Final Evaluation Report

Your Details	
Full Name	Laura Torrent
Project Title	Rio Campo, Equatorial Guinea - assessing one of Africa's globally important forests refugia for bat conservation
Application ID	38597-1
Date of this Report	February 2024

1. 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
Build in-country capacity in bat research				Our team, which comprises members from INDEFOR-AP (Equatorial Guinea), CIBIO from Portugal, and the Basque Country University, trained people from three local institutions and organised a training workshop for UNGE university students (see 2a below and Figure 1-4 in Appendix 1).
Data collection for Rio Campo (RC) management				We obtained new records of rare bat species for RC, including one Near Threatened (NT) and one Data Deficient (DD) (see 2b below and Figure 7 – 9 in Appendix 1).
Develop national and international networks				Our team strengthened bonds between our respective institutions and the UNGE University and Bioko Biodiversity Protection Program (BBPP).
Results outreach				Data for two scientific publications as part of my PhD thesis.
Development of an illustrated key				In addition to the regional key for RC written in Spanish, we are preparing a new version that incorporates other species recently reported across the country.
RC management and locals' engagement				We could actively involve local rangers during fieldwork but had difficulties to deeply interact with local communities (Figure 6).

2. Describe the three most important outcomes of your project.

a). Strong capacity building for three Equatorial Guinea institutions, INDEFOR-AP, UNGE and Bioko Biodiversity Protection Program (BBPP). Students and staff members acquired field experience and knowledge to apply for grants and participate in other international projects. For instance, Esther Abeme won the Aspire Grant Program (CARN) for a project about bats in Altos de Nsork National Park. Thanks to the skills obtained during this project Cayetano Ebana, Pablo Owono and Amancio Motove participated on a Rapid Biodiversity Assessment (RAP) in January 2024 led by Conservation International. Moreover, the decision to organise a workshop about bats for UNGE students was a success. Two students benefit from gaining first

experiences carrying out biological surveys in the field and got encouraged to apply to scholarships and pursuit their own projects.

b). Key data collection of rare and recently described bat species for Rio Campo and the whole country. The small fruit bat *Casinycteris campomaanensis* was recorded for the first time in Equatorial Guinea expanding its known distribution from a single locality in Cameroon and in Nigeria (Figure 8). Similarly, the discovery of the insectivorous bat *Nycticeinops happoldorum*, which was recently described, increased its known distribution from West to Central Africa. Moreover, whereas *Pseudoromicia brunnea*, also captured in RC, is classified as Near Threatened by the IUCN Red List, *N. happoldorum* does not have an IUCN status yet. Such data is being used for the updating of the IUCN Red List assessment of African bat species that will be submitted in April 2024. This initiative was born from a workshop lead by Dr. David Waldien and Dr. Ara Monadjem in Namibia in September 2023 (Figure 10 – 11).

c). Solid development of present and future agreements between national and international organisations to continue supporting forest conservation and management in Equatorial Guinea. Currently, thanks to Rainforest Trust, a new national park is being defined which will link existing protected areas and reinforce INDEFOR-AP facilities and personnel. Moreover, agreements between the USA embassy, BBPP, UNGE and CIBIO led to the realisation of a RAP which involved in-country and international researchers.

3. Explain any unforeseen difficulties that arose during the project and how these were tackled.

We had a fantastic relationship with INDEFOR-AP personnel, and all are willing to work together in the next steps of the project. However, small problems occurred during the execution of the project. The major difficulties were related to fully engaging local communities from Rio Campo area. Coordinating activities with locals was more complex and required more time than we expected. In order to fulfil the proposed goal of providing capacity building we decided to approach the UNGE university and organise a training workshop for students. Moreover, we could not find the right materials to build the harp traps, but we were able to bring one and explain how it works and used in the field. For the future we will consider importing the materials from Cameroon and get in touch with a researcher from Nigeria that has successfully build them.

4. Describe the involvement of local communities and how they have benefitted from the project.

This training workshop was the first opportunity for four students from the UNGE university to do field work during their environmental sciences degree. All agreed it was necessary to include more field experience in their course work. Some students were keen enough to apply for the CARN scholarship. Moreover, Esther Abeme Alene Nguema also applied and won the CARN to do a project in the protected area she oversees in Altos de Nsork National Park. She plans to survey the bat fauna from the protected area and provide a list of species, setting baseline knowledge for future conservation management plans. Finally, local rangers benefitted from the

project as going out to the field with us learned about its bat fauna richness and the important role bats play to preserve the natural environment.

5. Are there any plans to continue this work?

Definitely yes. The team is keen to carry on with the project doing research and training in Monte Alen and Altos de Nsork protected areas. The first step has already been accomplished with Esther's CARN scholarship. As for myself I plan to obtain my PhD degree in 2025 and continue my research in African bats with a post-doctoral position. I also hope to be able to establish long-term capacity building activities in Equatorial Guinea. Moreover, I am involved in the creation process of a new national park in the country. Overall, I foresee potential projects combining local (INDEFOR-AP, UGNE, BBPP) and international (CIBIO, Rainforest Trust, Biodiversity Initiative) institutions.

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

I plan to share the results in two main ways: 1) by providing reports for INDEFOR-AP, including a checklist highlighting the threatened species and an illustrative key, all written in Spanish (Spanish is the link language in Equatorial Guinea); and 2) by publishing our work in scientific journals and attending in international conferences.

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

For our team the most important next steps are establishing a new project in Monte Alen and Altos de Nsork to continue training locals, carrying out biodiversity assessments, and promoting conservation. Moreover, we want to keep involving UNGE students by offering them the opportunity to experience the field work that the university degree cannot provide. I envision new projects especially as CIBIO is in the process of establishing agreements with Equatorial Guinea which will open grant opportunities for students and researchers. Further, future collaborations with researchers from Swaziland and Nigeria have been reinforced thanks to the IUCN Red List workshop in Namibia and the recent organised RAP in January 2024. Moreover, the illustrated identification key is being updated with new species for science, which are currently being described, and soon will be published together with the scientific articles from my PhD.

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

The Rufford logo was used in all media like my personal webpage (https://www.lauratorrent.com/). The logo is on all my presentations such as during the workshop in Equatorial Guinea and at the 14th African Small Mammal Symposium in Namibia (Figure 12). Furthermore, the Rufford will be acknowledged in all future relevant presentations and articles.

9. Provide a full list of all the members of your team and their role in the project.

Initially proposed members:
Esther Abeme Nguema Alene and Cayetano Ebana Ebana Alene – actively participated in the field activities: reaching out the local chiefs and military forces; engaging with rangers and communities from Rio Campo; and carrying out the bat surveys.

Caridad Okunu Ayong, Fidel Esono Mba Eyon and Juvencio Eko Mangue – as high ranked members from INDEFOR-AP, all three provided the in-country permits, assists us with bureaucracies and fieldwork logistics.

Nelson Silvestre Malanza – unfortunately he was not able to participate in the project but has been involved with the bird monitoring program led by CIBIO researchers in January 2024.

Additional members:
David Montgomery and Francisco Mitogo – director and in-country manager from Bioko Biodiversity Protection Program (BBPP). They assisted with the organization and logistics of the workshop done for the UNGE students.

Amancio Motove Etingue and Pablo Owono Owono – BBPP local personnel who assisted and participated at the training workshop.

Maximilliano Fero Meñe – researcher and lecturer at UNGE university who assisted with the selection of the students and institutional bureaucracies.

Inazio Garin – professor from the Basque Country University who assisted during the field work and training workshop.

10. Any other comments?

A million thanks for supporting this project and so many others across the globe. Although it might seem a drop in the ocean your support really makes a difference. It boosts us to continue pursuing our goals towards empowering people and protecting the biodiversity.

Appendix 1

Figure 1. UNGE students and BBPP members learning how to extract a bat from a mist net (left and how to set a mist net (right) during the workshop.

Figure 2. Pablo Owono, BBPP member, explaining UNGE students how to take measurements from a bat.

Figure 3. Group photo with the UNGE students and BBPP members attending the training workshop.

Figure 4. All participants received a certificate after successfully finishing the training workshop.

Figure 5. Esther Abeme and I installing a mist net (left) and examining a bat (right).

Figure 6. Members of our team engaging with local community members from Rio Campo.

Figure 7. Pseudoromicia brunnea a Near Threatened small insectivorous species captured in Rio Campo.

Figure 8. First record for the country of Casinycteris campomaanensis, a Data Deficient fruit bat only known from one site in Cameroon and one in Nigeria.

Figure 10. Workshop about the IUCN Red List assessments for African Bats in Namibia.

Figure 11. Rufford grantees attending the IUCN Red List workshop in Namibia.

Figure 12. Presentation given at the 14th African Small Mammal Symposium in Swakopmund, Namibia.