

**DIVERSITY OF NON-VOLANT SMALL MAMMALS IN FOREST RESEARCH INSTITUTE  
MALAYSIA (FRIM), SELANGOR**



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**Content**

- 1. Letter of Report Submission ..... iii
- 2. Letter of Offer (Research Grant).....iv
- 3. Acknowledgements ..... v
- 4. Enhanced Research Title and Objectives.....vi
- 5. Report ..... 1
  - 5.1 Proposed Executive Summary ..... 1
  - 5.2 Enhanced Executive Summary ..... 2
  - 5.3 Introduction ..... 3
  - 5.4 Brief Literature Review ..... 4
  - 5.5 Methodology ..... 6
  - 5.6 Results and Discussion ..... 8
  - 5.7 Conclusion and Recommendation..... 10
  - 5.8 References/Bibliography ..... 11
- 6. Research Outcomes ..... 12

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## 5.2 Enhanced Executive Summary

A study on the species composition and abundance of small mammals was carried out in Forest Research Institute Malaysia (FRIM), Kepong, Selangor. Sampling was carried out at two sampling stations around the FRIM area which were Planted Forest Zone (Keruing Trail) and Peat Swamp Zone (Engkabang Trail). A total of 25 individuals from 7 species of small mammals were captured and recorded. From this overall captured, 13 individuals or 52% were tree shrew, 6 individuals (24 %) were squirrels, 4 individuals rats (16 %) and 2 individuals (8%) were civets. The order Scandentia (tree shrew) was the main group of small mammals in the area, with a total capture of 52% or 13 individuals. The Shannon-Weiner index ( $H' = 1.4972$ ), the Sorenson Similarity Index ( $SI = 14.29\%$ ) and the Shannon-Evenness Index ( $E' = 0.7667$ ) were low suggesting low small mammal diversity. The study indicates that the forest habitats of FRIM are important for small mammal areas and that further studies on the habitat use by the small mammals should be conducted.

### 5.3 Introduction

Small mammals are often used as an indicator species group to reflect some aspects of integrity (Carey and Johnson, 1995). Small mammals especially for non-volant small mammals are one of the most intensively studied groups due to their high abundance and diversity, responsive to disturbance, and easy to sample. They also have good potential as bioindicator for many aspects (Zakaria *et al.*, 2011). The distribution of species, particularly rodents, is heavily influenced by vegetation and substrate. Studies on patterns of habitat use by mammals are important for understanding the mechanisms involved in their distribution and abundance (Schmidly, 1977). Habitat alteration which includes forest clearing for agriculture has been a major threat for most mammals in many parts of the world. In Malaysia, Nakagawa *et al.* (2006) have showed that certain species become locally extinct after logging; some decline in numbers, once a forest has been converted into a monoculture plantation, additionally species diversity will declines dramatically.

Research done by Shanahan and Compton (2000) found small mammals play an important role as seed dispersers in forest ecosystems and form the base of the mammalian food chain. According to Promislow and Harvey (1990), their demographic agility along with their high yield rate and flexibility has made small mammals an interesting group to study demography and population dynamics both from theoretical and empirical approaches (Stenseth, 1985).

The number of species is the simplest and most useful measure of local or regional diversity. Diversity of small mammals is important to determine the population and the most fundamental measure of diversity is species richness, that is, the number of species that occur in some defined area. It is well recognized by ecologists that the number of species is quite variable and individual species are not randomly distributed (Schluter and Ricklefs, 1993).

By documenting the differences and the regularities of the number of species in many places we may provide insight into the structural pattern of natural community. Furthermore, the number of species documented in a community may reflect the characteristics of the habitat and the interactions among species that live in that community (Schluter and Ricklefs, 1993).