

## 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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<b>Grant Recipient Details</b>	
<b>Your name</b>	Jane Herrera Uria
<b>Project title</b>	Conservation of Land Snails in Fragmented Landscapes and Environmental Education in Rural Communities from Isla de la Juventud, Cuba.
<b>RSG reference</b>	19062-2
<b>Reporting period</b>	April 2016_April 2017
<b>Amount of grant</b>	£4908
<b>Your email address</b>	janehu@mnhnc.inf.cu
<b>Date of this report</b>	20 June 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>-To provide updated information about the natural history of endemic land snails of Isla de la Juventud.</p>				<p>A total of 35 sites were surveyed. These sites consisted of non-protected areas. The sites were mostly located at the north regions of Isla de la Juventud (Sierra de las Casas, Sierra de Caballos, Sierra Chiquita, Sierra de Colombo and Sierra Bibijagua). Another important site was Punta del Este at the southeastern of Isla de la Juventud.</p> <p>The work was mainly devoted to the study of the endemic terrestrial snails of fragmented landscapes. In the field trips we took information by locality. A total of 47 species (32 endemic), belonging to 24 genera and 16 families, was recorded.</p>
<p>-To educate local communities from Isla de la Juventud in the conservation of endemic terrestrial molluscs and the value of their habitats.</p>				<p>The work with the local communities was a total success. Many and different activities was carry out in the majority of the visited localities ("Chacón", "Pueblo nuevo", "Reperto Martí", etc.). The response has been extremely positive – interest in the value of biodiversity, conservation of endemic molluscs and fragmented landscapes by habitat loss (marble exploitation).</p>
<p>- To generate scientific publications, to promote results with congress contributions and to carry out an intensive training course on terrestrial molluscs.</p>				<p>During the project we generate five scientific publications (four articles for journals and a contribution for a book). These scientific publications will have an important impact on practical conservation because will provide useful information for the management of the protected areas, specially fragmented landscapes as Sierra Bibijagua, Sierra de las Casas and Sierra Colombo. The objective of Congress was negative because we cannot promote the results of this project during last months in any event. However, we are waiting for next opportunities in the future. In the case of an intensive training course on terrestrial</p>

		<p>molluscs was very successful. The number of participant was seven workers from the Museum of Natural History, Gerona (MNHG) of Isla de la Juventud.</p> <p><u>List of scientific publications:</u></p> <p><b>-Herrera-Uria, J.</b>, J. Espinosa y J. Ortea. 2016. Dos nuevas especies del género <i>Cochlodinella</i> Pilsbry &amp; Vanatta, 1898 (Mollusca: Gastropoda: Urocoptidae) de la Isla de la Juventud, Cuba. Revista de la Academia Canaria de Ciencias Vol. XXVIII: 89-96.</p> <p><b>-Herrera-Uria, J.</b> 2016. A checklist of terrestrial molluscs (Mollusca: Gastropoda) from Sierra Bibijagua, Isla de la Juventud, Cuba. Checklist 12(5): 1-7. doi: <a href="http://dx.doi.org/10.15560/12.5.1968">http://dx.doi.org/10.15560/12.5.1968</a></p> <p><b>-Herrera-Uria, J.</b> y J. Espinosa. 2016. Descripción de dos especies nuevas de <i>Liocallonia</i> y <i>Tetrentodon</i> (Gastropoda: Pulmonata: Urocoptidae) procedentes de la colección Miguel L. Jaime del Museo Nacional de Historia Natural de Cuba. Novitates Caribaea 10: 31-37. <a href="http://www.mnhn.gov.do/index.php/publicaciones/novitates-caribaea">http://www.mnhn.gov.do/index.php/publicaciones/novitates-caribaea</a></p> <p><b>-Herrera-Uria, J.</b> y J. Espinosa de la hoja de datos del taxón. 2017. "<i>Pineria beathiana</i> Poey, 1854". En Hidalgo-Gato, M. M., J. Espinosa y R. Rodríguez-León. (eds.). Libro Rojo de los Invertebrados Terrestres de Cuba. 2017, La Habana, pp. 102-103.</p> <p>Espinosa, J. y <b>J. Herrera-Uria</b> de la hoja de datos del taxón. 2017. "<i>Pineria terebra</i> Poey, 1854". En Hidalgo-Gato, M. M., J. Espinosa y R. Rodríguez-León. (eds.). Libro Rojo de los Invertebrados Terrestres de Cuba. 2017, La Habana, pp. 103-104.</p> <p><b>Herrera-Uria, J.</b> y J. Espinosa de la hoja de datos del taxón. 2017. "<i>Priotrochatella constellata</i> (Morelet, 1849)". En Hidalgo-Gato, M. M., J. Espinosa y R. Rodríguez-León. (eds.). Libro Rojo de los Invertebrados Terrestres de Cuba. 2017, La Habana, pp. 128-129.</p> <p><b>Herrera-Uria, J.</b> y J. Espinosa de la hoja de datos del taxón. 2017. "<i>Priotrochatella stellata</i> (Velázquez in Poey, 1852)". En</p>
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- To make an Illustrate Report with information about land snails from Isla de la Juventud.			<p>We made 210 copies of the illustrated report with all information about terrestrial malacofauna and Fragmented Landscapes of Isla de la Juventud for Rural Communities and protected areas authorities. Unfortunately, we lost the first 45 copies because we had an accident where some material was damaged. The rest of 165 copies was distributed without any problem.</p>

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

In one of our field trips during the project the boat that transport people between Batabanó and La Isla de la Juventud had an accident with the passenger's luggage. All our baggage was seriously damaged for sea water. In that occasion we cannot distribute the hard copies of the illustrated report and we decided use the time for collecting in the field. At the next travel we distributed less amount of documents and in some cases we distributed a digital copy.

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

1. One of the most important results of the project has been the information gathered from the fieldwork. After this project, we evaluate as threatened land snails, five local endemic species from the north part of Isla de la Juventud. Unfortunately, the permanent habitat of these invertebrates is being destroyed by marble exploitation. Also, we made the checklist of species from Sierra Bibijagua with new record for this locality and Isla de la Juventud. Another relevant result was the find four new species for sciences of Urocoptidae family, the most diversity of Cuba.
2. The production of an illustrate report and the environmental activities made possible the sensitisation in the communities with the conservation problems,

the increase of the knowledge about the values of the biodiversity fauna and fragmented landscapes.

3. We consider that the complete bank of imagines of Isla de la Juventud's land snails is an important result from the past two projects (15700-1 and 19062-2). This outcome will give us the possibility of making an illustrated catalogue, will be useful for others publications and also for different activities at the museum for example land mollusc courses in summer.

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

During the project were involved six communities ("Chacón", "Pueblo nuevo", "Reperto Martí", "San Pedro", "Reperto Pino Alto", and "La Reforma") participating about 271 children and their families, eight teachers and about 13 farmers, and foresters. During talks these communities learned the value of biodiversity, conservation of endemic molluscs and fragmented landscapes by habitat loss (marble exploitation). The main benefit of the local communities has been the increasing of awareness and knowledge referred to conservation of terrestrial molluscs. We dedicated special attention to communities near of the three quarries located in the mountains of Sierra de Colombo, Sierra de Caballos and Sierra de las Casas; because one of the most important threats for land snails are habitat loss (Fig. 1).



Figure 1. Habitat loss in Sierra de Colombo as a result of marble quarrying.

The terrestrial mollusc populations are very affected because they are invertebrates of low mobility and restricted distribution. Unfortunately for nature, habitat loss and development are very close. Isla de la Juventud has an enormous tradition of marble extraction. This mineral is very desired for its quality and variety of colours: black, red, grey, pink and white. Also, has various uses: construction materials, decorative rocks, traditional handicrafts and sculpture supplies. These mountains (Sierra de Colombo, Sierra de Caballos, and Sierra de las Casas) are the habitat of at least 35 endemic gastropod species of Isla de la Juventud. This threat is perennial because one of the most important economic activities in Isla de la Juventud for the past two centuries is precisely marble exploitation.

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

Yes, I plan to continue this work. An important priority, at this stage, is to raise public awareness on recent scientific research on the biotic effects of landscapes fragmentation (marble exploitation). Also, conservation measures needed to conserve these landscapes and the biota included.

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

Investigation results and conservation recommendations for landscapes and/or species will be made available to SNAP (Cuban National System of Protected Areas, Cuba). Also, we plan to share the results through national and international meetings, scientific publications, talks at the Museum, and online through our website: [http://: www.mnhnc.inf.cu/](http://www.mnhnc.inf.cu/)

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

The funds thanks to Rufford Foundation (II RSG 19062-2) were used since April 2016 until April 2017 as was scheduled.

**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
1- Transportation of Havana city to Isla de la Juventud (4 persons)	700	700	-	Travel costs had the same price during the project.
2- Food supplies (4 persons)	1400	1000	400 (+)	We found a cheaper offer in Isla de la Juventud and we got other support for diet.

3-Fuel	200	188	12 (+)	We used less fuel.
4-Laptop Computer	700	630	70 (+)	We found this product with minor price.
5- Stereomicroscope	670	680	10 (+)	We found this product with minor price.
6- Boots (waterproof) (4 pairs)	240	225	15 (+)	We found this product with minor price and quality.
7- Backpacks (4)	260	200	60 (+)	Market price varied.
8-Caliper	30	30	-	Caliper cost had the same price.
9- Printer toners	200	222	22 (-)	Market price varied.
10-Sheets	100	125	25 (-)	Market price varied.
11-Printing of Illustrate Report	500	908	408 (-)	The price of printing varied.
<b>Total</b>	5000	4908	112	

Exchange rate used (£ 1.00 = CUC 1.27).  
[http://www.bc.gob.cu/Espanol/tipo\\_cambio.asp](http://www.bc.gob.cu/Espanol/tipo_cambio.asp)

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

I feel that the important next steps for the conservation of land snails are:

- To continue investigating the taxonomy, natural history, and geographic distribution of terrestrial molluscs.
- To continue the researches referred to life cycle of the terrestrial malacofauna and their applicability into conservation.
- Publishing the results in scientific journals.
- Presenting the results in different national and international meetings.
- To continue the increasing of activities related with training and environmental education activities, trying to involve a bigger number of local people.
- To apply for a next Rufford Small Grant to widen the activities in Terrestrial Molluscs Conservation in all area of Isla de la Juventud.

### 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 logo was used in the public/scientific talks given during the duration of the grant, and will be used in other materials generated from the project (e.g. Illustrate Report).

### 11. Any other comments?

I want to express my deep gratitude to Rufford Foundation for these supports because for me it was very significant in my career as conservationist and malacologist.