

## The Rufford Foundation

### Final Report

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**

Grant Recipient Details	
<b>Your name</b>	Manuel Alejandro Barrios Izas
<b>Project title</b>	Assessing the conservation of montane ecosystems at the Guatemalan Volcanic Arc through leaf litter weevil's species richness and endemism's research
<b>RSG reference</b>	12752-1
<b>Reporting period</b>	June/2013 – June/2014
<b>Amount of grant</b>	£ 5,825.00
<b>Your email address</b>	<a href="mailto:manuelbarriosgt@gmail.com">manuelbarriosgt@gmail.com</a>
<b>Date of this report</b>	25/06/2014

**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 determine the importance of the volcanic arc ecosystems in conserving montane terrestrial arthropods using leaf litter weevils as species richness indicator.		85%		We have found from our results that volcanic assemblages of leaf litter weevil’s changes through forest types and in a biogeographical sense. A priority analyses of the weevil fauna suggest that Guatemalan volcanic Arc divides probably in three endemic areas, the first area extends from Tacana to Santo Tomas Volcano, the second area extends from Atitlán complex to Tecuamburro volcano and the third area extends to the eastern volcanoes. This emphasises the importance of the protection of the volcanic ecosystems and the importance of an evolutionary and biogeographic point of view in conservation.
To strength the protected area system at the Guatemalan volcanic arc.		70%		The Guatemalan protected area is being strengthened by the contribution to the regularisation of Tecuamburro and Chingo volcanoes.
To complete the inventory of weevils from Guatemala (at the collecting sites of the project).		70%		The inventory of leaf litter weevils is growing rapidly. Before the start of the project the insect collection had approximately 3,000 weevils and we think that the insect collection will grow to 10,000 weevils. It is also important to mention that other groups of arthropods collected during this project are actually being studied by the exchange of specimens with Smithsonian Institute (ants), Biology Institute of the University of Mexico – UNAM- (mites and spiders) and the University of the State of Hidalgo (rover beetles).

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

A tropical storm on May 2014 and an earthquake at Western Guatemala in early July 2014 delayed us some days during field trips but we have already collected at most of the sites.

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

- a) The increase in the knowledge of the leaf litter weevil fauna. Distributions knowledge of some species was broadened, some paratypes were added to a new Mesoamerican genus that is being described by the main author and new species of weevils were collected.
- b) The regularisation of two protected areas started, Chingo and Tecuamburro volcanoes. We also established cooperation for research with the Association of Private Reserves.
- c) The results of this project will be useful for establishing criteria of management at the volcanic arc protected areas.

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

Even though all communities receive indirect benefits by the biological valuation of their forest and ecological reserves through the inventories of leaf litter weevils, we consider that the most benefitted communities are those from Tecuamburro and Chingo Volcanoes. Those areas were selected together with the National Council of Protected Areas, south western office, to do the regularisation of the protected area. Communal leaders manifested their agreement to start the technical study for the areas because they are aware about the degradation of the main local forests and ecosystems.

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

Yes, we are planning to continue promoting the conservation of important sites for hyper-diverse groups as leaf litter weevils but also to extend the survey to north-western mountains at Quiche where we have already make contact with local managers of communal forests.

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

A first paper of leaf litter weevils from montane ecosystems is almost written; we hope to publish our results in the *Journal of Insect Conservation*. Results will be also presented at a Regional Congress, probably at the congress of the Mesoamerican Society for Biology and Conservation. Meetings and presentation of the results with private and communal managers are also planned.

**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 project started in June 2013 and finalize at September 2014.

**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
Fuel for vehicles	385	280	105	The difference will be used for the field trips that are pending.

Food for field trips	1930	1550	380	The difference will be used for the field trips that are pending.
Accommodation during field trips	1930	1495	435	The difference will be used for the field trips that are pending.
Insect pins	460	460	0	
Unit trays	740	740	0	
Ethanol	190	190	0	
Whirl Packs	190	190	0	
<b>Total</b>	5825	<b>4905</b>	920	

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

Some places of Guatemala still remain unsurveyed and have important extension of unprotected forests. Quiche and Huehuetenango at north western Guatemala is one of those places and most places have been unexplored. At both places there are initiatives for the protection and management of cloud forests so this will be a great opportunity for supporting Central American insect fauna conservation.

**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?**

Yes, during the presentation of the project with authorities, communities and academics the logo of Rufford Grants was used. Also from our web page and my personal Facebook page. All the impressed material at the end of the project will have the logo of Rufford Grants.

**11. Any other comments?**

We are establishing an interchange of specimens with other taxonomists, so leaf litter fauna form other taxa than weevils will be revised:

- Universidad Nacional Autónoma de Mexico
  - Dr. Oscar Francke, Spiders;
  - Dra. Margarita Ojeda, Mites;
- Universidad Autónoma de Hidalgo
  - Dr. Juan Márquez Luna, Rove Beetles;
- Smithsonian Museum
  - Dr. Michael Branstetter, Ants.