

## The Rufford Small Grants Foundation Final Report

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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. 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. 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>	Mayra Alejandra Galindo Panqueva
<b>Project title</b>	Diversity of wild bees and their pollen loads in a tropical dry forest wildlife sanctuary – los Besotes, Valledupar – Cesar, Colombia.
<b>RSG reference</b>	16969-1
<b>Reporting period</b>	February 2016
<b>Amount of grant</b>	£4,516
<b>Your email address</b>	<a href="mailto:magalindop@unal.edu.co">magalindop@unal.edu.co</a>
<b>Date of this report</b>	21 <sup>th</sup> Feb 2016

**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
Knowing the diversity of wild bees (Hymenoptera: Apoidea: Anthophila) and pollen loads in a dry tropical forest in the Wildlife Sanctuary - The Besotes, Valledupar - Cesar.			X	Perform a pre-sampling stage of exploration or to adjust the research is critical to ensure success in the field phase and the subsequent results. In this way the resources and time for this purpose take advantage more.
Determine the diversity of wild bees in an altitudinal gradient associated with the tropical dry forest in the wildlife sanctuary - The Besotes.			X	
Compare the composition and diversity of bees into two climatic seasons (wet and dry) in the wildlife sanctuary - The Besotes.			X	
Determine plant pollen carried by different species of bees by analyzing their pollen loads.			X	

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

The project design was done taking into account general conditions of the sampling area, which was amended considerably in the field. Reason why the pre-sampling performed was an important determine the success of the project, taking into account the spatial conditions *in situ*.

As far as possible, it is necessary to have a palynological atlas of the area to identify the pollen loads is much more specific and if there is none in this case, to invest much more in samples of flower buds and botanical identification that purpose.

Therefore, in this project, it was much delayed identification, postponing delivery time lab results. Taking into account the above described, it is possible to reduce the time and resources for palynological identification.

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

A) Inventory of the diversity of wild bees and pollen loads of a dry tropical forest Wildlife Sanctuary "Los Besotes". Valuable Information to be provided in different conservation processes to be carried out in this area and contribute to the knowledge of the process of pollination in these forests that are threatened worldwide.

B) Update both the scientific community and the local population of the species found in this forest and data related to the pollen loads they carry, to contemplate sustainable management plans for species identified.

C) Inputs for preparation of the book of wild bees to the community at large and 3 scientific articles for the scientific community.

D) Training student at the master's degree in forest and environmental conservation - research.4. Briefly describe the involvement of local communities and how they have benefitted from the project (if relevant).

In this first phase, information is socialized with local villagers who were chosen to participate in the field phase. Space that is ready to explain the issues and importance of this group of insects in relation to food security.

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

Yes, as we already have preliminary information related to wild bees, and an approximation of pollen being transported, the idea is to continue with studies which evaluate the pollination service being provided in the woods and crops, thus contributing in the quality and productivity of these.

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

A) The community is socialized information in collaboration with the environmental authority (CORPOCESAR), carrying the information at different levels: Environmental Authority, educational institutions and producers guilds.

B) To the scientific community socialization conducted by three scientific papers.

C) A book of wild bees, handy for the community at large will be used.

D) An event was held at the regional level on pollination.

### **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 over eight month's period. February 22<sup>th</sup> de 2015 - September 10<sup>th</sup>. It corresponds to the field phase and to date have been carried out the processing of information, taxonomic identifications and writing the reports and articles.

**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
Passage and stay in camp master student (50 days)	1835	2212	-377	The field conditions were very strong by temperature, reason why the consumption of drinks for hydration was needed, what was to be transported every other day since in the sanctuary no cooling system (this includes transport Valledupar to the entrance of the shrine and from there to the camp on horseback). In addition, foods are also often transported as the risk of decomposing quickly came. Which increased costs.
Passage and stay in camp researcher 1 (8 days)	504	580	-76	
Passage and stay in camp researcher 2 (8 days)	604	810	-206	
Field Assistant - Support field activities (measurement and sample collection in the field)	1093	1007	+86	Increased costs of materials to be imported field.
<b>TOTAL</b>	<b>4036</b>	<b>4609</b>	<b>-573</b>	

This was the budget requested on the website, but recorded as letter value was £ 4,516. That is, the difference is: **£ 4516 - £ 4609 = £ 93**

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

- A) Publication of scientific articles.
- B) Preparation of the book for free distribution.
- C) Socialization government and environmental institutions, educational and productive association's institutions
- D) Event Pollinators.

**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 logo was used in the presentation at the First meeting of researchers from the Rufford Foundation, held on 18 and 19 January 2016 in Lima - Peru.



The logo will be used on all products of this research with their respective authorization.

### 11. Any other comments?

Each product of this research will be reported to you and sent a copy.  
Thank you for your support so significant for the development of research.

## DETAILED BUDGET

Item			Dry season	Rainy season	Unit value	Subtotal
Passage and stay in camp master student (50 days) Passage and stay in camp researcher 1 (8 days) Passage and stay in camp researcher 2 (8 days)	Flights	Flights 3 persons: Bogota-Valledupar- Bogotá, Medellín - Valledupar - Medellín	680	210	890	3,602
	Feeding	Market - Supermarket	706	446	1,152	
		Market - plaza	335	315	650	
		Transport food	162	229	391	
		Horse feed	98	92	190	
Lodging	Lodging	215	114	329		
Field Assistant - Support field activities (measurement and sample collection in the field)	Measurement and sample collection in the field	Traps and entomological elements	290	230	520	1,007
		Plastic containers - keeping bees	263	117	380	
		River fish baits	10	5	15	
		Essences for traps	92	0	92	
<b>TOTAL</b>			<b>2,851</b>	<b>1,758</b>	<b>4,609</b>	<b>4,609</b>