

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	Francisco de Paula Severo da Costa Neto
Project title	Forgotten pools: Revealing the annual fishes (Cyprinodontiformes: Rivulidae) from Brazilian Chaco
RSG reference	22546-1
Reporting period	07/2017 – 07/2018
Amount of grant	£4995
Your email address	netosevero@hotmail.com
Date of this report	24 Jul 2018

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
Collection of specimens from pools located in the Brazilian Chaco and update of the checklist of Fishes of Upper Paraguay Basin				The collections were accomplished and resulted on valuable data about the fishes. However, the update of the checklist wasn't achieved due one of the species that is new to science and still being described.
Identification of sites and habitat characterization of endangered annual fish species (IUCN) in the Brazilian Chaco				The sites where the fish occurred were georeferenced, photographed and the information about the heterogeneity of the environment was taken.
Organization and digitization of the annual fish vouchers in the Collection deposited in Zoological Collection of Federal University of Mato Grosso do Sul				All the fishes are deposited on the zoological collection with information about the data and site where the animals were collected and are available online to researchers that may be interested on the same subject.
Publish part of the results in the "Ciência Pantanal" magazine				Accomplished on June 2018.

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

Finding suitable pools where the fish was present wasn't a simple task. Altogether, we covered an area of about 700 km² where almost every pool was sampled in order to look for annual fish. Although there are many pools in the region, the annual fishes did not occur in all of them but this was very important to understand which kind of environment is important to them, also every pool was georeferenced which helped a lot to elucidate the distribution patterns of the annual species. Another difficulty is that the region continues to be heavily impacted by deforestation and the implementation of pastures. We could witness that in loco, even in areas where the less abundant annual species were presented. I hope that my results can highlight the importance of conserving Brazilian Chaco in its natural form.

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

Discover and understand the potential sites of occurrence of annual fishes in the Brazilian Chaco; the discovery of a new species of annual fish in the region; and sharing the results through *Ciência Pantanal*, a magazine published currently by WWF, which could reach almost 300 reads in less than a month, accordingly to the counter of my profile researchgate.com.

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

I tried to make my best to inform local people at any opportunity that I had during the days of the field work. Although I haven't give public lectures or presentations to local people I explained what I was doing to everyone I could: people working on the farm, on restaurants, hotels and land owners of the farms which permitted us to enter. Normally, people are not aware that animals such annual fishes can exist, so it is easy to get attention about it. Notwithstanding, with the unusual life cycle they animals are very colourful and showy so I always showed the pictures of them to better illustrate whom they are.

5. Are there any plans to continue this work?

Yes. This experience was extremely important in my formation as researcher and even brought to me a sense of responsibility over the fish species of the region. Not only the annuals, which were the original focus of the project, but all the others that were caught as well during the field trips that included new records to the state and even to the country.

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

Part of it was shared through the *Ciência Pantanal*'s article and a short communication on the bulletin of the Brazilian Society of Ichthyology. In the next few years I still have a lot to work and publish and I hope to present the results on lectures, both in scientific conferences and schools.

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

First, I used the budget to buy equipment, both permanent and temporary ones, such as the camera, GPS, glass pots and alcohol. I had not counted on the expense of buying collection material, such as seines and dip nets, initially but this was necessary once the ones I have were not suitable to the environment of the annual fishes. As the fish has a short life span, associated with the rainy season, the collections were concentrated between the end of September 2017 and beginning of March 2018, which was when most of the grant was used. After all, the use of the grant corresponded to the time originally planned.

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
Fuel	360	660	-300	There was a great increase in the price of fuel, which was especially higher in the region where the field work was done, because it is a border area and far from the capital
Car rent	1140	860	+280	Due to unforeseen expenses with fuel and others the field days were reduced.
Lodging + Food	1500	1230	+270	Same as above.
Formaldehyde + Alcohol	90	90	0	Fully spent.
GPS	425	425	0	Fully spent.
Glass pots	100	10	0	Fully spent.
Camera	1380	1500	-120	The difference was due to the delivery fee that had not been accounted at first.
*Material of collection	N/A	130	-130	The collection equipment that I had ended up being inadequate and had to buy new ones that had not been foreseen.

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

The most important step now is to publish the results of occurrence and distribution of annual fishes on specialized journals, especially because there is a current initiative between researchers and the Brazilian Environmental agency to set the first conservation unit in the Brazilian Chaco, and my results can foment it. Beyond that, I still have much to do with the material I've collected during this year which are essential to a better understanding of the biology of the fish species and, consequently, its conservation.

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

The Rufford Foundation was cited in the two products that I've published within this period, the Article in *Ciência Pantanal* and the short communication in the bulletin of the Brazilian Society of Ichthyology. I did not use the organization's logo.

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

Prof. Dr Diego José Santana, Prof. Dr Franco Leandro de Sousa, Priscila Carvalho, Eric Ragalzi and Karol Ceron provided me fundamental assistance in the field works which would not be possible without their participation.

12. Any other comments?

As I pointed out above, this project was extremely important to my personal and academic growth. I had never had the opportunity to coordinate a work that involved fieldwork and this was possible thanks to Rufford Foundation. Moreover, my country has been through a critical period for science and this grant and ensured that a little more of the Pantanal's biodiversity was discovered.



