

## The Rufford Foundation Final Report

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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](mailto:jane@rufford.org).

Thank you for your help.

**Josh Cole, Grants Director**

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Grant Recipient Details	
<b>Your name</b>	Ngera Mwangi Francois
<b>Project title</b>	Using Ephemeroptera and Trichoptera Diversity in the Albertine Rift, DR Congo, to Investigate and Develop Conservation and Biomonitoring Practices for Freshwater Ecosystem
<b>RSG reference</b>	
<b>Reporting period</b>	February 2017 to September 2017
<b>Amount of grant</b>	£5000
<b>Your email address</b>	Francngera6@gmail.com
<b>Date of this report</b>	January 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
(1) <b>Taxonomic and Ecological studies:</b> generate a taxonomic basis for biological inventories and ecological studies by presenting identification tools to aquatic insect larvae occurring in the area,				Adults and larvae of Ephemeroptera and Trichoptera were collected and identified in protected and in agricultural and human settlement areas. Physical and chemical parameters were recorded to evaluate environmental conditions.
(2) Help Congolese researchers to build capacity in aquatic insect taxonomy, stream ecology and assessment.				Training programme for students from high (university) and secondary school, and researcher was organised to study how to collect data and to monitor water quality using Ephemeroptera and Trichoptera as water quality indicators.
(3) Help researchers in Albertine Rift region gain a better understanding of the region aquatic biodiversity.				A meeting and seminar were organised to explain to local colleagues and other people how Ephemeroptera and Trichoptera can be used as indicators of water quality.
(4) Provide direct technical and taxonomic support to the researchers in stream ecology lab of the CRSN/Lwiro.				A provisory list of Ephemeroptera and Trichoptera in part of the region is available in our laboratory.

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

- The transport was the principal handicap to reach some study areas. The state of roads was impracticable to use, sometimes the transport was very expensive.
- Security issues were the principal unpredicted difficult to reach some study areas in time. We didn't reach North Kivu areas due to rebels from Uganda and "ADF" and other army groups. So that the field works were cancelled in this areas.

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

1. The first species checklist of mayflies and caddisflies for Kahuzi-Biega National park is available in our laboratory. This will provide valuable information that could then be used to determine the ecological state of the Kahuzi-Biega National Park Rivers and help conservationists to take mitigation and build conservation strategies.
2. This work will be of valuable help to NGOs, researchers and people trying to set up programs of conservation of freshwater resources in Albertine Rift region.
3. Local community representatives accepted to participate in the field work and acquired skills and knowledge during training of mayflies and caddisflies as good water quality indicators.

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

From the meeting, the local chiefs and people have been sensitised on the importance of rivers and streams in the different uses.

The local peoples integrated with our teams during the field work and benefitted by earning some money to help them for multiple needs.

**5. Are there any plans to continue this work?**

Yes, despite the security issues, it is important to continue the field work because some parts of the Albertine rift were not sampled. We have it in mind to continue in order to have a complete knowledge on the mayflies and caddisflies diversity and on the water quality in this region.

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

1. We aim to organise a workshop, seminar and conference with scientific colleagues of CRSN/Lwiro (Centre de Recherche en Sciences Naturelles) and from the Congolese Wildlife Authority (Institut Congolais pour la Conservation de la Nature, ICCN).
2. The results will be published in the African Journal Aquatic Science (South African revue) and the report will be sent to the Kahuzi-Biega National Park (KBNP).
3. Mayfly specimens will be sent to the Albany Museum at Rhodes University, South Africa and caddisfly specimens will be sent to Senckenberg Research Institute and Natural Museum to confirm identification.

**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 field activities have been delayed because we were waiting for the materiel equipment (conduct meter, oximeter) we should use in the field. The sampling

activities started in May to October 2017. The laboratory activities (specimen identifications) begun October to December 2017.

**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 equipment and sampling	1458	1658	200	HANNA Dissolved oxygen Meter, EC/TDS/pH/Temp Meters (HANNA POCKET METER), kick-nets, Sieve, light trap and containers have been bought. Other material as bucket, battery, forceps, torches have been bought. Two tents and two sleeping bags were also purchased.
Transport to and from field	1808	1208	-600	The remain was used to supply the field equipments and sampling (200£), ration in the field (250£), and laboratory activities (150£)
Camping and protection material	625	625		
Laboratory work	209	359	150	
Ration in the Field	900	1150	250	
TOTAL	5000	5000		

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

The important next steps is to provide to research a key and a list of mayflies and caddisflies to ICNN and NGOs. We plan also to cover the survey in all Albertine Rift.

We are thinking to assist government, ONGs and local authorities to develop strategy and procedures to control source of pollution and to put in place effective mitigation mechanisms for protecting aquatic ecosystems so that should be benefit to local community and aquatic biodiversity.

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

Yes. The RF logo was used all the time in meetings and it will be used in the paper that we are preparing to publish. In seminar and conference the RF has been recognized.

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

Person	Job
Ngera Mwangi	Team Leader
Ndakala Paul	Sample Collection
Nkinzo Nshombo	Data Collection
Kitambala wa Kayugi	
Burhalike Nyakaminika	
Bisimwa Bishweka	
Rwabika Jean	
Muhindo	
Bisimwa Richard	Security
Mobila	
Nkunzimwami	
5 people	Carry Luggage

**12. Any other comments?**

We are intending to continue to build on the information gathered during this project. I have been invited (funding dependent) to spend a month at the Albany Museum in Grahamstown, South Africa, where experts in the systematics of Ephemeroptera and Trichoptera will examine specimens with me, and confirm the identification of species which are currently of dubious placement taxonomically. I will be taught how to go about undertaking species descriptions, so that the new taxa we found will become available to science.

