

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.

Thank you for your help.

Josh Cole, Grants Director

Grant Recipient Details	
Your name	Constanza Schapheer Carrasco
Project title	Conservation Status Assessment and Outreach on Native Cockroaches in Mediterranean Matorral, Central Chile
RSG reference	18114-1
Reporting period	2016
Amount of grant	£5000
Your email address	cp.schapheer@gmail.com
Date of this report	30-07-2016

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
Cockroach Survey		X		<p>Between September to November of 2015 we sampled cockroaches and plants at sites corresponding to the northern extreme of the distribution of our focal species (Pichidangui, Los Molles, Pullally and Papudo localities). We applied the methodology proposed in the project: for instance, we conducted surveys in rural, domiciliary and peridomiciliary sites (using the presence of native flora as proxy). Regarding this goal, we still have to sample the last five sites. Due to the seasonality of these insects, we must wait for springtime to resume these surveys. That is why this objective is "partially achieved". Nevertheless, we published a research note and submitted a second paper (currently under review at Austral Entomology Journal) on our native cockroach work (see attachments).</p>
Assessment of Conservation Status of Native Cockroaches			X	<p>Thanks to our field assessments, we discovered the human-derived activities such as summer housing projects are impacting native cockroach's species. Our results indicate that <i>Moluchia brevipennis</i> can be found in less than 5,000 km², so it meets the IUCN criteria IN: B1. Based on this, we postulate to <i>M. brevipennis</i> as a threatened insect in the process of species classification of Ministry of Environment of Chile. At this time, we are waiting for the resolution and in parallel we are preparing the application of this species to the IUCN.</p>
Update knowledge of Chilean cockroaches and Contribution to the Chilean Natural			X	<p>Some of the collected specimens were deposited in the Museum of Natural History in Santiago, Chile. With another portion of our specimens we are studying in our laboratory morphological differences of native cockroaches collected at different localities (ecotypes), to date we hypothesise that there are at least two new species in what it is</p>

History.				considered <i>M. brevipennis</i> . We are now preparing to submit these findings to a peer review journal.
Outreach			X	<ol style="list-style-type: none"> 1. We create the website of our project (www.molukia.cl). Furthermore, we opened a Facebook fanpage account: (www.facebook/proyectomoluchia). To keep news on activities and to educate about wild cockroaches and native insects in general. 2. We did outreach activities with both young students and adult at: <ul style="list-style-type: none"> • Los Molles School (V region, Los Molles locality. October, 2015). • "Conociendo a los Pequeños Guardianes del Litoral" (V region, San Antonio. October, 2015) • Metropolitan University of Educational Sciences (VI region, Graneros. September, 2015). • Caminatas Educativas "Conociendo y Valorando la Biodiversidad de la Quebrada de Córdova" (V region, El Tabo. November, 2015). • Día de la Fauna Chilena (Metropolitan Region, Santiago. November, 2015). 3. Also we organised the First Symposium of Insect Conservation in Chile in March of 2016 (see attachment). In this event, we invited all active groups who are currently working in the field of insect conservation in our country. This event took place at Metropolitan University of Educational Sciences in Santiago, Chile. It was open to all kinds of public, and reached a big audience though social networks and flyers; at this event we counted a total of 130 persons from a wide variety of backgrounds (school and university students, professors,

				teachers, families and NGOs.
Videos			X	Based on our field experience, we made two short documentaries (5 minutes each). In these, first we introduce to the environmental issues facing native insects and show our work and in the second clip we explain further why it is necessary to study insect natural history and illustrate this with the work we do in the laboratory. Both videos are available in our YouTube channel, with English subtitles: (https://www.youtube.com/channel/UCn8nAH0aZLQeBCTGZNlxH-w).

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

The only difficulty was to cover the 10 sampling points proposed in the project because the time window for sampling this year was shorter than originally thought.

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

- 1) We obtained basic information about the distribution and number of species of cockroach (indispensable to take conservation measures). This allowed us to establish that central Chile is an area of great abundance and diversity of cockroaches, where we hypothesise there are even undiscovered species.
- 2) We prove the importance of the native ecosystem (Matorral plant community) for endemic cockroach species.
- 3) We expose the problem of the destruction of native ecosystems and lack of knowledge of the local entomofauna to our fellow Chilean citizens (children and adults) and they were very receptive and positively concerned.

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

By outreach activities and social networks, people “discovered” native cockroaches and the ecosystem around them. We think this is the first step to assess the natural heritage and preserve it.

5. Are there any plans to continue this work?

Definitely, this research has allowed us to open countless questions about natural history of these insects. Also we think that the environmental education work it is

much needed in Chile and should continue, in order to have a lasting impact on species conservation.

Regarding our team, Ms C. Schapheer will continue Zoology PhD studies focusing on cockroach taxonomy and ecological interaction. Meanwhile together with Prof C. Villagra and A. Vera as a team we will continue both basic and educational efforts in order to contribute to the conservation and knowledge of native cockroaches. Thus, we hope this is only the beginning of this line of research that allows me to generate the tools to conserve these insects.

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

We want to keep interacting with local communities and schools and continue working with them on developing educational programmes and strategies to make native insects relevant subjects of conservation and concern in our country. We also will keep active our website and Facebook fanpage to contribute by this mean, as well.

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

So far, we have used the grant from September 2015 to December 2016. Notwithstanding, our original proposal goes from September 2015 to January 2017, in order to have at least two spring seasons for field sampling (Southern Hemisphere).

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
Insect and Plant Survey	2250	1250	1000	Difference will be used for remaining sampling proposed for 2016 spring sites.
Field materials	160	160	0	
Materials for mount and insect identification	320	320	0	
Outreach activities	1400	1400	0	
Outreach materials	270	270	0	
Video	410	410	0	
Web Site	190	190	0	
Total	5000	4000	1000	

Local exchange: 1 GBP = 865CLP (Chilean Pesos)

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

First, continue the outreach work: environmental education is important to keep people as informed as possible. This is a chance for them to enrich their own opinion on environmental issues and influence both as citizens as well as consumers. Second, continue basic research on species of interest in aspects such as ecology, taxonomy and distribution. These studies provide the necessary information to take adequate conservation measures. For instance, thanks to the information collected during this project we were able to propose endemic *M. brevipennis* to a conservation status and also to develop further steps on its study such as unveil its trophic interactions with Matorral native plant species.

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, we put the RSGF logo in all our outreach material produced (see attachment).

11. Any other comments?

To the best of our knowledge this grant it is the first international fund given to the study and conservation of native insects in Chile, therefore we think this is a big achievement. We recognised a tremendous interest in people to learn and to protect our environment in our country. Also we acknowledged the spontaneous care and love, especially in children, to other creatures even towards the often-neglected cockroaches.

This grant allowed us to develop a collaboration network with national and international collaborators that we would continue to sustain with research and outreach interchange.

As a young female scientist, who is just starting its own line of research, I can only thank The Rufford Foundation for believing in our idea and supporting it. This initiative also fuelled me with inspiration to continue the scientific career where now I'm applying to PhD studies.