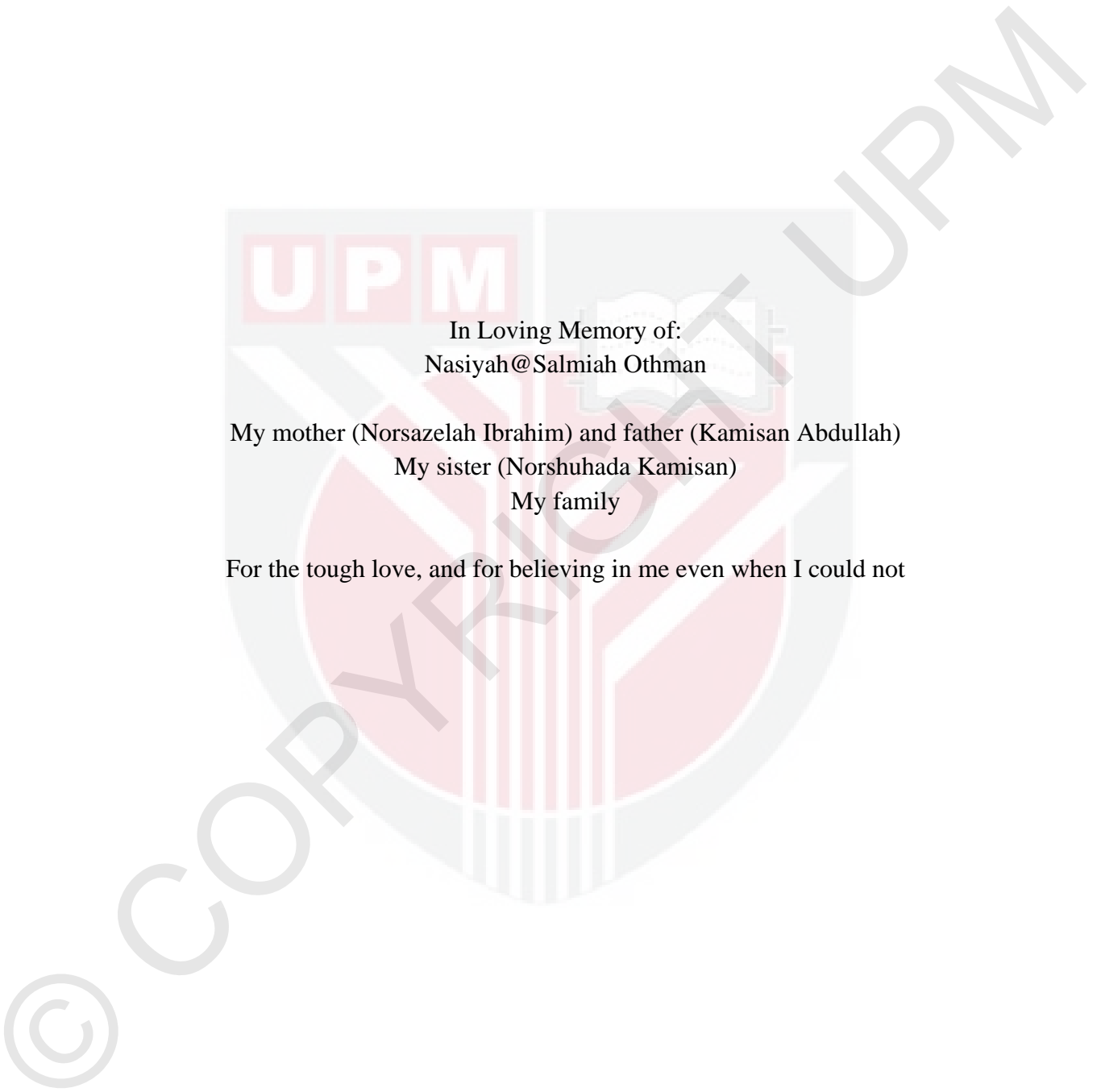
In Loving Memory of:  
Nasiyah@Salmiah Othman

My mother (Norsazelah Ibrahim) and father (Kamisan Abdullah)

My sister (Norshuhada Kamisan)

My family

For the tough love, and for believing in me even when I could not



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## **ABSTRAK**

Abstrak daripada kertas projek yang dikemukakan kepada Fakulti Perubatan Veterinar untuk memenuhi sebahagian daripada keperluan kursus VPD4999 – Projek Tahun Akhir

### **ANALISA TINGKAH LAKU TAPIR MALAYA (*Tapirus indicus*) DALAM KURUNGAN**

Oleh

**NORHAFIZAH BINTE KAMISAN**

**Mac 2017**

**Penyelia: Dr. Tengku Rinalfi Putra bin Tengku Azizan**

Tapir Malaya (*Tapirus indicus*) yang berada di dalam kurungan, seperti di zoo, semakin meningkat walaupun bilangan mereka makin berkurangan di hutan belantara. Pengurusan yang baik sangat penting bagi memastikan kesihatan dan kebajikan haiwan-haiwan ini dijaga dan dipertingkatkan, selari dengan meningkatkan imej umum dan kesedaran tentangnya. Objektif kajian ini adalah untuk menggambarkan tingkah laku tapir Malaya dalam kurungan di siang hari.

Kajian ini dilakukan di Zoo Negara, Malaysia. Kaedah penyiasatan yang digunakan adalah dengan pemerhatian tingkah laku. Empat ekor tapir dipilih selaku subjek kajian ini. Ia terdiri daripada dua ekor jantan dan dua ekor betina yang dikurung di dalam dua kawasan pameran sebagai pasangan mengawan. Pemerhatian untuk kajian ini dilakukan untuk enam jam sehari semasa zoo

dibuka selama dua minggu, dan semua tingkah laku yang diperhatikan dicatat di dalam sebuah etogram. Selain itu, jumlah pelawat yang singgah ke kawasan pameran haiwan-haiwan ini juga dicatat. Hasil kajian menunjukkan bahawa secara purata, sebahagian besar bajet aktiviti siang hari keempat-empat tenuk itu terdiri daripada berehat, berenang, dan makan. Tiada perbezaan yang dapat dikenal pasti antara tahap aktiviti kedua-dua kawasan pameran dan juga antara tenuk betina dan jantan. Korelasi negatif dilihat antara tahap aktiviti tapir-tapir dalam kajian ini dengan jumlah pelawat. Ini mungkin disebabkan tapir-tapir di Zoo Negara telah dibesarkan dalam kurungan, yang memungkinan mereka telah menyesuaikan diri dengan kehadiran manusia. Di samping itu, tiada tingkah laku berkaitan dengan tekanan dapat dilihat yang menandakan kebajikan yang mencukupi.

**Kata kunci:** bajet aktiviti, etogram, kurungan, tapir Malaya (*Tapirus indicus*), tingkah laku

**ABSTRACT**

An abstract of the project paper presented to the Faculty of Veterinary Medicine  
as partial fulfillment of the course VPD4999 – Final Year Project

**BEHAVIORAL ANALYSIS OF CAPTIVE MALAYAN TAPIRS**

*(Tapirus indicus)*

By

**NORHAFIZAH BINTE KAMISAN**

**March 2017**

**Supervisor: Dr. Tengku Rinalfi Putra bin Tengku Azizan**

Malayan tapirs (*Tapirus indicus*) in captivity have been increasing in numbers, especially with their wild populations facing a declining trend. Good management is imperative to ensure their health and welfare is upheld, along with their public image to improve awareness of these animals. Behavioral observations were carried out with the aim of describing the tapirs' diurnal behavior in captivity. Four Malayan tapirs living as pairs in two exhibits from Zoo Negara, Malaysia, were included in this study. Focal sampling was done with behaviors recorded for six hours during the opening hours of the institution. Additionally, the frequencies of visitors to the exhibits were noted. Diurnal activity budgets, exhibit use, and visitor frequency effects were calculated from the data collected. The data revealed that on average, all four tapirs spent a large amount of time resting, swimming and eating. Neither gender differences nor exhibit differences were observed between the activity levels of the tapirs. A negative correlation between their activity levels and visitor numbers were also identified. These findings may be explained by the tapirs having been bred in

captivity, and having adapted to the presence of humans. The results conformed to the tapirs' expected crepuscular behavior, with no stereotypic behaviors seen.

**Keywords:** *activity budget, behavior, captivity, ethogram, Malayan tapir (Tapirus indicus)*



## 1.0 INTRODUCTION

The family Tapiridae, more commonly known as the tapirs, is one of the three in the order Perissodactyla, alongside the horses and rhinoceroses (Ferguson, 1997). These ungulates are large herbivorous mammals, which, from time to time, have been known as “living fossils” because of their long existence (Downer, 2003).

There are five surviving members of the Tapiridae family today, namely the Malayan tapir (*Tapirus indicus*), the Baird’s tapir (*Tapirus bairdii*), the Lowland tapir (*Tapirus terrestris*), the Mountain tapir (*Tapirus pinchaque*), and the recently “discovered” Kabomani tapir (*Tapirus kabomani*). The tapirs traditionally have habitats located in Mexico, Central and South America, as well as Southeast Asia (Downer, 2003).

According to the IUCN’s Tapir Specialist Group (TSG) (2008), tapirs play an important role in the health of an ecosystem, as well as maintaining the diversity of it. This is supported by numerous studies as reviewed by O’Farrill, Galetti, and Campos-Arceiz (2013), which indicated tapirs to be seed predators and dispersers, being able to disseminate seeds over long distances. Unfortunately, four of the five species have been classified as either endangered or vulnerable in the IUCN Red List of Threatened Species (Garcia *et al.*, 2016; Lizcano *et al.*, 2016; Naveda *et al.*, 2008; Traeholt *et al.*, 2016), which poses a real threat to the rainforests and multiple ecosystems in the future.

Of the five known tapir species, the Malayan tapir is the largest, and the only species found in Southeast Asia (Traeholt *et al.*, 2016). Listed as endangered, the Malayan tapir population is still facing ongoing decline, with threats ranging from habitat loss to hunting and poaching (Traeholt *et al.*, 2016).

The Malayan tapir is considered a flagship species in Malaysia, and conservation of the species plays an important role in sustaining other flora and fauna in the tropical rainforests as well. Conservation efforts for the Malayan tapirs have been ongoing since years ago, such as seen with the efforts of those involved with the Malay Tapir Conservation Project, which began in 2002 (Malay Tapir Conservation Project). Unfortunately, with the decreasing trend in their numbers and fragmentation of forests causing increased population isolation and a lack of genetic exchange, *in situ* conservation efforts alone may not be sufficient. Eventually, *ex situ* measures will grow to be essential in ensuring the continual survival of this species, albeit in captivity. However, effective management of captive tapirs is compromised when there is a want for information on the animals' behavior (Shoemaker *et al.*, 2003). A study reviewing multiple zoological parks in the United States indicated that captive Malayan tapirs suffered from problems such as obesity as well as a decline in activity (Rose & Roffe, 2012) in comparison to their wild counterparts.

Although there have been numerous studies carried out on tapirs, published journal researches on the behavior of the Malayan tapirs in captivity is minimal, as agreed upon by Gilmore (2001). This is even more so in the Malaysian context. Additionally, according to the Malayan Tapir Conservation Workshop Final Report, there was also a lack of information on the ecology, behavior and also distribution of the Malayan tapirs (Medici *et al.*, 2003).

This result of study will provide insight into the behavior of Malayan tapirs in captivity in Malaysia. Furthermore, it may provide baseline data for use in the evaluation of Malayan tapirs in local institutions, or even as support in future works

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