

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	Joseph Sarvary
Project title	Ecological Study of the Endangered White-winged Nightjar (<i>Eleothreptus candicans</i>)
RSG reference	Jane Raymond
Reporting period	1/11/13-06/01/16
Amount of grant	£5966
Your email address	Joseph@paralatierra.org
Date of this report	06/01/16

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
Determine the exact population size at AgroForestal Rio Verde SA			X	The mark and recapture project has continued to be successful. With the increased time spent at the field site during radio-tracking forays, we have managed to increase the total number of ringed individuals to 45.
Census all bird species living in the area.			X	The census project has continued through 2015 and we managed to add two new species to the list bringing the total up to 114. The small improvement since the mid-term speaks to the completeness of the initial work.
Investigate the home range and foraging behaviour of the white-winged nightjar			X	The home range and foraging behaviour aspect of the project has been the major focus of my field work in the past 12 months. The radio-tracking data collection is nearly finished and we have already exceeded our goal 400 independent data points (the current count is 514).
Investigate Mating Behaviour			X	The study of the mating behaviour was broken into multiple steps. We first mapped male display arenas within a local area. We then observed each male at least once during one of the three days surrounding the full moon. This led to more observations about mating display behaviour than was previously known. We hoped to observe male-male and female-male interactions but due to the poor weather we were not able to access the site as often as we'd anticipated.
Investigate Fledging Behaviour		X		The fledging behaviour study has been temporarily interrupted due to the inaccessibility of the field site. We

				radio-tracked two juveniles but they did not emigrate. We hope that in continuing our general surveys of the population into future years, we will be able to establish a pattern for population movement over generations.
Determine Habitat Composition of the Study Area			X	The habitat composition was investigated with the assistance of two undergraduate botany students. We have created a matrix overlay defining six different "habitat types" to use in complement with the radio-tracking data. We have also created a database of the most common vegetation species found near the white-winged nightjar home ranges. Mapping of the termite mounds within and immediately surrounding the display arenas was also completed.

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

The biggest unforeseen difficulty has been the unfortunate bout of rainy weather that we have had to endure over the past two and half months which interrupted our investigation of the mating behaviour. It has not had a large impact on our radio-tracking project which was already nearing completion but it has slowed our efforts on gaining a better understanding of the mating behaviour and emigration levels. The bad weather that we have seen has led to massive amounts of flooding and has made our research site inaccessible at times (<http://www.bbc.com/news/world-latin-america-35184793>). The research station was evacuated for 10 days in late December 2015 but we have since made it back on site. The road to the white-winged nightjar habitat has become completely unpassable on anything besides horseback. I plan to continue monitoring the population as much as I can but the impact of the rains will be a huge influence on the natural behaviour of the birds. The forecasts suggest more rain through January and February 2016 but we remain invested in collecting more data on the behaviour of the birds in the future.

We were also confronted with a logistical challenge as the property on which the Para La Tierra Research Station exists was put up for sale by the owners. This has meant a reshuffling of our long-term plans and priorities. While it has not had a huge impact on the fieldwork pursued under this grant, it did present us with an opportunity to take the data we were collecting and use it to promote the site to international conservation programs. This is discussed in more detail below.

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

1. Collecting the data set on the behaviour of the white-winged nightjar: The collection has been hindered in parts by the bad weather that I mentioned above but the data set that we have collected has exceeded our goals set forth during the original application. We are currently working on mapping and modelling the data for publication in a peer-reviewed journal. The data set is complementary to the data that already exists on the species. The publication will include the conservation recommendations that we recognise as priorities for the protection of the species as a whole. This will be my first publication as first author and be a big step towards establishing the importance of conserving the Paraguayan avifauna of the Cerrado.
2. Strengthening the beginning of a career in conservation science: As a young scientist looking to do applied conservation work in a rural country like Paraguay, finding funds can be the most difficult impediment to the job. Thanks to Rufford I was not only supported to pursue the research project of my choosing, but I was also invited to give a scientific presentation on my work. As the youngest participant by 5 years, I was thoroughly inspired and empowered to continue doing the work that I am so passionate about. We also managed to employ two undergraduate research assistants to aid in the project which helped teach me the importance of leadership and delegation but also, I am confident, establish the love for applied conservation work in these two assistants. This Rufford funding gave the initial push towards a project that Para La Tierra hopes to run a long way into the future and it has helped me establish my career as a wildlife biologist.
3. Establishing the importance of the Cerrados of Paraguay: This project was more than just a scientific research project for us at Para La Tierra. It was the embodiment of our tagline: "Saving the White-winged Nightjar". When the property on which our organisation is based was placed up for sale, we reached out to group of conservation organizations to help us protect this threatened land. Using the white-winged nightjar research as an example of the on-the-ground conservation work that we were working on, we were able to attract large amounts of attention. Our established relationship with the neighbouring property owners which was developed as a product of the Rufford project was seen as a large strength for future work. The visiting conservationists were treated to a visit to the white-winged nightjar habitat and given an overview of the strategy we are developing for the species protection. The Rufford project was integral in giving us the funds we needed to take our mission and make it a reality. We are optimistic that the program that was initiated thanks to the Rufford project will continue to be a flagship project for Para La Tierra.

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

The original project did not include the involvement of the local community but due to Para La Tierra's already existing outreach programme, we took advantage to teach the importance of the white-winged nightjar to the local community. The

programme focused on instilling a sense of pride in the local rare species and that it was community's responsibility to take care of the ecosystems that surround them.

5. Are there any plans to continue this work?

Yes. This project is just the beginning of Para La Tierra's (www.paralatierra.org) long term plan to protect the threatened habitats of Paraguay using the white-winged nightjar as our logo and flagship. We have goals to extend our research to other properties and map the exact range of the species across north-eastern Paraguay (possibly extending into Bolivia and Brazil). We have interested undergraduate and graduate students applying for internships to assist with the project. Our long term plans have been challenged by the family placing the property on which our research station is located up for sale. However, we choose to view this challenge as an opportunity. We hope that we can use the data collected during this and all other PLT projects to motivate a conservationist to purchase the land for long-term protection. Even if this is not immediately possible, the nightjar research project will contribute to our cause as an applied conservation action focused on our flagship species.

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

Our major unaccomplished goal is to communicate the results through academic journals. We have already shared our results in a variety of ways: The preliminary data was presented at the 2nd Rufford Small Grant Conference in Chile which was received well and led to new relationships with other researchers doing work in South America. The costs of the trip were covered by the British Ecological Society's Travel Grants. We have managed to communicate proficiently with the local landowners to establish an immediately and localised management plan for the species. Through our community outreach education programme, we established a local pride for the rare and threatened species of the Paraguayan Cerrado. We have established a collaboration with the largest conservation organisation in Paraguay to help further conserve the Cerrado habitat using the white-winged nightjar as our flagship species. Through that collaboration, our project has hosted The World Land Trust, World Wildlife Fund, and the Neotropical Bird Club. Each of these groups was given a private tour to visit the white-winged nightjar habitat.

The preparation of the academic publication is our top priority right now.

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 grant money was spent slower than anticipated. Through the donation of a Yagi antenna and Sika Receiver we saved £1200. That money was then invested in a second round of radio-trackers that allowed us to gain valuable data on the movement of a larger sample of individuals. We are continuing to work with some money left in our budget for another estimated 2 months of transportation to the site (when the road becomes passable again).

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
Transportation Fuel	500	420	-80	These eighty pounds will help fund an approximate 2 months more of travel to the site
GPS Units	484	484		
Mist Nets	255	255		
Mist Net Repair Kit	16	16		
Holding Bags	38	41	3	
Bird Measuring Equipment	160	158	-2	
Ringing Pliers	52	52		
Reflective Tape	24	24		
Radio transmitters and receiver	2167	952	-1215	We were able to save over £1200 by avoiding the purchase of a Yagi antenna and Sika Receiver. Instead, we received this expensive and important equipment as a donation from one of our supporters. We invested that extra money into the transmitters used in the second round of radio-tracking data collection.
Radio transmitters (round two)	0	990	990	These six extra trackers were purchased with the money saved from the donation of the Yagi antenna and Sika Receiver.
Aluminium Tarsus rings	200	200		
Headlamps	70	90	20	After having problems with the Petzl headlights we had purchased for a different project, we decided to invest slightly more money into acquiring headlights that would last the entire length of the project.
4x4 Quad bike	2000	2192	192	Finding a well maintained and used quad bike was an incredibly difficult process and led to a number of delays. We believe

				that the quad bike that we bought was the best value for its prices and have since made great use of it. (From GBP/PYG 1/7296).
TOTAL	5966	5874	-92	

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

By far the biggest next step is to take the data that we collected during this project and publish it in an academic journal. This is the final step in the progression of this scientific research project. We also hope to continue this project's scientific priorities through internships with visiting university students. Lastly we also hope to spread our research to other location around the country. While, as a small NGO, we have to focus our efforts to tackle these challenges piece by piece, we do think that further funding might be pursued towards this end.

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?

The Rufford Foundation logo has been placed on the Para La Tierra website (www.paralatierra.org) since we first heard of our reception of the prize. It was present on multiple presentations given to the local landowners we visited. It is featured on the wall of the Para La Tierra Museum alongside a brief description of the project as whole. During a recruiting trip conducted last year, the Rufford logo (along with details of the white-winged nightjar project) was featured on a presentation about Para La Tierra and applied conservation work to 12 groups of undergraduate students at 10 US Universities.

11. Any other comments?

As I mentioned above, this funding has been integral to the realisation of my first independent field research project. I have experienced a great deal of challenges and difficulties along the way but the faith and confidence place in me by Rufford has given me the means by which I can establish myself as field biologist working in applied conservation. This project, and the funding that supported it, will be the springboard I use to continue my career.