

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. 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. 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	Bruna Martins Bezerra
Project title	Social ecology of wild golden backed-uacari in National Park of Jau (PNJ), Amazonia, Brazil.
RSG reference	18.01.07
Reporting period	2007/2008
Amount of grant	£5000
Your email address	bruna.bezerra@bristol.ac.uk
Date of this report	23 January 2008

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
Record the vocalizations of golden-backed uacari to categorize and produce sonograms of the different types			X	We managed to identify 9 different calls in the vocal repertoire of golden-backed uacaris, all distinguishable via both spectrogram analyses (figure 4) and by ear. The calls are: (a) <i>tchó</i> , (b) twitter, (c) sharp whistle, (d) loud scream, (e) <i>reco reco</i> , (f) short whistle, (g) <i>ough</i> , (h) cry, (i) àhh. I am currently compiling and analysing the data regarding this part of the study.
Investigate the relationships between age, gender and behavioural activity and the vocalizations		X		Unfortunately, it was not possible to identify all the monkeys individually in the flooded forest (Igapó forest) and some of the analyses previously planned will not be conducted. However, despite the lack of individual identification, we are currently compiling the ethogram for golden-backed uacaris, with detailed descriptions of behaviours, illustrated with still images and/or video footage. Furthermore, we will present data on time-budgets of behaviours, group and home range sizes, rare events in the wild and captivity, interspecific encounters and on the presence of other primate species inhabiting the Igapó forest. In addition, we are ascertaining the behavioural context of vocalizations and investigating the relationships between behavioural activity and the physical structures of the loud call <i>Tchó</i> , a call uttered under different behavioural contexts by golden-backed uacari (e.g. group locomotion, group feeding/foraging and agonistic situations).
Study the response of the animals to certain vocalisations through playback experiments			X	We conducted playback experiments to examine vocal and behavioural modifications in adult golden-backed uacari after hearing series of <i>tchó</i> calls from own and from neighbouring groups.

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

N/A

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

During my field seasons, we managed to obtain recordings of vocalisations and behaviours of three groups of golden-backed uacaris. Furthermore, we collected data on the activity budget of the species, group and home range sizes, rare events in the wild and captivity, interspecific encounters and data on the presence of other primate species inhabiting the Igapó forest. In addition, we obtained data on the behavioural context of vocalizations and on the relationships between behavioural activity and the physical structures of the loud call *Tchó*, a call uttered under different behavioural contexts by golden-backed uacari. We also conducted playback experiments to verify the responses of golden-backed uacari to a long distance call, the *tchó*. This will help us

to create a greater understanding on this very little known, rare, shy Amazonian primate, the golden-backed-uacari.

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

The project benefited the local human population of Jaú National, since the natives of the area were hired as field guides and cook during the fieldwork.

5. Are there any plans to continue this work?

Yes, I have plans to carry on studying the social communication of golden-backed uacaris and other primates in the Amazon, particularly in the Igapó Forest. My experiences undertaking this particular research were extremely enjoyable and constructive and have convinced me to aim for a career as a primatologist and bioacoustics expert once I finish my Ph.D. For the near future, I intend to obtain a postdoctoral position undertaking full time research on primate conservation and bioacoustics.

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

There is a lack of bioacoustics experts in my home country, Brazil, yet bioacoustics is an essential component of the study of animal behaviour and thus in the development of our understanding of the ecology of many species. The Ph.D is providing me with the opportunity to train as a first rate bioacoustics and behaviour expert such that ultimately I can apply my skills to undertake important research in Brazil and pass on my knowledge to researchers in my home country. I am currently writing papers on the data acquired during my field seasons and hopefully soon I will make it available to the scientific community. Furthermore, I have been presenting talks in conferences, seminars and round-tables about the research I am currently conducting on golden-backed uacaris.

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

My first field season was conducted between March and July 2007, whereas the second field season was conducted between January and June 2008. It is important to notice that there was an increase of 3 months in the duration of my second field-season, compared with the original plan, so that I could collect better quality data. A total of 1061 hours of fieldwork were conducted. 130 hours were conducted during a short pilot study in October/November 2006 (during the dry season) and 931 hours were conducted in the first and second field-seasons (work was conducted entirely from a small wooden canoe). The RSG grant was used during my first and second field-season, together with grants obtained from other funding bodies (e.g. Programme Alban , the European Union Programme of High Level Scholarships for Latin America - grant number E06D103405BR); ORS award (Overseas Research Students award Scheme) - University of Bristol ; Faculty of Sciences, School of Biological Sciences - University of Bristol; Postgraduate Research scholarship - University of Bristol; IDEA WILD grant; Amazon Ecopark Lodge and Living Rain Forest Foundation).

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
Field-guide (native)	670	1187	-517	Expenses with field-guide increased because I had to extend my 2 nd field season in 3 months and I needed a second field assistant for some of the days.

Field assistant (cook)	670	575.25	94,75	A different salary rate was agreed with the cook and the difference was used to pay field-guide expenses.
Boat Tickets (Manaus – Rio Negro)	105	105	0	I managed to get lifts with IBAMA (Brazilian Institute of Environment and Renewable Natural Resources) and FVA (Fundação Vitória Amazônica) people for some of the trips during my second fieldseason, thus, not increasing the expenses with boat tickets despite the increase in the duration of my 2 nd fieldseason.
Fly ticket from Recife to Manaus (2 tickets returns)	800	800	0	n/a
Food while in the field	305	764.87	-459,87	I had to extend my 2 nd fieldseason in 3 months and having an extra field-guide increased the amount of food to be brought to the field.
Petrol for the boat from the mouth of Jaú river to field station	720	300	420	I managed to obtain part of the petrol from IBAMA (Brazilian Institute of Environment and Renewable Natural Resources). Also, the lifts I manage to get with IBAMA people and FVA people reduced the amount of petrol spent for some of my fieldtrips. The difference was used to pay field-guide expenses.
Expenses while in Manaus	500	322	178	I managed to obtain some support from Amazon Ecopark Lodge and the Living Rain Forest Foundation for some of the expenses while in Manaus. The difference was used to pay field-guide expenses.
Flight Tickets (Brazil / UK_ 2 tickets return at a student rate)	1230	1345	-115	Flight tickets got more expensive
TOTAL	5000	5399,12	(The exchange rate used is: £1 = R\$2,99; However, the exchange rate varied during the field-seasons)	

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

Although primate vocal communication has received greater attention from researchers in comparison with other modes of communication (i.e. olfactory, visual and tactile communication) (Gouzoles & Gouzoles, 2007), vocal repertoires have to date only been described for approximately 10% of the approximately 645 primate species and subspecies documented so far (McCombe & Semple, 2005). Worryingly, more than 45% of these species/subspecies are threatened with extinction (Primate Specialist Group, 2008) and a great deal of basic research still needs to be conducted. Knowledge on vocal repertoires may help to: (i) solve taxonomic issues, considering that vocalisation are often species-specific; (ii) improve primate welfare in zoos and laboratories; (iii) and help surveying primate species in areas where it is difficult to conduct visual surveys. Thus, looking ahead, I feel that one important next step is to conduct more basic research on primate vocal communication,

so that accordingly, we can have an increase in the knowledge of primate communication and use it in comparative studies, a tool for welfare and taxonomy, and researchers can use the vocal repertoire as a playback tool when surveying their primate species. These types of information would be extremely useful for preparing conservation and management plans of many primate species and their habitats.

References

- McComb, K., & Semple, S. (2005). Coevolution of vocal communication and sociality in primates. *Biology Letters*, 1, 381–385.
- Gouzoules, H.; Gouzoules, S. (2007). "The Conundrum of Communication". in Campbell, C., Fuentes, A., MacKinnon, K., Panger, M., and Bearder, S.. *Primates in Perspective*. p. 624.
- Primate Specialist Group, 2008. <http://www.primates-g.org/>. 01/11/2008.

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, I used the RSGF logo in all the talks and posters that I presented so far related to this project (e.g. XII Brazilian Primatological Conference, XXII International Primatological Conference; round table talks in Bristol University, seminar in Roehampton University). Furthermore, I acknowledge the RSGF in my website (<http://www.bio.bris.ac.uk/people/staff.cfm?key=1198>), papers and any type of public material.

11. Any other comments?

I am extremely thankful for the financial support provided by the RSGF. It was vital for me to conduct both my field-seasons and successfully obtain data on the general ecology, behaviour and sociality of a rare, shy and fascinating Amazonian primate. I truly hope to count with the support of the RSGF again in the future with further research on Amazonian primate conservation and communication studies.