






Dr. Nor Zalipah Mohamed

Lecturer
Faculty of Science and Marine Environment
Universiti Malaysia Terengganu

 zalipah@umt.edu.my
 +609 668 3431
 +609 668 3193

QUALIFICATIONS

- Doctor of Philosophy (Biology), University of Bristol
- Master of Science (Environmental Biology), Universiti Sains Malaysia
- Bachelor of Science Hons. (Biology-Zoology), Universiti Sains Malaysia

FIELD OF RESEARCH

- Vertebrate Ecology
- Pollination Ecology

RESEARCH INTEREST

My research interests lie in animal ecology, particularly in ecosystem services by mammals. Currently, I'm working on the ecology of vertebrates (bats, birds, rats, squirrels etc.) as pollinating and seed dispersal agents. The interaction between plant-pollinator and plant-disperser are among the most important functional relationship in many ecosystems. In these mutualisms, the animals are very important ecosystem engineers in which they determine ecosystem structure of the habitat they live. In tropical forest, information regarding the ecology of pollination and seed dispersal mutualism however is very limited. While the direct and indirect effects of these animals on ecosystem functions and services are poorly quantified, more and more animal species are moving toward extinction every year from continued disappearance of habitat and overexploitation of wildlife.

RESEARCH PROJECTS

- Elucidating Flower-Visitor Interactions in Oil Palm Plantation to Tackle Parthenocarpy Fruit Formation in Oil Palm (*Elaeis guineensis*)
- Pollination Ecology of Oil Palm (*Elaeis guineensis*) in TDM Plantation, Terengganu
- Beehive Fence Using Honeybees (*Apis cerana* and *Apis mellifera*) as Natural Deterrent of Asian Elephant (*Elephas maximus*) in TDMP Oil Palm Plantations in Malaysia

- Ecology of Small Mammals in Terengganu
- Understanding the Influence of Environmental and Social Factors on *Leptospira* Transmission in Urban Areas of Dungun, Terengganu
- Economic Evaluation of Bat Pollination Service in Terengganu, Malaysia
- Strategic Integrated Measure on Tackling Human Leptospirosis: A Comprehensive Fundamental, Clinical and Public Health Approaches (Sub project: Identification and biological study of *Leptospira* animal hosts, and determination of effective control methods in Peninsular Malaysia)

EXPERT LINKAGES

- University of Bristol, UK
- Universiti Sains Malaysia
- Universiti Kebangsaan Malaysia

PROFFESIONAL MEMBERSHIP

- Malaysian Society of Applied Biology (MSAB)
- Association for Tropical Biology & Conservation (ATBC)

GRANTS

- | | |
|------------|---|
| Project | : Elucidating Flower-Visitor Interactions in Oil Palm Plantation to Tackle Parthenocarpy Fruit Formation in Oil Palm (<i>Elaeis guineensis</i>) |
| Position | : Leader |
| Grant Name | : Fundamental Research Grants Scheme (FRGS) |
| Status | : Active |
| Amount | : RM97,500 |
| | |
| Project | : Pollination Ecology of Oil Palm (<i>Elaeis guineensis</i>) in TDM Plantation, Terengganu |
| Position | : Leader |
| Grant Name | : Industrial Grant from TDM Plantation Sdn. Bhd. |
| Status | : Active |
| Amount | : RM176,070.00 |
| | |
| Project | : Beehive Fence Using Honeybees (<i>Apis cerana</i> and <i>Apis mellifera</i>) as Natural Deterrent of Asian Elephant (<i>Elephas maximus</i>) in TDMP Oil Palm Plantations in Malaysia |

Position : Co-researcher
Grant Name : Industrial Grant from TDM Plantation Sdn. Bhd.
Status : Active
Amount : RM278,400.00

Project : Ecology of Small Mammals in Terengganu
Position : Leader
Grant Name : Seed Money form Universiti Kebangsaan Malaysia
Status : Active
Amount : RM20,000.00

Project : Understanding the Influence of Environmental and Social Factors on *Leptospira* Transmission in Urban Areas of Dungun, Terengganu
Position : Co-researcher
Grant Name : Dana Penyelidikan UMT (DP-UMT)
Status : Active
Amount : RM20,000.00

Project : Economic Evaluation of Bat Pollination Service in Terengganu, Malaysia
Position : Leader
Grant Name : Research Grant from Nagao Natural Environment Foundation (NEF)
Status : Completed
Amount : JYP500,000.00

Project : Strategic Integrated Measure on Tackling Human Leptospirosis: A Comprehensive Fundamental, Clinical and Public Health Approaches (Sub project: Identification and biological study of *Leptospira* animal hosts, and determination of effective control methods in Peninsular Malaysia)
Position : Member
Grant Name : Long Term Research Grant Scheme (LRGS)
Status : Completed
Amount : RM519,800.00

PUBLICATIONS

Journal Article

1. Zulfemi, M. N. H., Low, S. Y., Mohamad Shukri, S. N. S., Abu Samah, A. H., Hassan Basri, H. Z., Mohd Shuhaimi, M. H., Hamzah, H. N., Zahidin, M. A., Ariffin, M. S. A., Nor Zalipah, M. (2021). Flower visiting bats to durian trees: Species richness and population size. *Journal of Sustainability Science and Management*. In press.
2. Shafie, N. J., Syed-Esa, S. M., Mohd-Amin, N. A. Z., Nor Zalipah, M., Abdul-Halim, N. S., Md-Nor, S., Casanovas-Massana, A., Ko, A., Costa, Fe. (2021). Knowledge, attitudes and practices (KAP) regarding Leptospirosis among visitors of recreational forest in Malaysia. *American Journal of Tropical Medicine & Hygiene*. In press.
3. Nor Zalipah, M., Mohd Sah S.A., Jones G. (2021). Flowering Biology of Mangroves (Genus *Sonneratia*) and the Role of Bats in Their Pollination in Peninsular Malaysia. in Grigore M.N. (ed.). *Handbook of Halophytes*. Springer: Cham. http://doi-org-443.webvpn.fjmu.edu.cn/10.1007/978-3-030-17854-3_60-1.
4. Kamaruddin, F., Nor Zalipah, M. (2020). Observation of flower visitors to determine their potential role as pollinators of *Ixora coccinae* and *Reullia simplex*. *Universiti Malaysia Terengganu Journal of Undergraduate Research*, 2 (1): 61-70.
5. Senafi, N., S., Mohamed, N. Z., Azmi, W. A. (2020). Population abundance of Red Palm Weevil, *Rhynchophorous ferrugineus* (Coleoptera: Dryophthoridae) in Rhu Tapai Coconut Plantation. *Universiti Malaysia Terengganu Journal of Undergraduate Research*, 2 (1): 71-76.
6. Lee-Sim Lim, Matthew J. Struebig, Mohamed Nor Zalipah, Adura Mohd-Adnan, Juliana Senawi, Akbar Zubaid, Shahrul Anuar Mohd Sah, Stephen J. Rossiter. (2019). Bats from the understorey of lowland tropical rainforests across Peninsular Malaysia. *Bat Research & Conservation*, 12(1): 68-82.
7. Muhammad Afif Yufof, Farah Shafawati Mohd-Taib, Siti Nabilah Ishak, Shukor Md-Nor, Shahrul Anuar Md-Sah, Nor Zalipah Mohamed, Nurul Natasya Azhari, Vasanthakumari Neela, Zamberi Sekawi. (2019). Microhabitat factors influenced the prevalence of pathogenic *Leptospira* spp. In small mammal host. *EcoHealth*, 16(2): 260-274.
8. Nor Zalipah, M., Roslan, A., Senawi, J., Jayaraj, V.K., Azhar, M.I., Abdullah, M.T., Lim, B.L. (2019). Checklist of Small Mammals of Hulu Terengganu, Terengganu. in Abdullah, M.T., Mohammad, A., Nor Zalipah, M., Lola, M.S., (eds.). *Greater Kenyir Landscape- Social Development and Environmental Sustainability: From Ridge to Reef*. Springer: Cham, Switzerland. pp 191-200.
9. Yazid, N.N.A., Gunawan, S.H., Roslan, A., Nor Zalipah, M., Abdullah, M. T. (2019). Note on Pollen and Seeds Dispersed by Pteropodid Bats in Kenyir Forest Area, Terengganu. in Abdullah, M.T., Mohammad, A., Nor Zalipah, M., Lola, M.S., (eds.). *Greater Kenyir Landscape- Social Development and Environmental Sustainability: From Ridge to Reef*. Springer: Cham, Switzerland. pp 171-180.
10. Wahab, N.S., Ismail, N.A., Adzemi, A.F., Nor Zalipah, M. (2019). Observations on Flowers of the Genus *Bruguiera* from Setiu Mangrove Areas, Terengganu. in Abdullah, M.T., Mohammad, A., Nor Zalipah, M., Lola, M.S., (eds.). *Greater Kenyir Landscape- Social*

Development and Environmental Sustainability: From Ridge to Reef. Springer: Cham, Switzerland. pp 101-110.

11. Nor Zalipah, M., Ahmad Fadhli, A. (2017). Experimental pollinator exclusion of *Sonneratia alba* suggest bats are more important pollinator agents than moths. *Journal of Sustainability Science and Management*, Special Issue No. 3: 17-23.
12. Nor Zalipah, M., Shahrul Anuar, M.S., Jones, G. (20016). Potential significance of nectar-feeding bats as pollinators in mangrove habitats of Peninsular Malaysia. *Biotropica*, 48 (4): 425-428.
13. Struebig, M.J., Huang, J.C.C., Nor Zalipah, M., Noerfahmy, S., Schoner, C.R., Schoner, M.G., Francis, C.M. (2016). Forest surveys extend the range of the Krau woolly bat (*Kerivoula krauensis*) in the Malay-Thai Peninsula, Borneo and Sumatra. *Mammalia*, 81(2): 211-215.
14. Azuan, R., David, G., Nur-Izzah Izzati, A., Noor Aisyah, A.R., Pesiu. E., Muhamad-Aidil, Z., Fathihi-Hakimi, R., Hasrulzaman, H., Mohamad-Abid, K., Nor Zalipah, M., Abdullah, M.T. (2016). Notes of bats in Pulau Bidong and Pulau Perhentian Besar, Terengganu, Malaysia. *Journal of Sustainability Science and Management*, Special Issue: The International Seminar on The Straits of Malacca and The South China Sea, 11 (2): 26-35.
15. Ahamad, Mariana., Ibrahim, Halimatun., Bujang, Mohd. Kulaimi., Mohd Sah, Shahrul-Anuar., Mohamed, Nor Zalipah., Mohd. Nor, Shukor., Ahmad, Abdul Hamid., Ho, Tze-Ming. (2013). A survey of acarine ectoparasites of bats (Chiroptera) in Malaysia. *Journal of Medical Entomology*, 50: 140-146.
16. Wahizatul Afzan Azmi, Roziah Ghazi, Nor Zalipah Mohamed. (2012). Importance of Carpenter Bee, *Xylocopa varipuncta* (Hymenoptera: Apidae) as Pollination Agent for Mangrove Community of Setiu Wetlands, Terengganu, Malaysia. *Sains Malaysiana*, 41(9): 1057-1062.
17. Mariana, A., Mohd Khulaimi, B., Halimatun, I., Suhaili, Z.A., Shahrul-Anuar, M.S, Nor Zalipah, M., Ho, T.M. (2011). Acarine ectoparasites of Panti Forest Reserve in Johore, Malaysia. *Asian Pacific Journal of Tropical Biomedicine*, 1: 1-5.
18. Norhayati, A., Shukor, M.N., Shahrul Anuar, M.S., Nurul 'Ain, E., Nor Zalipah, M. (2007). Notes on the bats of Gua Kelawar, Langkawi Island, Kedah. *Journal of Wildlife Parks*, 24: 1-6.
19. Nor Zalipah, M., Juliana, S., Lim, B.L. (2007). A note on the arboreal monkey-footed rat (*Pithecheir parvus*) in a pitfall irap. *Journal of Wildlife Parks*, 24: 63-65.
20. Shahrul Anuar, M.S., Shukor, M.N., Nurul 'Ain, E., Nor Zalipah, M., Norhayati, A., Yusuf, A., Mark Rayan, D., Ganesan, M., Ahmad Syahizam, A. (2007). Small mammal surveys at several localities on Langkawi Island, Kedah, Malaysia. *The Malaysian Forester*, 70: 123-132.
21. Ibrahim, J., Shahrul Anuar, M.S., Norhayati, A., Shukor, M.N., Shahriza, S., Nurul 'Ain, E., Nor Zalipah, M., Mark Rayan, D. (2006). An annotated checklist of herpetofauna of Langkawi Island, Kedah, Malaysia. *Malayan Nature Journal*, 57: 369-381.
22. Nor Zalipah, M., Shahrul Anuar, M. S. & Nurul 'Ain, E. (2005). Mark-recapture study of non-volant small mammals at Pondok Tanjung Forest Reserve, Perak. *Journal of Wildlife Parks*, 22: 45-53.

23. Shahrul Anuar, M.S., Shukor, M.N., Nurul 'Ain, E., Nor Zalipah, M., Yusuf, A. (2005). Additional record of avifauna from Gunung Perlis and Heritage Trail, Perlis State Park, Perlis. *Malayan Nature Journal*, 57: 597-316.
24. Shahrul Anuar, M.S., Nor Zalipah, M., Nurul 'Ain, E. (2004). Age classification and reproduction of the rice field rat (*Rat argentiventer*) in Muda Agricultural Development Authority (MADA) rice field area, Kedah, Peninsular Malaysia. *Jurnal Biosains*, 15: 83-97.
25. Shahrul Anuar, M.S., Nurul 'Ain, E., Nor Zalipah, M. (2004). Age classification, growth and male reproduction of large bandicoot rat (*Bandicota indica*) in Muda Agricultural Development Authority (MADA) rice field area, Kedah. *Jurnal Biosains*, 15: 99-110.
26. Shahrul Anuar, M.S., Nurul 'Ain, E., Nor Zalipah, M., Mark Rayan, D. (2003). Notes on understorey bat species of Gunung Jerai Permanent Forest Reserve, Kedah. *Journal of Wildlife Parks*, 21: 113-117.
27. Shahrul Anuar, M.S., Norasyikin, C.H., Nor Zalipah, M., Nurul `Ain, E. (2002). Preliminary study on the species diversity of understorey bats at Pondok Tanjung Forest Reserve, Perak. *Journal of Wildlife Parks*, 20: 119-120.

Other Outputs

1. Nor Zalipah, M. (2014). The role of nectar-feeding bats (Pteropodidae) in pollination ecology of the genus *Sonneratia* at Setiu mangrove areas, Terengganu, Malaysia. Ph.D Thesis. University of Bristol, UK.
2. Nor Zalipah, M., Traeholt, C. (2010). A preliminary study of habitat selection by Malayan Tapir, *Tapirus indicus*, in Krau Wildlife Reserve, Malaysia. The Newsletter of the IUCN/SSC Tapir Specialist Group, 19: 33-35.
3. Nor Zalipah, M. (2005). Kesan pinggir hutan terhadap komuniti mamalia kecil (non-volan) di Hutan Simpan Pondok Tanjung, Perak. M.Sc Thesis (in Malay language). Universiti Sains Malaysia, Malaysia.
4. Nurul `Ain, E., Nor Zalipah, M., Shahrul Anuar, M.S. (2002). Lesser bandicoot rat (*Bandicota bengalensis*). A least known commensal rodent pest species. *Pest Info*, 10: 22-23.

SUPERVISION

Master Degree

Thesis Title : Species richness of bats and vertical stratification in relation to wing morphology in east coast of Peninsular Malaysia

Student Name : Azuan Bin Roslan

Role : Co-supervisor

Status : Graduated

Thesis Title : Hunting practices of indigenous people from the east coast of Peninsular Malaysia

Student Name : Candyrilla Vera Bartholomew
Role : Co-supervisor
Status : Graduated

Thesis Title : Diversity of arthropods and their potential role as pollinating agents of oil palm (*Elaeis guineensis*) at Ladang Jerangau, Hulu Terengganu

Student Name : Muhammad Haffidzie Bin Mohd Shuhaimi
Role : Main supervisor
Status : On-going

Thesis Title : Flower biology and pollination of oil palm (*Elaeis guineensis*) at Ladang Jerangau, Hulu Terengganu

Student Name : Asraf Bin Muhammad@Mohamad Idrus
Role : Main supervisor
Status : On-going

Thesis Title : Determination of effective pollinating agents of oil palm (*Elaeis guineensis*) at Hulu Terengganu, Terengganu

Student Name : Faiq Zulfaqar Bin Zairi
Role : Main supervisor
Status : On-going

Thesis Title : Observation of pollinating agents of oil palm (*Elaeis guineensis*) at Ladang Jerangau, Hulu Terengganu

Student Name : Muhammad Azrul Bin Shaiful Lizam
Role : Main supervisor
Status : On-going

Thesis Title : Identification of pathogenic *Leptospira* spp. in small mammal host and knowledge towards leptospirosis among visitors at Sekayu Recreational area, Terengganu

Student Name : Najma Syahmin Binti Abdul Halim
Role : Co-supervisor
Status : On-going

COURSE TAUGHT

- Population and Community Ecology
- Principles of Ecology

- Animal Behaviour

LINKS

- https://www.researchgate.net/profile/Nor_Zalipah_Mohamed
- <https://orcid.org/0000-0003-3459-0910>
- <https://scholar.google.com/citations?hl=en&user=qZsjGdkAAAAJ>