THE EFFECTS OF NATURAL REPELLENT ON ASIAN HOUSE GECKOS *Hemidactylus frenatus*

QASRINA IZZATI ZAINAL

Final Year Project Report Submitted in Partial Fulfillment of the Requirement for the Degree of Bachelor Sciences (Hons) Biology in the Faculty of Applied Sciences Universiti Teknologi MARA

JANUARY 2019

This Final Year Project Report entitled **"The Effects of Natural Repellent on Asian House Geckos *Hemidactylus frenatus*"** was submitted by Qasrina Izzati binti Zainal, in partial fulfillment of the requirements for the Degree of Bachelor of Science (Hons.) Biology, in the Faculty of Applied Sciences, and was approved by

Nur Intan Binti Hasbullah
Supervisor
B. Sc. (Hons.) Biology
Faculty of Applied Sciences
UiTM Negeri Sembilan
Kampus Kuala Pilah
Pekan Parit Tinggi
72000 Kuala Pilah
Negeri Sembilan

Siti Norazura Binti Jamal
Project Coordinator
B. Sc. (Hons.) Biology
Faculty of Applied Sciences
UiTM Negeri Sembilan
Kampus Kuala Pilah
Pekan Parit Tinggi
72000 Kuala Pilah
Negeri Sembilan

Dr. Aslizah Binti Mohd Aris
Head of Programme
B. Sc. (Hons.) Biology
Faculty of Applied Sciences
UiTM Negeri Sembilan
Kampus Kuala Pilah
Pekan Parit Tinggi
72000 Kuala Pilah
Negeri Sembilan

Date: _____

TABLE OF CONTENTS

ABSTRACT

THE EFFECTS OF NATURAL REPELLENT ON ASIAN HOUSE GECKOS (*Hemidactylus frenatus*)

Invading of the Asian house geckos has cause the hygienic problem despite their potential to be a vector for *Salmonella* spp. Thus, this problem has contributed to the increasing of repellent production for combating the geckos. Repellent is regularly used to protect humans from pathogenic organism such as protozoans, viruses and parasites. The commercially available repellent used complex and dangerous chemicals that can cause harmful effects to human and environment. Therefore, this study was conducted to find the potential of natural repellent against Asian house geckos, *Hemidactylus frenatus*. Three herbs were used in this study which are *Cinnamon cassia, Allium sativum*, and *Cymbopogon citratus*. Extraction of these herbs were prepared by soxhlet extraction method. The experiments were conducted in form of single herbs and poly herbs treatment. Single herbs are the single form of the herbs, while poly herbs include 1:1 ratio of mixed concentration of herbs (*C. cassia* + *A. sativum*), (*C. cassia* + *C. citratus*), and (*A. sativum* + *C. citratus*). The repellency test was monitored and recorded in 30, 60, 90, 120, 150 and 180 minutes and were statistically analysed for their mean and percentage of repellency. From the result obtained, *C. cassia, A. sativum* and *C. citratus* extracts were showed full repellency towards Asian house geckos. Higher concentration (100% and 75%) of *C. cassia* extracts are able to kill the geckos, while lower concentration (50% and 25%) has potential in weaken the geckos. On the other hand, all concentrations of *C. citratus* extract are less effective in killing the geckos. Other than that, no geckos were killed when treated with poly-herbs treatment. This showed that single-herbs (*C. cassia* and *A. sativum*) are more effective in killing and repelling the geckos compared to the poly-herbs treatment.