

Final Evaluation Report

Your Details	
Full Name	Víctor Aguilera Molina
Project Title	Pollinator watch: evaluating and managing plant-pollinator ecosystem balance in Baja California
Application ID	27007-1
Grant Amount	£ 4,982
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Date of this Report	09/02/2021

1. 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
Pollinator study. Sampling, identification, host identification				A total of 1,761 specimens were collected, with 1,240 identified so far. Due to the large number of specimens collected the host identification wasn't possible for all.
Promotion of landscape management and agroecological plans				Social relations with farmers, rural communities and local authorities have been established. Landscape management plans are being developed to share with the interested parties in the foreseeable future.
Data analysis and manuscript writing				One public outreach article has been written and will be published in the Midtterraneanews magazine. A further two manuscripts for publication in peer-reviewed journals are in preparation.

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

Due to the COVID-19 outbreak and its global repercussions, the fieldwork could not be systematically scheduled. Therefore, the samplings weren't realised periodically each month. To compensate for the lack of sampling during the months where the strictest lockdown was in place, sampling efforts were increased during the months where access to field sites was possible, by increasing the frequency of field trips, as well as the number of volunteers involved.

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

- At the end of this project, a total of 1,987 specimens were obtained, which represents an increase of 807% from the initial 246 the collection started out with. Up to now, 1,240 have been identified by team members, with the help of taxonomic experts. The information of the identified samples has been uploaded to the "Museo de Artrópodos de Baja California" database. The specimens belong to 62 valid species, which represent five of seven worldwide bee families.
- This project has contributed with new species records for Mexico and Baja California.
- The information generated through this project will serve as a robust base for a new line of research in the museum.

4. Briefly describe the involvement of local communities and how they have benefited from the project.

Initial contacts have been established with local communities, to gain permission to access study sites and to raise awareness of the project and its long-term benefits. Unfortunately, the lockdown due to the COVID-19 pandemic slowed down the work, and to date the outreach and involvement of local communities temporarily suspended. However, the work with local communities will resume and landscape management plans, as well as raising awareness of local pollinators and their importance both for natural landscapes as well as agriculture, will continue beyond this project.

5. Are there any plans to continue this work?

Yes, the work will continue, as it has become a central part of the research group's mission, involving researchers, graduate students and field technicians, beyond the grant recipient.

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

The first outreach article to be published in the quarter-yearly journal *Mediterranews* has been submitted and the team members periodically participate in scientific outreach events at local schools and for the general public. Furthermore, at least two manuscripts will be published in scientific, international peer-reviewed journals.

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

The grant was used over the anticipated two-year period.

8. Budget: 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. It is important that you retain the management accounts and all paid invoices relating to the project for at least 2 years as these may be required for inspection at our discretion.

Item	Budgeted Amount	Actual Amount	Difference	Comments
Vehicle rental for field trips	1226	2064	+1035	
Fuel for field trips	305	517	+261	
Food and accommodation	818	651	-205	
Equipment and materials	1685	1750	+80	
	4982	4982		

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

Due to the high number of endemic species found during this project, we consider that the next important step is to carry out more extensive sampling throughout the Baja California peninsula. In addition, it will be important to revisit study sites to increase the sampling efforts in order to better understand pollination networks.

To study the biology of native pollinators and their impact on local crops. This can later be used to design management plans that benefit both ecological and social communities.

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

Yes, the Rufford Foundation logo was used on an information leaflet made for local communities, as well as on two PowerPoint presentations in which the preliminary results of the project were presented locally.

11. Please provide a full list of all the members of your team and briefly what was their role in the project.

Original team members:

Víctor Aguilera Molina

Master's student at CICESE and grant recipient, carried out sampling and identification of part of the bees collected during this project. He was also involved in contacting local community members and land owners to create awareness of the project.

Fadia Sara Ceccarelli, PhD

Researcher at the Baja California Terrestrial Arthropod Museum, Conservation Biology Department, CICESE and Master's thesis supervisor of Víctor Aguilera. Helped in the experimental design of the project and supervised its development.

Eulogio López Reyes

Field technician, Conservation Biology Department, CICESE, collaborated in the fieldwork design, networking with local community members and participated in most sampling and specimen handling for preservation. Also, he helped with administrative procedures.

Stephen H. Bullock, PhD

Researcher, Conservation Biology Department, CICESE, internal collaborator, collected some of the specimens and identified the host plants.

Mario Salazar Ceseña

Field technician, Conservation Biology Department, CICESE, participated during part of the fieldwork by sampling and identifying plant host species.

Additional team members that arrived during the course of the project:

Diego de Pedro

Master's student at CICESE, participated as a fieldwork volunteer and collected, curated and identified a large portion of the specimens. He was also involved in contacting local community members and land owners to create awareness of the project.

Khutzy K. Munguía Ortega Msc

Fieldwork volunteer.

Luz Abril Garduño Villaseñor

Fieldwork volunteer

Edna Arvizu

Fieldwork volunteer

Heriberto Murillo

Fieldwork volunteer

12. Any other comments?

Photographs related to the project can be accessed through the following link

https://drive.google.com/drive/folders/1EcpzopAUcxFg9ka_p1KrPPatMCqY_8uW?usp=sharing