

The Rufford Small Grants Foundation

Final Report

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

Thank you for your help.

Josh Cole, Grants Director

Grant Recipient Details	
Your name	Aylin Alegre Barroso
Project title	Research and Environmental Education for Caves' Conservation of the Protected Area Majayara-Yara, Baracoa, Cuba.
RSG reference	42.01.09
Reporting period	July 2009- September 2010
Amount of grant	£ 6000
Your email address	aylinalegre@gmail.com
Date of this report	October 2010

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
To provide updated data about fauna, conservation status, and other values of four caves of the protected area.			X	
To elaborate and distribute a fauna guide of four caves from the area.			X	The cave fauna guide was elaborated with a selection of photographed species. There were some species that we expected to include but couldn't be collected during the field trips.
To declare some troglobite species at the IUCN List.			X	The proposal for the IUCN Red List of the species <i>Jimeneziella decui</i> Avram, a troglobite opilion (arachnid) was concluded and it will be part of the Red List of the Cuban Invertebrates.
To state some caves of the area as local monuments.		X		Two proposals were completed for Majana and Los Golondrinos caves, but the last one was refused because the cave has other purpose. On the other hand the approval process exceeds the project timescale.
Environmental education for the conservation of caves, nature and social values of the protected area.			X	

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

The approval of the proposal for a local monument consists of some steps that involve different entities and it took more time than we expected, however we are dealing with every factor during the process. The protected area is very interested in this proposal because it increases the importance of the area. Majana cave is important from the fauna point of view in contrast with the other two local monuments that are present in the area, these caves were declared local monuments based only in their archaeological values.

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

- As a result of the cave fauna inventories we submitted one paper updating the fauna records of Majana and Los Golondrinos caves and for the first time was presented the fauna list of

the Perla del Agua and Cueva del Agua caves, also the article contain the principal conservation problems of these caves. (Alegre & Barba, submitted).

- We considered very important the proposal of the species *Jimeneziella decui* Avram for the IUCN Red List. This proposal was presented to the Red List Cuban Invertebrates committee, and was one of few arachnid proposals in Cuba. This will be part of the Red List Cuban Invertebrates Book. Also we acquired fresh material of this endemic opilion species (from the type locality) that still constitute an *incertae sedis* of the Cuban opilion fauna. The necessary taxonomic revision of this Cuban genus belonging to this arachnid order is the objective of other article under preparation.
- A cave didactical pamphlet, a cave fauna guide and an informative pamphlet of the Protected Area for children of the schools, were given to work personnel of the area, professors, key persons of the communities and other related entities as National Park Alejandro de Humboldt, Baracoa, Guantánamo Province and the Provincial Unit of Environmental Services of Guantánamo. An English version of the informative pamphlet of the Protected Area and the cave fauna guide was made for the tourist guides.

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

We involved four communities, Boca de Miel, Majana, Majayara and Yara. Almost 100 children benefited from the project as well as their professors, tourist guides, foresters and key persons of the local communities. All of them received talks, video projections, educative and scientific materials produced during this project. Specifically with the children we did interactive talks, didactical and environmental games and guided expeditions to caves; they were the principal actors of the Know and Care Caves Festival, an activity that students presented to the community people the results of their investigative works through oral presentations about the caves of the area, their values and the conservation problems. This initiative followed an environmental education methodology denominated EEPE, that is very useful to combine the environmental knowledge with different academic matters like Mathematic, Spanish Language, Artistic Education, Cuban History and Geography, besides it motivates the reflection on adults. During the educational activities the children did manual works with cave species like the bat *Phylloncterys poeyi* and the invertebrate *Jimeneziella decui*, both of them were key species to promote the protection of the fauna caves of the area. Also we had meetings with the protected area director and target groups of the communities to discuss about some problems of the management plan, the conservation problems of the caves and their possible solutions; finally we shared with them all the scientific and general information achieved during this project.

5. Are there any plans to continue this work?

The project served to know more about the cave fauna of the protected area and to identify conservation problems of their caves, as well as to increase the knowledge of their values. Besides we worked on the conservation of the nature and archaeological values inside the protected area.

The final poll indicated that the professors, children, local people and personnel of the protected area remained very motivated with the work. We would like to continue the started work to consolidate the actions that began on this project period and to extend the educational activities to other localities that belong to the protected area too as Boma, Ojo del Agua and Güiniao towns.

During the field work we identify other caves inside the area as Cueva Maximo, Cueva La Vigía and Cueva del Agua (Yara), their fauna is totally unknown and we would like to do the inventories.

Besides we identified that the fauna out of caves is poorly studied in some groups and we would like to accomplish the inventories at least for arachnid orders and other invertebrates groups. This will be very important to state which species are troglobite or not. After this project is the perfect moment to take concrete actions directed to solve the identified conservation problems of the caves. For example, we would like to propose the use of compost to substitute the extraction of guano inside the caves, we would like to supervise the management plan proposed for the two caves more visited (Perla del Agua and Cueva del Agua caves) and to work more strong to avoid the use of torches when the visitors coming into caves, through the environmental education

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

First of all, the achieved experiences of the environmental education will be presented in national events, workshops and meetings organised by bodies such as National Centre of Protected Area, Cuban Zoological Society, Cuban Speleological Society and National Park Alejandro de Humboldt. On the other hand the educational and didactical materials produced and CDs that we will make with the information generated will be put at the libraries of institutions that work for the conservation of the biodiversity in the country and in the library of Baracoa municipality, where many people look for information. The scientific results will be published in two articles and the proposal of the troglobite opilion for the IUCN Red List will be part of one book. Also some obtained data will be part of one PhD. Thesis "Morfología comparada, sistemática y biogeografía de la familia Biantidae, Thorell, 1879, en Cuba (Arachnida: Opiliones: Laniatores)". The geo-referenced cave database that was compiled and the caves species images bank formed during the project will be at disposition of other projects and researches. For example we delivered geo-referenced data to the Institute of Ecology and Systematic that holds a national geo-referenced database very important for many other studies as well as all the collected specimens were deposited in our collections, the biggest of the Antilles.

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

The RSG was used since July 2009 until September 2010 and the date frames proposed at the application for the RSG were July 2009/August 2010. We exceed in one month more the project. In July 2009 when we were applying the final poll of the project, the children and professors of the four schools involved ask to us to include new activities in September 2010 when the new academic course starts, then we decided to developed new interactive talks, didactical games and manual workshops with the children that ratify the environmental educational actions.

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.

Item	Budgeted Amount	Actual Amount	Difference	Comments
Transportation (Havana - Baracoa)	900.00	860.76	39.24	In some field trips participated less persons
Food	1800.00	1771.00	29.00	In some field trips participated less persons

Fuel	640.00	642.60	2.60	
Batteries	100.00	100.00		
Masks	50.00	50.00		
Micro dissecting kits	100.00	96.00	4.00	
Desktop computer	660.00	645.00	15.00	We found a cheaper offer
Printer toners	150.00	150.00		
Photocopier toners	150.00	150.00		
Photocopier Drum	100.00	130.00	30.00	The market prices varied
Sheets	100.00	99.56	0.44	
School materials	100.00	129.00	29.00	The market prices varied
Digital Camera and accessories	750.00	501.71	248.29	We got a cheaper offer
USB Microscope Eyepiece	100.00	200.00	100.00	Due to the less quality of the cheaper product we decided to buy a better product to satisfy the taxonomic identification objectives.
Cave fauna guide printing	300.00	450.00	100.00	The market prices varied
Total	6000.00	5975.63	24.00	Bank tax transferences

Exchange rate: 1.35542

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

- To achieve the declaration of the Majana cave as local monument.
- To keep researching, publishing, sharing and presenting all the results.
- To apply for new funds to continue the fauna cave research, including other caves and the epigean fauna, to keep the environmental education programme adding new communities of the area and to carry out other conservation actions regarding the caverns and karst landscapes of the protected area Yara-Majayara, a Natural Monument in Cuba. To continue attaching other local species to the cave fauna guide until obtain a more complete product for the area.

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

The RSGF logo was used at the lectures, talks, workshops, at the printed materials like the cave didactical guide, the cave fauna guide and the informative pamphlet of the protected area and will be use in the informational CDs.