

Final Project Evaluation Report

Your Details	
Full Name	Sheema Abdul Aziz
Project Title	Project Pteropus Phase 2: Understanding Bat-Plant Interactions to Protect Ecosystems in Peninsular Malaysia
Application ID	25376-2
Grant Amount	£4926
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Date of this Report	8 July 2019

1. Indicate the level of achievement of the project's original objectives and include any relevant comments on factors affecting this.

Objective	Not achieved	Partially achieved	Fully achieved	Comments
To identify current roost sites of <i>P. hypomelanus</i> and <i>P. vampyrus</i> throughout Peninsular Malaysia to obtain baseline population data on <i>P. hypomelanus</i> , and update roost and population data for <i>P. vampyrus</i>				57 sites have been visited and 12 of these were confirmed roost sites where we could actually verify <i>Pteropus</i> presence. We confirmed 13 colonies of <i>P. hypomelanus</i> occurring at 22 separate roost sites across 11 islands, yielding a tentative population estimate of 6,700 bats. However, it has been challenging to obtain current information on the distribution and population status of <i>P. vampyrus</i> , as this species has become increasingly rare and inaccessible due to hunting and persecution. As such we could only verify <i>P. vampyrus</i> presence at three specific sites, all of which were islands. We could not access any <i>P. vampyrus</i> roosts in order to estimate abundance. No mainland roost presence could be verified. Follow-up surveys are required to re-attempt access.
To identify key fruit orchards/plantations in Peninsular Malaysia that can serve as potential project sites for further work on durian pollination ecology and human-bat conflict				A total of 18 durian orchards were contacted/visited, and all farmers agreed to allow their orchards to be used as study sites for further research. We have shortlisted a total of eight farms across five states to be targeted for further research and engagement.
To support outreach efforts targeted at raising awareness of bat ecosystem services and promoting positive attitudes towards flying foxes				A signboard was produced and erected at one island roost site. Educational brochures, posters and stickers were produced and distributed on seven island sites. The production of the three planned videos has been slightly delayed, but we expect to have at least one video ready by the end of July 2019.

2. Please explain any unforeseen difficulties that arose during the project and how these were tackled.

It was a serious challenge conducting the work with only two team members assisted by occasional volunteers, as we did not receive sufficient funding from external donors to hire additional staff, and therefore there was considerable extra workload for the existing two team members to shoulder. As such we were limited in how many different sites we were able to survey within the 12-month project period, particularly as some sites required follow-up visits. We were not able to cover every single site within the known *Pteropus* distribution areas; we only visited those sites where actual *Pteropus* presence had been reported. As both team members are female, we also encountered challenges when interacting with male stakeholders in the field – it was harder to obtain respect and credibility, and the possibility of sexual harassment was always a concern. To some extent we were able to alleviate all these difficulties by combining our field trips with those of the organisation's Project Limestone (funded under a different grant and combining multiple survey sites in each), and requesting the presence and involvement of male colleagues from within the organisation. However this could not be guaranteed for every single field trip undertaken. Also, it has been challenging obtaining current information on populations particularly for *P. vampyrus*, as this species is now increasingly rare and human-averse due to hunting and persecution. Roost sites of this species were severely inaccessible, specific roost locations could not be ascertained, and as such we were unable to obtain updated distribution and population data.

3. Briefly describe the three most important outcomes of your project.

- I. First ever comprehensive distribution and baseline population estimate obtained for *Pteropus hypomelanus* across five states in Peninsular Malaysia
- II. New *Pteropus vampyrus* presence confirmed on one island in Terengganu; important refugia site identified for protection and management.
- III. Data from these *Pteropus* surveys helped to contribute towards producing a draft National Conservation Plan for *Pteropus* spp. in Peninsular Malaysia, an output under the SEABCRU regional project funded by USFWS.

4. Briefly describe the involvement of local communities and how they have benefitted from the project.

Local durian farmers shared knowledge and information on the industry and their farming practices, and offered the use of their orchards as research and outreach sites.

5. Are there any plans to continue this work?

Yes, this was Year 1 of a planned 3-year project. After this work concludes we will then move on to implementing Year 2.

6. How do you plan to share the results of your work with others?

Publication of scientific and popular articles, dissemination of outreach and awareness materials, scientific talks at conferences, public talks, meetings with governments and industry. We will also be having information booths at a Durian Expo in Kuala Lumpur and a Tioman Island Conservation Day event.

7. Timescale: Over what period was the grant used? How does this compare to the anticipated or actual length of the project?

The grant was used over a period of 12 months. However, as the second team member was only able to join in September 2018, and we were unable to access or verify *P. vampyrus* roosts on the mainland, we will still need to continue some of the surveys until October 2019, and re-visit some of the sites. Also, some of the freelancers we engaged to produce videos have been slow in delivering the final outputs, so these will be delayed for about 1-2 months.

8. Budget: Provide a breakdown of budgeted versus actual expenditure and the reasons for any differences. All figures should be in £ sterling, indicating the local exchange rate used. It is important that you retain the management accounts and all paid invoices relating to the project for at least 2 years as these may be required for inspection at our discretion.

Item	Budgeted Amount £	Actual Amount £	£ Difference	Comments
Awareness & outreach materials	186	186		Rufford provided partial funding of £186 and the overall costs were much greater; hence all additional costs were covered by USFWS.
Accommodation & food	3,346	3,160	-186	We saved on costs by combining our field trips with the organisation's Project Limestone, funded under a different grant. The extra funds are needed to conduct follow-up surveys over the next 4 months to try and access <i>P. vampyrus</i> roosts.
Transport (fuel, toll, flights)	1,394	1,394		Rufford provided partial funding of £1,394; additional costs were covered by external donors.
TOTAL	4,926	4,740	-186	1 GBP = 5.20159 MYR as of 5 July 2019

9. Looking ahead, what do you feel are the important next steps?

- 1) Conducting follow-up surveys to several mainland and island sites to verify *P. vampyrus* presence.
- 2) Participating in several public events where we have been given opportunities to showcase our work and raise public awareness.
- 3) Formulate and implement a strategy for protection and management of the *P. vampyrus* refugia site identified during surveys.
- 4) Start engaging island resort owners and tour operators as partners and guardians for flying fox protection and eco-tourism
- 5) Under USFWS-funded project, organise a national stakeholder workshop for flying fox conservation, targeted to be held in September 2019.
- 6) Collecting qualitative and quantitative social data to understand the durian industry and its practices, as well as farmer experiences and perceptions relating to bats.
- 7) Start engaging farmers with targeted outreach efforts to spread awareness within the durian industry regarding the importance of bat pollinators.
- 8) In partnership with farmers, start pilot-testing a camera-trapping study to understand durian pollination networks across Peninsular Malaysia.

10. Did you use The Rufford Foundation logo in any materials produced in relation to this project? Did the Foundation receive any publicity during the course of your work?

We are including the Rufford logo in the outreach videos we are producing, but the completion of these have been delayed by 1-2 months.

11. Please provide a full list of all the members of your team and briefly what was their role in the project.

Sheema Abdul Aziz – Principal Investigator, responsible for planning, designing, managing, and implementing the project

Mary-Ruth Low – Senior Conservation Scientist, assist PI in planning and implementing the project

12. Any other comments?

It is quite challenging to scale up and implement a more long-term project when grants do not provide funding to cover salaries for hiring full-time staff to help implement the work. As such, although we plan to carry on this work into at least the next two years, it is necessary for us to be practical regarding the project's limited scope of work and what we can realistically achieve.



Pteropus vampyrus roost. ©Mary-Ruth Low.



Pteropus hypomelanus fly-out.



Project Pteropus surveys to detect flying fox roosts.



Team Pteropus conducting boat surveys to spot flying fox roosts.



Pteropus information signboard erected at roost site on Tioman Island.