

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	Héctor E. Ramírez-Chaves
Project title	The State of Knowledge of Small Endemic Mammals of Colombia
RSG reference	Grant 23710-1
Reporting period	First year
Amount of grant	5000
Your email address	Hector.ramirez@ucaldas.edu.co
Date of this report	07 December 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
Evaluate the current knowledge of Colombian Endemic bats				<p>The available information on all endemic bats of Colombia was compiled in a manuscript currently under review in the journal "Universitas Scientiarum". In the manuscript, new localities of three endemic bat species are provided. The results will be presented during "The IV Rufford Small Grant Conference South America, Science for the conservation of the Eastern Tropical Pacific Region" under the title "Endemic bats (Mammalia: Chiroptera) of Colombia: state of knowledge, distribution, and conservation".</p>
Evaluate the current knowledge of Colombian Endemic rodents				<p>All available information for several species of endemic rodents of Colombia was compiled. The results will be presented during "The IV Rufford Small Grant Conference South America, Science for the conservation of the Eastern Tropical Pacific Region" under the title "What do we know about the endemic rodents of Colombia? Implications for their conservation". The results of the evaluation of species long considered endemic such as the porcupine <i>Coendou sanctaemartae</i> is accepted for publication in the journal Mammalia: DOI: https://doi.org/10.1515/mammalia-2018-0043.</p> <p>Furthermore, information on endemic subspecies of agoutis (genus <i>Dasyprocta</i>) was published in the journal Mastozoología Neotropical: https://www.sarem.org.ar/wp-content/uploads/2018/07/SAREM_MastNeotrop_25-1_13_Ramirez.pdf</p> <p>Other manuscripts about endemic rodents were submitted for publication on journals such as <i>Oryx</i> and one is pending for resubmission with suggestions.</p> <p>The products mentioned above</p>

				acknowledged to Rufford Small Grants (Grant 23710-1).
Evaluate the current knowledge of other Colombian Endemic primates				A manuscript entitled "State of the Primatological research in the Eje Cafetero and Antioquia, Colombia" [In Spanish, abstract in English] is accepted for publication in the journal Neotropical Primates. In this manuscript, information on the inter-Andean endemic primates of the country is presented. The accepted manuscript includes in the acknowledgement to Rufford Small Grants (Grant 23710-1). The Mammalian Species account of <i>Plecturocebus caquetensis</i> , endemic of Colombia, will be submitted on February 2019.
Provide new information on endemic mammals of Colombia				We provide new locality records for three endemic bat species, and two rodents. In addition, morphological and molecular data was provided for endemic rodents as shown in the manuscript mentioned above. All the new records were used to provide evidence for a re-assessment of the threaten category.

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

The only difficulties that we had were associated to the review of some records that are housed in European collections, but, in most cases, we could get pictures to corroborate taxonomic identifications.

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

1. Publications providing new information on endemic mammals of Colombia (published, in press and accepted). In addition, the consolidation of information of almost all endemic mammals of the country.
2. The involvement of Colombian researchers and students in the development of this project that increased the relevance of this endemic species.
3. The involvement of the Colombian Mammals Society and the Institute of the Biological Research Alexander von Humboldt to create the "Atlas of endemic mammals of Colombia" that is expected to be finished on June 2019.

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

To obtain new information about some endemic species, we did field work in several areas of Colombia. There, we have the collaboration of local communities. In addition, we had the chance to collaborate with the staff of the National Natural Park Selva de Florencia, where we obtained novel information on endemic marsupials.

5. Are there any plans to continue this work?

Yes, we believe we have reached some interesting results. However, endemic species are a wide group in the country that provides opportunities to reach new goals.

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

We have been sharing the results already in national congress such as:

- a. II Jornadas de mastozoología, at Universidad Nacional de Colombia, Bogotá. Bogotá: 19-20 April 2018: ~45 minutes talk [In Spanish]: Endemic mammals of Colombia: What do we know about them? A YouTube video is available at: <https://www.youtube.com/watch?v=TL6dxyQdqB4>
The talk starts at minute 22:14
- b. XIV Simposio de Investigaciones en Ciencias Biológicas "Biología Evolutiva y Biodiversidad", Universidad del Cauca, Popayán: 21-23 November 2018: ~45 minutes talk [In Spanish]: Spiny research topics: Advances and challenges to the knowledge of Neotropical porcupines (Mammalia: *Coendou*).
- c. V Congreso Colombiano de Zoología, Asocaiación Colombiana de Zoología, Bogotá 3-7 December 2018: Three talks on mammals of Colombia including Rufford in the acknowledgements.
- d. We are planning to attend "The IV Rufford Small Grant Conference South America, Science for the conservation of the Eastern Tropical Pacific Region"

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

We used the grant since the beginning to the end of the 1st year of the project. Last week (December 7), we presented part of our results at the V Colombian Zoological Congress held in Bogotá (<http://aczcolombia.org/?event=v-congreso-colombiano-de-zoologia>). This is the largest Zoological Congress in Colombia, attended by more than 1000 people from Colombia and overseas.

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
Laboratory kits for DNA extractions and amplifications, and lab consumables	600	600		
Local guides x 8 days in each places	416	416		
Trips to collections and museums	100	500	-400	We had to visit several times some biological collections in Bogotá and the cost of the trips were larger than expected
Food and lodging (for 4 people)	700	700		
Field work trips	500	500		
1 Canon PowerShot SX60 HS Digital Camera (Black)	412	412		
10 606NC - 30" Cat Trap Designed tomahawk trap	505	505		
10 Mist Nets PQ12 30mm Mesh Avinet	450	450		
2 Garmin eTrex® 20 GPS Navigator	310	310		
2 Bushnell H2O Waterproof/Fogproof Roof Prism Binoculars 206 0 206	206	206		
10 SFG Sherman Folding Trap 138 0 138	138	138		
10 XLK Sherman Folding Trap	224	224		
20 SFAL Sherman Folding Trap	151	151		
20 XLF15 Sherman Folding Trap	288	288		
Total	5000	5400	-400	

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

The next steps are keep adding new information on the endemic mammals of Colombia towards the elaboration of two products: The Atlas of Endemic Mammals of Colombia, and A Field Guide of Endemic Mammals of Colombia. In addition, the molecular corroboration of the cryptic diversity detected is a priority. For this, we still have to visit additional collections in Colombia and overseas. We also want to evaluate the current knowledge of endemic marsupials and shrews.

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?

Yes, The Rufford Foundation logo was used in all the events we attended (see picture below during the "XIV Simposio de Investigaciones en Ciencias Biológicas "Biología Evolutiva y Biodiversidad", Universidad del Cauca, Popayán: 21-23 November 2018". The logo appears in presentations in other events as it can be checked on the YouTube video: <https://www.youtube.com/watch?v=TL6dxyQdqB4>. The talk starts at minute 22:14. Furthermore, we included in the acknowledgement of all the published, accepted and submitted papers (a total of seven) to the Rufford Small Grants (Grant 23710-1).



Talk during the "XIV Simposio de Investigaciones en Ciencias Biológicas "Biología Evolutiva y Biodiversidad", Universidad del Cauca, Popayán: 21-23 November 2018".

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

Héctor E. Ramírez-Chaves: My role was to organize the information, to lead the field and lab work, and to submit the results to review in journals and events.

Gustavo Adolfo Pisso Florez: He was in charge of searching and organizing the logistic for field work in Southwestern Colombia. He also obtained photographs in mammalogical collections and started field work to trap small mammals.

Karime A. Gómez-B.: Her role was to search for information in online sources such as databases and literature.

Alexandra Cardona: She organized the information on most of the endemic rodent species of the country. She will be presenting the talk entitled "What do we know about the endemic rodents of Colombia? Implications for their conservation", during "The IV Rufford Small Grant Conference South America, Science for the conservation of the Eastern Tropical Pacific Region".

12. Any other comments?

We are deeply thankful to Rufford for allowing us starting to work with the amazing species of endemic mammals of Colombia.