Final Evaluation Report

We ask all grant recipients to complete a project evaluation that helps us to gauge the success of your project. This must be sent in **MS Word and not PDF 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 – remember that negative experiences are just as valuable as positive ones if they help others to learn from them.

Please DO NOT fill in and submit this form until the project has been completed.

Complete the form in English. Note that the information may be edited before posting on our website.

Please email this report to jane@rufford.org.

Your Details	
Full Name	Harith Farooq
Project Title	The curse of having no legs: A quest to find a limbless lizard not seen in over 100 years.
Application ID	29825-2
Date of this Report	December 8th, 2025

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
Mapping suitable habitat			x	We mapped the suitable habitat using satellite imagery and site visits and then implemented the survey in those sites. We set up a sampling design with four sites within a gradient of disturbance. This was done to see if there was an association between habitat disturbance and the presence of our target species.
Conducting the survey			X	We conducted the survey during 240 consecutive days and found one of the target species. This is a new site where the species occurs. A range extension of 100km that unites two sites 200km apart. In total we used 16 pitfall traps with varying sizes. In total we recorded 5092 individuals, distributed across 60 species.
Find the species *Proscelotes aenea* and *Scolecoseps boulengeri*		x		We found the *Proscelotes aenea* for the first time in the area but not *Scolecoseps boulengeri.* We found 3 individuals of *Proscelotes aenea.*
Produce a species list of amphibians and reptiles of Lumbo			x	We have so far made a list of 60 species, 37 reptiles and 23 amphibians. All photographed

				and well documented. We collected ~200 specimens and added them to our collection at the university. No species was threatened according to the IUCN Red List. We will however propose that *P. aenea* is assessed as Endangered, from Data Deficient.
IUCN assessments of Proscelotes aenea and *Scolecoseps boulengeri*		x		We are now working on the publication of the IUCN assessments of Proscelotes aenea and *Scolecoseps boulengeri*. The survey conducted earlier plus this current one provided enough data to thoroughly access their distribution and threats.

2. Describe the three most important outcomes of your project.
The most important outcome of this project are:

a) Finding the Montane skink (*Proscelotes aenea)* in a new site, substantiating the hypothesis that the species occurred along the coastline. Before this study the species was only known from two isolated populations 220km apart.

b) Not finding the Legless skink (*Scolecoseps boulengeri*) is also a very important result, because the species is now absent from Pemba, Memba and Lumbo, hinting for a possible extinction of the species.

c) Conducting the first ever inventory of herpetofauna in Memba.

3. Explain any unforeseen difficulties that arose during the project and how these were tackled.
The area where the survey was conducted is a malaria hotspot. One of the students fell ill and had to be evacuated, only returning the following month. We also had to stop our sampling abruptly, three months earlier than planned, due to terrorist attacks. The attacks that have been occurring in northern Mozambique since 2016 have since

moved southwards and reached Memba. Fortunately, we evacuated the students a few weeks beforehand. Memba is now considered a no-go zone.

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

The project did not include a social component, but we presented the study to the local communities and welcomed any advice on locating the target species. During an earlier edition of the project (29825-1), we realised that we wanted to expand the work to involve local communities in order to better understand how people and reptiles interact. Therefore, with our own funding we conducted a questionnaire and found that local communities often consider legless skinks to be venomous snakes, which may contribute to local extirpations where human settlements occur.

However, after this project, because we were forced to evacuate the region abruptly due to terrorist attacks, we were unable to properly thank the local community with a presentation, as we had done in the earlier phase of the project (29825-1). Nonetheless, as soon as the area becomes safe again, we will return to meet with the community and deliver a presentation on the target species of this study at our own expense.

Three students that participated in the survey used the data collected in the survey for their thesis. Abel Caetano, already graduated and used the data on small mammals that were collected in the pitfalls to understand the effects of habitat disturbance on their diversity and abundance. Brito Alberto used the amphibian and reptile data to assess the efficiency of the trapping methods as well as the effect of habitat disturbance on diversity and abundance of herpetofauna. Finally, Daniel Fernandes used the data on insects from the order coleoptera also collected in the traps for his thesis. He studied the effects of habitat disturbance on the abundance and diversity of coleopterans.

5. Are there any plans to continue this work?

Yes, we would like to apply our approach to other species in the country that have not been observed for several decades. However, the current political situation makes fieldwork dangerous in the northern region, where our university is based. We do have a candidate species in the south, *Nucras caesicaudata*, which has not been seen since the 1960s. Logistically, however, keeping our students 1,500 km away from home, for such long periods, is very costly, and we would require several grants to support this sampling project.

Another area we wish to expand into, is land use change. We are interested in how land use, which is a consequence of rapid recent population growth in the region, may have affected the soil conditions where these skinks occur. We conducted a small trial within this sampling design, but we would like to explore this research line at a broader and more regional scale.

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

Since the earlier edition of the project (29825-1), we have produced two popular science articles in *The Conversation*, one of which received more than 200,000 views. We also gave an interview on Swedish radio and appeared in the Mozambican press. In addition, we graduated a student who worked on the first edition of the project, Ali Puruleia, with a grade of 20 out of 20, the first top mark in the history of the university. This achievement was possible because the student published part of his thesis in *Nature Scientific Reports*.

Three more publications are expected to come out. One is already under review in *Herpetological Conservation* and reports the checklist of Lumbo. Another study is possible new species of snake, while the final one focuses on sampling efficiency. For this edition of the grant (29825-2), we have three students working on the project, and each will publish their own article. We also aim to write an article summarising the two sampling campaigns in order to provide the IUCN assessment of *Proscelotes aenea* and *Scolecoseps boulengeri*.

Conservation outcomes

IUCN assessments:

- *Scolecoceps boulengeri* will be proposed as Critically Endangered, possibly extinct **CR** based on EOO and the number of locations (1).
- *Proscelotes aenea* will be proposed as **Endangered (EN)** based on EOO and the number of locations (2).
- We will also propose Lumbo as a Key Biodiversity Area.

Links for outputs of the project:

- Outputs of 29825-1:

https://doi.org/10.1038/s41598-023-38286-4

https://theconversation.com/search-for-elusive-skinks-is-filling-gaps-in-mozambiques-biodiversity-data-165635

https://theconversation.com/one-sentence-in-a-book-leads-researchers-to-a-species-not-seen-in-over-100-years-170560

https://sverigesradio.se/avsnitt/forlorade-arter-behover-inte-vara-utdoda

https://cartamz.com/~cartamzc/index.php/sociedade/item/9236-projecto-da-universidade-lurio-em-nampula-encontra-especie-de-lagarto-que-nao-era-vista-ha-mais-de-100-anos

- Future outputs of 29825-2:

Survey of small mammals of Memba, Mozambique (paper)
Survey of amphibians and reptiles mammals of Memba, Mozambique (paper)
Updated assessment of *Proscelotes aenea* (IUCN assessment)
Updated assessment of *Scolecoseps boulengeri* (IUCN assessment)
Efficiency of trapping methods for hepetofauna in the African savanna (paper).

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

Because of this project, we now have evidence to map the distribution of these two species. We now know that *Proscelotes aenea* still occurs in the north of the country but in very small populations, while *Scolecoceps boulengeri* has been extirpated from all the historical sites. Fortunately, a recent record of the species has been reported from Moma, hundreds of km south of Lumbo. That is now the only known site where *Scolecoseps boulengeri* occurs. Besides estimating the distribution of *S. boulengeri*, the next steps is to expand this project to other species. There are other Data Deficient species that have not seen documented in decades and need to be assessed, so that we can create conservation mechanisms to safeguard these species.
Thanks to these two projects, we now have information to assess the species conservation status, while we search for additional populations. *Scolecoceps boulengeri* will be proposed as Critically Endangered, while *Proscelotes aenea* will be proposed as Endangered (EN).
This will be instrumental to propose Memba as a Key Biodiversity Area.

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?
Yes. I added the logo and referenced Ruffords on the project's website www.extinctorshy.org and Instagram account @eos_lumbo. I also published two popular science articles and one paper in the Conversation where I reference back and link to Ruffords:

- Farooq H, & Perrigo A (2021). Search for elusive skinks is filling gaps in Mozambique's biodiversity data. (Science + Technology). Retrieved from https://theconversation.com/search-for-elusive-skinks-is-filling-gaps-in-mozambiques-biodiversity-data-165635
- Farooq H, & Perrigo A (2021). One sentence in a book leads researchers to a species not seen in over 100 years (Science + Technology). Retrieved from https://theconversation.com/one-sentence-in-a-book-leads-researchers-to-a-species-not-seen-in-over-100-years-170560 (over 200,000 reads)
- Puruleia, A., Nanvonamuquitxo, C., Ernesto, M. *et al.* Rediscovery of the lost skink *Proscelotes aenea* and implications for conservation. *Sci Rep* 13, 11261 (2023). https://doi.org/10.1038/s41598-023-38286-4

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

Lecturers at Lúrio university

Harith Farooq: I coordinated the whole project and supervised the students.

Isildo Nganhane: Helped selecting the sampling sites and logistics of the project and co-supervised the students.

Cristóvão Nanvonamuquitxo: Helped selecting the sampling sites and logistics of the project.

Students at Lúrio university

Brito Alberto: His thesis was on the data of amphibians and reptiles collected in Memba.

Abel Caetano: His thesis was on the data of small mammals observed in Memba, but he helped with the collection of amphibians and reptiles.

Daniel Henriques: His thesis was on the data of insects observed in Memba, but he helped with the collection of amphibians and reptiles.

10. Any other comments?

I am extremely thankful to Ruffords Foundation. Thanks to Rufford's we were able to find and document a species not seen in over 100 years. The project also funded the thesis of six students that otherwise would not have been able to spend time in the field due to lack of resources. I hope to expand this project to other species and perhaps to other countries in the future. In Mozambique, universities can't afford to self-fund their own research agenda, therefore, it is thanks to grants such as these that us, passioned researcher can afford to conduct fieldwork that we find relevant, and also allow our students to experience fieldwork before they graduate.

Photos

Left: Brito Alberto, a student at Lúrio University in northern Mozambique, checking the pitfall traps during his daily visit to collect the day's findings. Photo: Abel Catano. Right: The Mozambique sand skink (*Proscelotes aenea*) found in Memba. A range extension of the species and a new population. Photo: Brito Alberto

ANNEX – Financial Report

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