

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	Oscar Barroso Vitorino Júnior
Project title	Projeto Pirapitinga
RSG reference	19213-1
Reporting period	05-2016 / 06-2017
Amount of grant	£5.000
Your email address	jr.vitorino@gmail.com
Date of this report	05-29-2017

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
Increase the knowledge of freshwater fishes from upper Tocantins river basin				The results of fish ecology studies were better than expected due to the elevated diversity and endemism sampled.
Environmental awareness programme				We had a productive experience spreading environmental awareness during our sampling expeditions and especially during the world fish migration day but there was some concern on the execution of education campaigns on schools of the region due to the lack of support from governmental agencies.

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

We had some difficulties during the conversations with municipalities for performing our lectures on fish conservation in regional schools mainly due to the elections that occurred in the end of the last year and consequent substitution of the staff in the education agencies from the municipalities reached by the project. It might be important to highlight the lack of support from governmental agencies during campaigns and election periods in Brazil in which public employees are generally busy defending their own interests.

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

The most important outcome of our project is the description of a new fish species that is different from all others from its genus *Moenkhausia* by its unique coloration in life. We also gathered information on the life strategies of fish species from a freshwater ecoregion important for the conservation of fish species. The continuous programme of fish sampling during the last year is allowing us to study many species that have never been reached by intensive ecological evaluation.

Yet another important contribution of our project being to spread the knowledge on fish ecology and the importance of the preservation of the aquatic environments on

the communities that were reached during our expeditions and the event for the World Fish Migration Day.

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

The local community was highly involved through the realisation of the project as much of the fish sampling procedures require the use of the knowledge of the local community on the physical structure of aquatic environments and even access routes and ownership of the evaluated landscapes. In this sense the initial field activity was in most of the time related to making contact with land owners and convincing them in engaging with the project activities. This was achieved in all the sampling points and made it possible for us to repeat the procedures in all the properties over the year. It is also noteworthy that the presence of the expedition teams in the municipalities that were visited through the year is already an environmental awareness activity as they were performed in tourism sites and even water bodies that crossed the cities. The electric fishing equipment reveals a hidden diversity that is not familiar for most of the people and this has enhanced the awareness capacity of our project in an unexpected way.

5. Are there any plans to continue this work?

We plan to continue this work in other municipalities to increase our results on fish species that occur in this important endemism region. We think that our findings of several species with few or no previous register in the basin are indicators of the need of more intensive sampling in a broader area of the upper Tocantins river basin in order to minimise the lack of knowledge on the fish community of other environments within these basins. We have submitted a proposal of Feasibility Award of a conservation unit for rare fish species within these environments to the Rainforest Trust Alliance and other proposals must be sent in order to guarantee the increase of effort on this important region for conservation purposes.

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

We are currently preparing several manuscripts related to the description of one new fish species discovered during our samples, but especially to the ecological preferences of the species sampled during our expeditions. Also we plan to continue the education campaigns on the schools and rural properties of the region and make use of non-scientific media to share the results of our work on the communities that surrounded our samplings and on the general society. We think that the publication of the description of the new fish species will have impact on local media and help us to share our work with the general public.

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 was used from the moment it was received by the acquisition of sampling equipment. The delivery of this equipment took longer than expected due to its

manufacturing in the physics department in our university. The remaining resources were used mainly during the expeditions through feeding of the team, camping fees and transportation costs. A few of the resources was used during analysis of biological material through the acquisition of laboratory material. We still have resources remaining correspondent to the sampling expedition scheduled.

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
Printed material	500	500	0	Used on the environmental awareness programme
Fuel	500	1000	-500	Price of the fuel presented intense fluctuation during the project and represented a bigger cost than estimated initially.
Vehicle maintenance	250	0	+250	Resources were relocated due to the underestimated fuel costs.
Formalin	50	100	-50	The volume of fish sampled was initially underestimated.
Alcohol 70%	150	200	-50	Same as above.
Office material	50	50	0	
Lab material	200	100	+100	We borrowed material from the State University of Maringá
Fish sampling equipment	1500	1500	0	
Camping fees	900	700	+200	We negotiated with land owners to use their areas as camping in non-touristic dates.
Feeding costs	300	500	-200	Teams were eventually bigger than estimated initially.
Camping equipment	100	50	+50	
Website development	500	250	+250	We developed the website ourselves instead of hiring someone to.

The grantee was received in a moment when the conversion rate was £1 – R\$ 4.87 and a significant part of it was spent initially as our highest expenses were related to the fish sampling equipment and the elaboration of printed material for the environmental awareness programme. All the remaining resources were invested during our expeditions to fish sampling and laboratory procedures taken on the state university of Maringá. We still have resources remaining related to a fish sampling expedition scheduled to occur in the next days. This happened due to the difficulty of manufacturing the electric fishing equipment in our physics department in which we could develop the only equipment in which our resource condition make possible to use. There is no other place to buy this equipment in Brazil except for others that are imported and much more expensive.

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

We are currently working on the analysis of the huge amount of biological data collected during our field activity and this is expected to generate much useful information for the conservation of fish species from these upper portions of the Tocantins river basin. Still we think it would be important to continue this work through the realization of an intensive sampling to elaborate a list of species occurring in these upper watershed environments.

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 logo was used in our clothes, website and all the printed material developed during the execution of the project. Between these are included folders, stickers and other material related to the preservation of the watershed and even the general fauna. These materials was distributed during all our campaigns and are currently being used in many tourism sites in the Pirenópolis and Chapada dos Veadeiros region municipalities in the state of Goiás. The Rufford Foundation will also be acknowledged in all the manuscripts that we have been prepared as the main source of funding for these samples but the most important homage to the Rufford Foundation we are preparing through naming a species after it. This manuscript is to be submitted in the next days as we have just finished diaphanization of paratypes (Figure 1).

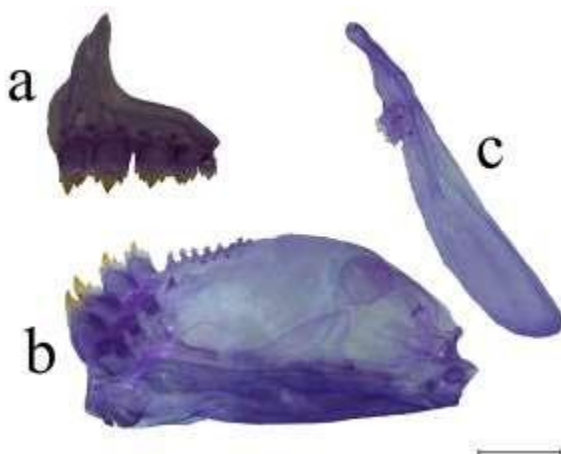


Fig1. – Mouth of *Moenkhausia ruffordi*, a new characidae fish from upper watershed region in central Brazil (manuscript in prep).

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

The project involved the participation of six undergraduate students from two institutions (Universidade de Brasília and Universidade Estadual de Maringá), which collaborated mainly on fish sampling activities. We also had the participation of five graduate students of two institutions (Universidade Federal de Uberlândia and Universidade Estadual de Maringá) that were directly involved on the fish identification, and analyses of the feeding preferences and reproductive status of the individuals. We also had the scientific supervision of three professors from two institutions in Brazil (Universidade Estadual de Maringá e Universidade Federal do Tocantins). The name of the participants as well as their correspondence is listed below:

1. Proponent: Oscar Barroso Vitorino Júnior Email: jr.vitorino@gmail.com
2. Prof Dr Cláudio Henrique Zawadzki Email: chzawadzki@hotmail.com
3. Camila Alves de Brito Matrícula UnB: 14/0133500 Email: camila.b_2@hotmail.com
4. Sylvia Franco Carvalho Matrícula UnB: 14/0162925 Email: sylviafc@gmail.com
5. Luiz Fernando Pesenti Email: luizfpesenti@gmail.com
6. Arthur Peixoto dos Santos Matrícula UnB: 14/0131183 Email: peixotoarthurr@gmail.com
7. Vinicius Teixeira Lima Matrícula UnB:16/0019826 Email: limavini998@gmail.com
8. Danilo Leone Estevam Matrícula UEM:
9. Gabriel Deprá Email: gabrieldepra@gmail.com
10. Prof Dr Fernando Pelicice Email: fmpelicice@gmail.com
11. Filipe Manoel Azeedo Matrícula UEM: ra80290 Email: filipemanoel2@gmail.com
12. Thalles Gomes Peixoto Matrícula UFU: 11612ECR018 Email: thallesgomespeixoto@hotmail.com
13. Livia Helena Tonella Matrícula UEM: 48680 Email: livia.tonella@gmail.com
14. Prof Dr Angelo Agostinho Email: agostinhoaa@gmail.com

12. Any other comments?

It was a very intense year in which we expanded the limits of ichthyologic sampling in upper streams of important river basins such as the Tocantins-Araguaia system. We have sampled species such as *Hypostomus atropinnis* that was disappeared since its description in 1890 and other rare fishes such as *Brycon nattereri*, the characiform that named our project and one of the most endangered fishes from the central region of Brazil, which holds springs of the most important watersheds in the country. It is not possible to estimate the total contribution of our samples to the ichthyology knowledge since a huge amount of biological data is still to be analysed, yet we are sure that the support of the Rufford Foundation was determinant for the success of our expeditions and for that it will be acknowledged in every opportunity.