

## The Rufford Small Grants Foundation

### Final Report

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. 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>	Mónica F. Nime
<b>Project title</b>	Scorpion Ecology in Disturbed Habitats within the Arid Chaco of Argentina
<b>RSG reference</b>	8876-1
<b>Reporting period</b>	November 2010-February 2011
<b>Amount of grant</b>	£5671
<b>Your email address</b>	<a href="mailto:monicanime@yahoo.com.ar">monicanime@yahoo.com.ar</a>
<b>Date of this report</b>	26.02.2012

**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 quantify and describe the scorpion diversity patterns in different habitats.			Yes	
To observe how different environmental factors influence the scorpion community		Yes		We could not take measurement of light intensity and hardness soil.
To provide information to the local community about the preserved this protected area, its fauna and flora.			Yes	

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

We failed to perform the sampling of agricultural fields because they were abandoned long time ago because of the drought and besides the size of the field was not big enough to allow comparisons with other sites.

We could not take measurements of light intensity because the light meter was not sensitive enough. Anyway, we worked on new moon nights to avoid this effect. We could not get a penetrometer on time, and were not able to analyses hardness soil.

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

1. We provide the first description of the diversity pattern and abundance of scorpions from this region, comparing between different habitats:

- a. Abundance and species richness of scorpions was higher in mature and secondary forest than cattle established forest. These results demonstrate that high disturbance in cattle established forest site reduces the abundance and species richness.
- b. The diversity was not significantly different between sites. The Shannon index was low and similar in the three sites. This difference was due to the dominance of one species, *B. ferrugineus*, which accounted for over 66% of the individuals in all sites. The dominance of this species causes the reduction in diversity.

2. Abundance of scorpions showed significant positive relationship with air temperature ( $p < 0.0001$ ) and atmospheric pressure ( $p = 0.01$ ). No significant relationships were detected between abundance and relative humidity, wind speed, vegetation height and vegetal coverage (% of vegetation, soil and leaf litter). In addition, species richness was significantly related with air temperature ( $p = 0.0011$ ) but was not related with other environmental variables.

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

Along the project, rural people asked us what we were doing and why we were working with the scorpions. We took advantage of this opportunity to explain them the importance of the conservation of fauna and flora in the arid Chaco. Also, we organised talks in schools to teach about the reserve and the environment.

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

Yes. We wish continue working in other areas of arid Chaco to obtain more data of different habitats and thus, get a better development of environmental actions.

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

Via scientific conferences and publications, as well as the RSG web site.

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

The grant was used for 16 months.

**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
4-wheel vehicle rental (104 day)	1872	1400	+472	We ended up using our own vehicles because it was hard to coordinate rentals. However, we had to perform a thorough mechanical workup on the car.
Fuel for 8 travel (round trip: around 600 km)	244.8	200	+44.8	Although they were only 4 trips, fuel price increase.
Food 2 people for 104 days	1021.28	1100	-78.72	Day were less, but we were 3 people
Sunscreen	200	250	-50	
Camping gear (tent, sleeping bag, gas, etc.)	491	520	-29	
Notebook	720.13	790	-69.87	
Stereoscopic microscope for the field	294.60	325	-30.4	
Luxometer and thermometer	122.75	122.75	0	
Anemometer and Barometer	122.75	125	-2.25	
Thermometer to soil and Hygrometer	73.65	78	+4.35	

Durometer (for soil)	86.74	0	0	
Bottles and Hermetic bags [ziplocks]	38.3	35	+3.3	
Pit fall traps	73.65	74,5	-0.85	
Tweezers	12.27	14	-1.73	
Ethanol	39.36	49	-9.64	
Batteries D	94.27	98	-3.73	
Batteries AAA	62.85	62	+0.85	
Flashlights UV light	52.37	70	-17.63	
Flashlights white light	49.10	55	-5.9	
Congress presentations	0	70	-70	had not considered this item
Non budgeted	0	200	-250	
<b>Total</b>	<b>5671.87</b>	<b>5638.25</b>	<b>+33.62</b>	

Exchange rates over the 16 months averaged \$6.11 Argentine pesos to the sterling.

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

There is still so much to learn about this species. For example, it is important to study the behavior of the species to understand how the environment influences in the community of scorpions.

**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?**

Yes, in all of our equipment and posters presented at a scientific congress. We will thank the Rufford foundation in future papers.

**11. Any other comments?**

We would like to thank RSG for the great opportunity and continued support which has allowed us to continue working towards the conservation of the Chaco ecosystem.