Final Evaluation Report

Your Details	
Full Name	Erika Gress
Project Title	Ecology of Antipatharians in Raja Ampat, Indonesia
Application ID	29511-1
Grant Amount	£6000
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Date of this Report	December 2020

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
I. Mentoring and capacity building for in-country researchers and conservationists on black corals biology and ecology and on species identification				The team members learned by means of presentations (theoretical) and underwater (practical) surveys
II. Mentoring and capacity building on specialised methodologies to survey fish and benthic (seabed) organisms' diversity				The team members learned by means of presentations (theoretical) and underwater (practical) surveys
III. Communicate black corals relevance to promote conservation				The team gave talks at two different Indonesian Universities and reached out through media – infographics and pdf summaries with information

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

We had a few issues with the cameras – they turned themselves off unexpectedly twice while underwater. We reseted the cameras and the problem was solved. The video transects where that occurred were interrupted.

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

I. Before this project, Indonesian team members had no awareness or knowledge on black corals. Team members (professors, a PhD student, a graduate student and NGO researchers from Indonesia) are now aware of them and are already collaborating between them.

II. Collaboration agreements (to continue work with black corals) between two Indonesian universities and an NGO is a highly relevant outcome. This will not only advance research on the order (Antipatharia) but will also have a wider reach globally.

III. Our observations exceed expectations regarding the abundance and potential diversity of black corals – and of fish and invertebrates living in association with them. The sites we surveyed were new sites that Indonesian researchers had not been before. Not all sites visited were in the best condition. Many sites on the west side of Misool had many rubbles (broken coral) but the ones in good condition had a high abundance of antipatharians from 6 – 40 m.

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

In regards to in-country students and academics, they have benefited from capacity building and a full research expedition paid (material, travel, boat, equipment, etc.). This represents the foundations of what can be several years of antipatharian research and conservation efforts from local academics. In regards to civil local communities, we organised out-reach events at a local village (at the Dunia Baru learning Centre) - close to our surveys' region. We also organised out-reach activities at two Universities, one in West Papua (UNIPA) and another one in Bali (Udayana).

5. Are there any plans to continue this work?

Absolutely, after the end of our expedition we met several other academics, students and NGO conservationists to plan the analysis of the data collected. Students from UNIPA (Raja Ampat local university) will assign students to be part of the analysis and further capacity building. There are already formal agreements being placed for a student from UNIPA to spend two months (planned for summer 2020) at Bionesia. The UNIPA student will receive phylogenetic analysis training and be part of Bionesia's decapods biodiversity project. This analysis will be dedicated to the decapods that are associated with antipatharians. Bionesia will be hosting the student and supplying material with the organisation funding, and I will apply for more funding to support the students travels and meals. We have also recognised specific research and conservation questions and identified the potential people to work on those. We would like to provide scientific information to help answer questions such as: i) what are the environmental factors that correlate with the high abundance and diversity of antipatharians observed – which then supports and enhances reef diversity'. ii) replicate studies in the S and SW Indonesia that are non-protected areas but where antipatharians have been observed, as well as factors threatening them. iii) potential connectivity between the antipatharians and the organisms they associated to along S, SW and NE Indonesia. UNIPA, Bionesia and I are planning on continuing with the capacity building exchange, and together (myself, UNIPA, Udayana University and Bionesia members) are planning to promote research to answer these questions. Please see comment on section 12.

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

We have already given two oral presentations at two regional universities and organised reach-out events at a local village. I have also given the power point presentation and/or pdf with general information about the ecology of antipatharians to UNIPA and Bionesia members to share with a wider community at

the universities, schools and presentations to the local civil community. Students from UNIPA, led by one of the team members made an infographic of the relevance of antipatharians enhancing and supporting reef biodiversity. We have organised and planned for the analysis of the data collected and will be published in an open access peer-review paper.

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

The project was conducted throughout six weeks which includes equipment gathering and calibration, expedition in Raja Ampat, capacity building for team members and institution collaborators and reach out events. The last talk was conducted a week later than planned so it was done in the 7th week.

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
Peer-review publication	700			Have not used yet
Outreach activities in Bali region	450	450		
Information dissemination while in learning centre	200	140	-60	Some cost also covered by collaborators
Food & accommodation while West Papua – UNIPA University city	200	200		
Internal flights & transport for field work for all team members	1700	1700		There was extras costs associated to this but was covered by us
Stereo video system + insurance	970	990	+20	Extra cost related so shipping materials
Compact camera with underwater housing	1200	1230	+30	Extra cost related to batteries
Calibration for DOV-system	100	100		
Outreach and Mentoring time in Bali	450	390	-60	I used the time for both activities. Cost was slightly less
Overhead cost	100	100		
Total	**6070**	**5300**		

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

Now that we have identified several sites throughout Indonesia, I believe it is very important to understand the environmental factors that support the healthy thriving reefs where high abundance and diversity of antipatharians have been observed. Importantly, we need to understand what the factors that correlate with the degraded reefs are. This will set the scientific evidence for conservation efforts. Continuing with the capacity building for local collaborators will only make this project stronger and more successful. Before this project, no other Indonesian researchers have ever studied antipatharians in those regions. Detail studies on these identified sites will increase our understanding of the ecology of antipatharians - at their *potentially* 'best state' – and will support their conservation worldwide.

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?

Yes, we have used the Rufford Foundation logo for all the reach out activities specified in section 6. I have also given the power-point presentation and/or pdf with general information about the ecology of antipatharians to UNIPA and Bionesia members to share with a wider community at the universities, schools and presentations to the local civil community. Students from UNIPA, led by one of the team members made an infographic of the relevance of antipatharians enhancing and supporting reef biodiversity.

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

Dr Ricardo F. Tapilatu, Dr. Paulus Boli, Dedi Parenden are researchers at University of Papua (UNIPA), Manokwari, Indonesia. Julia Tapilatu is a second-year university student at the same University. Dr Ricardo is the head of the project and oversees the full development of it and. Dr Paulus and with expertise coral reef research in Raja Ampat. Dr. Ricardo is the head of the Research Centre for Pacific Marine Resources at UNIPA. Ricardo, Paulus and Dedi are faculty members in the Fisheries and Marine Science departments, involved in research and teaching Marine Biology, Ecology and Conservation, and Natural and Environmental Resources Management for the University.

12. Any other comments?

Due to Covid-19 our plans for collaboration between different universities and data analysis have been delayed until further updates on Covid-19 situation. At the moment we are considering mid-2022.