

## The Rufford Foundation

### Final Report

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Congratulations on the completion of your project that was supported by The Rufford Foundation.

We ask all grant recipients to complete a Final Report Form that helps us to gauge the success of our grant giving. The Final Report must be sent in **word format** and not PDF format or any other format. We understand that projects often do not follow the predicted course but knowledge of your experiences is valuable to us and others who may be undertaking similar work. Please be as honest as you can in answering the questions – remember that negative experiences are just as valuable as positive ones if they help others to learn from them.

Please complete the form in English and be as clear and concise as you can. Please note that the information may be edited for clarity. We will ask for further information if required. If you have any other materials produced by the project, particularly a few relevant photographs, please send these to us separately.

Please submit your final report to [jane@rufford.org](mailto:jane@rufford.org).

Thank you for your help.

**Josh Cole, Grants Director**

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Grant Recipient Details	
<b>Your name</b>	Camila G. Meneses
<b>Project title</b>	Altitudinal Distribution Patterns of Amphibian and Reptile Fauna in Mt. Guiting-guiting Natural Park, Sibuyan Island, Romblon Province, Central Philippines.
<b>RSG reference</b>	20625-1
<b>Reporting period</b>	October 2016 – October 2017
<b>Amount of grant</b>	£5000
<b>Your email address</b>	camilagmeneses23@gmail.com
<b>Date of this report</b>	September 2017

**1. Please 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
<p>Field Survey for Amphibians and Reptiles</p> <p><b>(Note:</b> My RSG proposal only includes amphibian fauna but I also included the reptile fauna since it has the same sampling methods and effort, and the protected area also need information on reptile fauna since the area was understudied for conservation effort and as baseline information. So, I've added reptiles on the project title)</p>				<p>The team conducted two seasons of sampling at different elevations of Mt. Guiting-Guiting Natural Park, Municipality of Magdiwang, Bgry. Tampayan. We conducted a month's wet season sampling (October-November 2016) and another month for dry season sampling (May-June 2017). Thirteen species of frogs were recorded wherein two to three species from different family were undescribed (Two species in genus of <i>Platymantis</i> and one <i>Limnonectes</i>). However, there were 24 species of lizards recorded wherein six species were unsure of the identification (genus <i>Pseudogekko</i>, <i>Luperosaurus</i>, <i>Hemidactylus</i>, <i>Gonocephalus</i>, <i>Parvoscincus</i>, <i>Brachymeles</i>). While 13 species of snakes were recorded wherein four species are undescribed which need more verification (in genus <i>Pseudorhabdion</i>, <i>Malayotyphlops</i>, <i>Gonyosoma</i>, and <i>Cyclocorus</i>). The undescribed species and species that belong to species complexes will be subjected to molecular analysis for verification of their identification.</p>
<p>Hands-on Capacity Building Training and Workshop</p>				<p>One of the major goals of this project was to engage local researchers, non-government organisations, especially students in conducting research and appreciating different aspects of amphibian and reptile biology, ecology and conservation. In collaboration with another Rufford Grantee (James DV. Alvarez), we</p>

				have conducted a hands-on training workshop on methods in biodiversity studies. One session in the workshop was to identify research opportunities for researchers (both faculty and students) from Romblon State University and the Protected Area Office as well as potential funding sources.
Educational materials and Herpetofaunal Guides				The same with the other grantee (James DV Alvarez), a pictorial guide to amphibians and reptiles has been produced and submitted to the management of the protected area for their mass production. On the other hand, the training includes a training manual distributed in each participant wherein it contains basic lectures on frog and reptile identification as well as amphibian and reptile survey methods that are necessary for herpetofaunal surveys.
Publishing and Reporting				I am currently processing all the specimens collected from the past two seasons field sampling. However, several popular articles on the activities (training and fieldwork) in Sibuyan are submitted for publication in the Museum of Natural History UPLB website and other scholarly publications in the University of the Philippines.

**2. Please explain any unforeseen difficulties that arose during the project and how these were tackled (if relevant).**

a.) The first field sampling had been delayed for a month as it stated in the proposal that it would be conducted during September but the field sampling was conducted in the last week of October due to lack of funds (but fortunately RSG grant was awarded to me on October, 2016), and delays in the granting of the permit from the Philippine Department of Environment and Natural Resources. Moreover, there was a delay again after the grant was awarded because of the activities set for the celebration of the 40<sup>th</sup> anniversary of the UPLB Museum of Natural History wherein the grantees, my partner for this expedition, James DV.

Alvarez and me as a thesis and volunteer in the museum, had been assigned to several working committees. But that was not the end of delays because the second field sampling had been delayed also due to delays of the Protected Area Management Board meeting that I needed to attend to for presenting updates. Furthermore, the conflicts within the local guide association in Sibuyan Island also caused a tremendous delay to our dry field sampling. The Protected Area Superintendent advised to delay until the conflict subsided. We also had to contact people outside of the guide association to serve as our guides and porters which also took a while.

b.) The capacity building training was affected by the unforeseen accident that happened a few days before the training. The ship that usually travelled to Sibuyan was broken. So, they used motor boats to send passengers back and forth Sibuyan and Romblon Island. However, one of the motorboats sank in Sibuyan Sea which caused the death of several individuals. The number of participants in the capacity building training decreased. Participants from Romblon State University in Odiongan and Romblon declined to attend the training. Fortunately, several participants from Cajidiocan and San Fernando campus and some representative of the Protected Area Office participated in the training.

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

a.) Through the capacity building training we have met one of our major goals in this project in which is to engage local communities especially students, teachers, and protected area staff to biodiversity studies by teaching them survey and identification techniques for amphibians and reptiles as well as bat surveys for my partner and other grantee in this expedition. In this training we established collaboration with the local university and the management of Mt. Guiting-Guiting protected area for more or rather further biodiversity studies in the island. We are glad to share the fact that through the hands-on capacity building training, the teachers, researchers, and students from Romblon State University were able to plan and draft future proposals for field studies in their area. Our team was very pleased to continue their collaboration with them.

b). Thirteen species of frogs were recorded wherein two to three species from different family were still undescribed (Two species in genus of *Platymantis* and one *Limnonectes*). Moreover, there were 24 species of lizards recorded wherein six species were also unsure of the identification (genus *Pseudogekko*, *Luperosaurus*, *Hemidactylus*, *Gonocephalus*, *Parvoscincus*, *Brachymeles*). While 13 species of snakes were recorded wherein four species were undescribed which need more verification (in genus *Pseudorhabdion*, *Malayotyphlops*, *Gonyosoma*, and *Cyclocorus*). The undescribed species and species that belong to species complexes will be subjected to molecular analysis for verification of their identification.

Significantly, the recorded possible new species and new geographical distribution of the amphibians and reptile species are significant contribution to strengthen conservation effort programme in the protected area or even to the whole island of Sibuyan as well as to bio=geographers and herpetologists locally and internationally.

Furthermore, we have also recorded voucher calls from different and unique species of frogs from the said area for bioacoustics analysis necessary for characterising calls for easy identification of anurans. From these voucher calls we will provide oscillograms and audiospectrograms for each species of frogs with available recorded calls for visualization of the differences in the structure of the calls.

#### **4. Briefly describe the involvement of local communities and how they have benefited from the project (if relevant).**

Most often times, locals are afraid of frogs, lizards, and snakes. But some hunt them for food without knowing their significance to the environment. Fortunately, I had an opportunity to stay for 1 week ahead of our field survey in our dry season sampling. So, I had the privilege to do reconnaissance and interview locals along the island and I met different people in different walks of life who has been curious to what I was doing and what I was studying, so from that I was able to explain the importance of amphibians and reptiles and hoped that somehow made them realise the beauty and richness of their island in unique biodiversity.

We also hired locals (mostly low income farmers and fishermen), Nine were local stay-in guides and almost 60 local porters to bring our stuff up in the mountain, hence from there we had the chance to explain to them what are we going to do in our study and even engaged some of them in our field surveys like do surveys at night and systematic setting of pitfall traps, retrieving reptiles from the pitfall traps, processing of voucher specimens, and taught them possible microhabitats where each species can be found. From these activities we are able to introduce the significance of these species to the community and to their island as well.

The students, teachers, and park managers have been involved in the conceptualisation, design, and/or implementation of a future research in their area. Planning and drafting of possible research studies was done through our supervision, including the expertise of Dr Aimee Lynn B. Dupo in research design and conceptualization. Moreover, hands-on training helped them visualise and experience different field survey techniques for amphibians and reptiles as well as bats (expertise of James DV. Alvarez). They experienced setting up of pitfall traps for cryptic species of reptiles and do opportunistic time-constrained survey of frogs and reptiles at night. After the training they knew how to appreciate and not to be afraid of frogs and reptiles especially snakes.

#### **5. Are there any plans to continue this work?**

As mentioned, our field sampling was only conducted on one side of the Mt. Guiting-Guiting Natural Park, which is the Municipality of Magdiwang, however Sibuyan Island does have three municipalities which includes Cajidiocan and San Fernando. Hence, the management of the protected area of Mt. Guiting- Guiting seeks help to continue our study to other municipalities. The protected area superintendent as well as the PAMB board seeks helps to first survey the newly opened trail before opening them for mountain climbers and hikers. From this, we

are continuously communicating and coordinating with them especially to the protected area management for long term future research and conservation programs in the area.

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

We keep updating the management as well as the PAMB board of Mt. Guiting-Guiting Natural Park our initial results of the study, so we consistently attending PAMB meeting to present the results and passed reports to the management which includes documentation and pictures for easy identification and familiarization of species of frogs and reptiles. Furthermore, James DV. Alvarez was also requested in behalf of our team by the Protected Area Superintendent to present during the municipal council meeting to support the protected area's proposal to expand the coverage of protection in the area. And also several non-technical articles about the project will be published on the Museum's website ([www.mnh.uplb.edu.ph](http://www.mnh.uplb.edu.ph)) and the university magazine (<https://www.scribd.com/lists/3080334/UPLB-RDE-Digest>).

I also presented the initial results of my study during wet season sampling in a seminar hosted by the UPLB Museum of Natural History. And it can be viewed in youtube (<https://www.youtube.com/watch?v=124Ut9i4rk8>).

Also we planned to publish several papers from this work from different journal articles locally and internationally.

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

Purpose/Activities	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	May-June	July to present	Expected Output
1. To request and secure gratuitous permit from PCSD for the collection of voucher specimens. Secure permit from Mt. Guiting-Guiting Naturl Park.												Approved gratuitous permit from DENR-PAMB and LGU Sibuyan.
2. Request Thesis Fund from Rufford'S												Research Fund released
3. The RSGF Fund was awarded												Available fund
4. Start or wet season sampling												Data gathering
5. End of wet season sampling												Data for wet season sampling
6. Seminar about Preliminary report on the herpetofauna of Mt. Guiting-Guiting												Successful seminar in MNH
7. Dry season sampling												Attended PAMB meeting for the study updates, and data for dry season sampling NOTE: The fund was already used and consumed at this point
8. Data processing												Data processing
9. Start writing the manuscript												Still working

The fund was used from October 2016 up to June 2017. Although it is not included in the timescale presented, I also used the fund for the training component of the said project on June 10th-12th, 2017. However, another part of the thesis which is the molecular analysis will be done March to April due to unavailability of funds for

laboratory work and even the laboratory where the samples will be sequenced. However, for updates I am still working and processing the data and voucher specimens gathered – morphometrics, bioacoustics analysis, verification of the identity of each species, analyzing and collating all the data gathered.

**8. Budget: Please 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. 1 £ sterling = 4.44 Nuevo Sol**

Item	Budgeted Amount	Actual Amount	Difference	Comments
Personnel Services	1933	3074	1,141	We had to hire field guides and porters to accompany us during the fieldwork as per requirement also by the Protected Area Management. Field assistants were also hired to ensure successful field sampling. Locals were afraid to handle wildlife so we had to hire field assistants who were trained on field techniques.
Travel expenses	904	904	0	The Museum of Natural History provided assistance in hiring jeepneys. However, the travel fare for the RORO and jeepneys from pier of Sibuyan to DENR was already paid with the used of the fund.
Food Expenses	725	1,148	423	We did not anticipate other circumstances such that we need to feed the 26 porters during wet season sampling in the morning before we hiked and since we reached the peak passed 4pm the leader asked if they could stay since it is a long walk down the mountain and its raining hard so it is dangerous, so aside from evening meal they are also included in the morning meal which exhaust our budgeted supplies for the whole week at the peak.
Training Expenses	1209	1209	0	Another colleague from the Museum of Natural History shouldered the expenses for the training. She received a grant from the National Academy of Science and Technology. The budget allotted from the training was used for the food and travel expenses.
Additional field materials	0	250	-250	We had to buy additional tarps, camping tents, and materials used in the field. These materials were deposited at the UPLB Museum of Natural History and are reserved to be used in future fieldwork.
GPS	26	0	0	I was not able to buy GPS because the IdealWild equipment grant awarded me a GPS.

Batteries	49	130	81	I bought different sets of batteries AAA, AA, D size batteries for 15 people (local Guides and field assistants).
Absolute ethanol	26	26	0	This is for tissue samples
95% Ethanol	26	113	87	I used series of changing of 70% percent ethanol for the preservation of specimens for the two season sampling. Other carboyl of 95% ethanol was provided by the Museum of Natural History UPLB.
Screw-capped tubes	48	48	0	For tissue samples. Other 500 pcs. tubes was provided by the Museum of Natural History UPLB.
Formaldehyde	26	0	0	I was not able to buy formaldehyde because the Museum of Natural History UPLB already provided it for the expedition.
<b>TOTAL</b>	<b>5000</b>	<b>6,903</b>	<b>1,903</b>	The funds were used mainly to pay for the food supplies and personnel services. Since this is our first expedition we did not expect that there is a weight limit per porter that the mountaineering guide association set for our first sampling (wet season) so we need to increase the number of porters and additional porters as we go down other elevation.
(1 £ sterling= 56.60 PhP)				

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

The extreme weather conditions that we've experienced during the fieldwork, continuous heavy rains and strong winds during the wet season and very arid weather condition during the dry season, helped me really compare the altitudinal species diversity of frogs and reptiles in the said area. We've collected and recorded possible new species and geographical distribution of frogs and reptiles that are possibly island endemic or maybe phylo-geographically related to other species on nearby island, at extreme wet and dry season sampling. And these species are found only on one side of the Mt. Guiting-Guiting Natural Park. So, we need to conduct more exhaustive altitudinal herpetofaunal surveys to the other side or two Municipality of Sibuyan Island, Cajidiocan and San Fernando, which said to have a denser forest compared to the Municipality of Magdiwang.

Since the island of Sibuyan are an understudied island, hence, the possible new species and possible new geographical distribution of the amphibians and reptile species are significant contribution to strengthen conservation effort programme to the protected area or even to the whole island of Sibuyan as well as to biogeographers and herpetologist locally and internationally.

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

The RF logo has been used in the printed materials, tarpaulins and shirts used in the training and fieldwork. RF is also mentioned in every popular articles written for and by the grantee for publication in university-based publications and magazines. RF and RF logo was also been mentioned and used in seminars and proposal presentations.

**11. Any other comments?**

On behalf of the team (Paka Team led by me and Kabog Team led by James DV. Alvarez), we are very grateful to RF for awarding the grant to support this project. It is a great pleasure for us to be one of the grantee of this foundation. The RF financial support paved way to the long-term collaboration, research, and conservation programme in the well-known Galapagos Island of Asia, Sibuyan Island. We know that it is indeed a long way to go to completely survey the whole island but with the funds you provided we can start to share the beauty and the diversity of unique species of frogs, reptiles and bats in the island to the local community, to the whole country, or even globally.

Your continuous support for field biologist and researchers like us will truly give way to more conservation effort program all over the world. Thank you very much.

