



## Final Evaluation Report

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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](mailto:jane@rufford.org).

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<b>Your Details</b>	
<b>Full Name</b>	GUIBAÏ JEAN-PIERRE
<b>Project Title</b>	Amphibians of Mount Nganha with particular attention to the habitat preference and distribution of the Critically Endangered <i>Astylosternus nganhanus</i> (Adamaoua)
<b>Application ID</b>	43933-1
<b>Date of this Report</b>	03.11. 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
Establish the distribution and status of the amphibian community composition on Mt. Nganha and determine their habitat characteristics				We identified sixteen amphibian's species belonging to seven families and nine genera on Mount Nganha. Thirteen of these species are classified as List Concern species (LC); one as Vulnerable (Vu); one as Critically Endangered species (CR) and one is undetermined. A vulnerable species ( <i>Xenopus amieti</i> ) is much more distributed on the Northern slope, from the foot to the summit of the mountain. <i>A. nganhanus</i> , a critically endangered species, was found at twelve (12) points spread across three sides of the mountain. It found between 1100 and 1800 meters depending on the type of permanent watercourse and type of favourable habitat like the presence of cover vegetation, small waterfalls, water retention along or by diversion from the main stream and the presence of rocks in the stream.
Determine the ecology of <i>Astylosternus nganhanus</i> including calls and habitat in order to distinguish these characteristics				For rare and lesser-known species, such as <i>A. nganhanus</i> , knowledge of their calls and tadpoles is an asset in monitoring population size and distribution. We recorded the <i>A. nganhanus</i> call and analysed it using Raven

for future surveys				<p>Pro 1.6.5, which provided calls characteristics for ecological monitoring. We also recorded characteristics of <i>A. nganhanus</i> habitat to facilitate future monitoring. We note that permanent watercourse is indispensable. During the mating period, the species needs shallow watercourses in which stones create waterfalls. The tadpoles take refuge in permanent pools under rocks covered with trees. Adults can be found on rock, at the water's edge, on grass or on the forest floor at night, and hide under stones during the day.</p>
<p>Assess the potential threats that could cause the decline of <i>A. nganhanus</i> on Mt. Nganha.</p>				<p>We surveyed 150 people about their general knowledge of amphibians, human activities that may threaten amphibians, and the socio-cultural importance of amphibians. We identified deforestation, pollution, and grazing as threats. However, the prevalence of the fungal disease <i>Bd</i> remains to be determined in the region. It had not been taken into account in this project but we hope to look into further at the next opportunity of sampling work on the mountain.</p>
<p>Raise awareness amongst local populations on the preservation of montane gallery forest a natural habitat for <i>A. nganhanus</i> and other amphibians with the aim of</p>				<p>Two posters were printed on tarpaulins 75cm wide and 1m long to raise awareness. One was left at Ndjigou chiefdom after the presentation and the other at the Herp-Cameroon office. 165 t-shirts were printed, including 2 for assistant and me, 6 for Herp-Cameroon members, 4 for the zoology laboratory at the</p>

<p>preserving an important amphibian species assemblage.</p>				<p>University of Yaounde 1, 150 for the Nganha people and 3 for team members outside the country.</p> <p>112 people attended the awareness-raising meeting. Abdoul aziz, the village chief's son, was responsible for distributing the t-shirts and juices to the heads of families who were unable to attend the awareness-raising meeting. After discussion, 75 men, 5 women and 16 children, i.e. 80% of those present approved the idea of preserving natural habitats, particularly that of <i>A. nganhanus</i>. However, it should be noted that this commitment was made immediately after the presentation on amphibians and the consequences of the destruction and pollution of nature. I fear that the population may change its mind in the face of the economic benefits of agriculture and livestock farming if conservation measures are not taken over a prolonged period.</p>
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**2. Describe the three most important outcomes of your project.**

**a). The ecological aspects**

Six field trips were conducted to survey 36 points on Mount Nganha. The surveys consisted of searching grazing, under rocks, on trees, and in the water, both during the day and at night. Six hundred fifty (650) anurans belonging to seven (7) families, nine (9) genera and sixteen (16) species were recorded. Of all the individuals recorded, we counted one Critically Endangered species (CR), one Vulnerable (Vu), thirteen List concern species (LC) and one undetermined status. Six (6) of species are present across the entire altitudinal gradient, with variations in habitat choice; five (5) species are exclusively at the foot of the mountain; three (3) at the summit and two (2) on the mountain. The ecological outcomes of this work are the preferential habitat of *A. nganhanus*

- The species was found at 13 points between 1175-1800 meters asl.
- The eggs are laid under stones sprayed by jets of water from small waterfall ;
- the tadpoles complete their growth in pools of water from waterfalls of varying depths;
- Adult can be found on lawns, on the ground, on stones, on grass or dead leaves during the night.
- the description of mating calls
- the species lives in waterways with the following average physical and chemical parameters: T°(ambient) 67.72 °F; humidity 45%; T°(water) 65.17 °F; Ph. 7.49; Conductivity 148.71µS/cm ; Total Dissolved Solid 106.68 ppm; Salinity 0.074 psu.

This information is crucial for monitoring population size and for developing conservation plans.

### **b). Threats**

The main threats observed stem from human activities. We have noted deforestation and pollution, which are direct consequences of farming. The municipality of Nhanha, in agreement with the sub-prefect, has launched an agricultural program aimed at achieving the best yield in the Adamawa region. The governor of the Adamawa region and the sub-prefect rewarded a local farmer last year's harvest. This action has triggered a trend among the population to clear land for cultural field. Due to the lack of work force, they use herbicides and chemical fertilisers to obtain a better yield. This dual action leads not only deforestation but also to environmental pollution. Another activity is grazing, which is the main activity of Fulani. Livestock roam freely day and night in the mountains, altering the habitat of amphibians particularly *A. nganhanus* given details provided about its habitat.

### **c). Perception of the local population**

The population still remembers Amiet's visit at the mountain. However, they had no idea about the different species and their characteristics before our presentation on frogs. We were the first to bring them together to talk them about frogs. They emphasised and appreciated this action. They also are very interested in conservation, especially after understanding the unique nature of *A. nganhanus*, which not only bears the name of the locality but also is found nowhere else but on their mountain.

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

The condition of road: it is very long and completely degraded. Due to the bumpy road and lack of sleep along the way, I took a night's rest in Ngaoundere after eighteen (18) hours of driving and a night in Ndjigou hamadjoda (the closet village to the mountain) after four or five hours of riding on the motorbike. The road from Ngaoundere to Ndjigou is impassable. I lost count of the number that we fell off the motorbike. In addition to being in poor condition, the road is slippery after rain due to the soil texture.

Rain: when it rains, there is nowhere to take shelter on the road from Ngaoundere to Ndjigou, especially as there is no public transport apart motorbike. Before setting off, it was essential to wrap our luggage in plastic. However, some of our food were still soaked. The rain is also heavy at the summit, so we had to be take raincoats when going out to sample.

Wild beans (*Mucuna pruriens*): With the exception of grassy, where cattle graze, the wild beans is are found everywhere and in the dry season, even the wind is laden with their stinging hairs that penetrate the skin and cause itching. It was essential to cover the whole body and endure the scorching heat.

The interview: administering the questionnaires was not easy. When you present a document, people are not prepared to give honest answers. I presented the programme and activities to be carried out to the chief during my first visit to gain credibility and gather the right information during interview activities.

#### **4. Describe the involvement of local communities and how they have benefited from the project.**

##### **Community Involvement**

1. Participatory Research: eight people participated as local's guides and porters during data collection. Three motorbike taxis took us from Ngaounderé to the village (Ndjigou hamajoda) and will come back to pick us up after the sampling. The entire community welcomed us upon our arrival and departure from the bush, especially the chief's family, who hosts us every time. Not forgetting the 150 people who took part in the interview. These commitments have facilitated data collection.
2. Awareness raising: 78 men and 22 children turned up to the awareness-raising meeting and 12 women volunteered their time to prepare food for participants in the awareness campaign. In their community, women are not in the habit of turning up to a mixed (men and women) public meeting. My assistant conducted the discussion with the 12 women in the kitchen, because she is also a woman. To take the family picture, the chief's son accompanied me, but some of them did not want to be filmed. These commitments have made it possible to share knowledge about frogs with local community.

##### **Benefits to Local Community**

1. Experience: the local guides and porters learned how to identify amphibian's habitats, to take samples, and to determine the differences between species. The also gained the experience in how to use headlamps, GPS, tents.
2. Cultural heritage: during the awareness session, local community learned a great deal about nature, consequence of deforestation and pollution, and about frog's species found around. They learned about the different groups of amphibians, the characteristics of endemic species and their habitats, as well as the importance of amphibians in the ecosystem, pharmacopeia and gastronomy.
3. Financial: benefits went to the field staff (local guides, porters, motorbike) and local traders, all of whom are from the village. The cooking equipment was

purchased locally to support the local economy. With the exception of t-shirt and awareness posters, all other expenses were incurred locally.

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

1. *A. nganhanus* eggs and tadpoles were found during sampling. If I obtain further grants, I intend to return to the site to monitor the growth of the tadpoles.
2. Recognizing the habitats, tadpoles, and calls of *A. nganhanus* has been a major asset in population monitoring. I therefore plan to visit other mountains to verify its presence.
3. The motivation of the local population and their involvement in fieldwork and awareness-raising activities clearly demonstrate their desire to protect the amphibians of Mount Nganha, and in particular *A. nganhanus*. I therefore intend to work more closely with the local population on habitat preservation and the conservation of *A. nganhanus*. This time, the aim will be to develop posters in local languages that explain the role of amphibians, the threats to their habitat, and the importance of their conservation.

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

The findings of this work will be shared with various researchers, including stakeholders, local communities, and public, according to the following proposal:

##### **1. local population**

I have already shared the results with local population during awareness-raising activities. If I have, opportunity arises again, I will be sure to share more.

##### **2. general public**

Social media and websites: Platforms such as Research gate, Instagram, the Herp-Cameroon website, and Facebook will be used to share infographics, photos, and the main findings of my research.

##### **3. Academic and Scientific community**

The conclusions of this work will soon be submitted to scientific journals specializing in ecology and conservation.

The results may be presented at international and regional conferences on biodiversity and conservation such as those organized by Herpetological Association of Africa (HAA).

The results of this project will be presented at the University of Yaoundé I, because it forms part of my PhD thesis.

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

- Obtain other funds to continue raise awareness on the consequences of chemicals and deforestation on both nature and the population of amphibian.

- Monitoring the amphibian population size and secure, the identified breeding sites of *A. nganhanus*. (Protect the most exposed areas to livestock with barbed wire).
- Publish these results in peer-reviewed journals and make them available to audiences at various scientific conferences and website.
- Prepared alternative activities program to reduce the use of chemicals and deforestation

**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 have used the Rufford Foundation logo during the awareness campaigns, including on t-shirts and posters. The foundation benefits publicity thanks to the logo on the t-shirt. Students and Herp-Cameroon members wear them all the time at the University of Yaoundé 1. Last time I left the North Region, I stopped in Adamaoua, where people were talking about the species and the organisation in Nganha.

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

➤ Dr. Nono LeGrand Gonwouo (PhD), Senior Lecturer University of Yaoundé I  
 The current chair of the Central African region of the IUCN SSC Amphibian Specialist Group (ASG), Ph.D. Advisor and home based supervisor of fieldwork. He will provide advice during data collection, confirm amphibian species identifications and review our draft reports

- Dr. Benjamin Tapley (PhD), Curator of Herpetology Zoological Society of London

Dr Benjamin have been involved from the unset of this proposal with advice and English corrections of early draft of this proposal.

➤ Dr. Kaitlin E. Allen (PhD), Postdoctoral Researcher at University of Florida  
 With initial experience working in the project site, Dr. Kaitlin will help in the characterization of the study area following various anthropogenic activities.

➤ Dr. Walter P. Tapondjou (PhD) Postdoctoral Researcher at University of Florida  
 Dr. Tapondjou will provide experience in modelling the preferred habitats of threatened species.

➤ Dr. Kameni Marina N. (PhD), University of Yaoundé I,  
 Dr. Kameni, the project mentor. With her experience implementing similar projects in Cameroon, we will together plan and implement the awareness raising campaign to change community attitude towards montane forest degradation.

➤ Mr. Mballa Ndzie Paul Arnaud PhD candidate, University of Yaoundé 1 (Research assistant).  
 Assist field words sampling.

- Mme. Edoa stéphanie PhD. candidate, University of Yaoundé 1 (awareness assistant).
- Mr. Djonyaba Olive, teacher, support for local communication to ensure the availability of local guides, local field guide and porter
- Mr. Zenahad Jean farmer in Ndigou, local field guide and porter
- Mr. Dougakine Blaise, local field guide and porter
- Mr. Baba Youssoufa shepherd , local field guide and porter
- Mr. Abdoul aziz Abdoulaye, local field guide and porter
- Mr. MOHAMADOU Laminou (local field guide and porter )
- Mr. Moussa, motorbike
- Mr. Issa Hairou, motorbike
- Mr. Issa Hamadama motorbike
- Mr. hamadjoda village chief

#### **10. Any other comments?**

We acknowledge the Rufford Foundation for their financial support to this research through the Rufford Small Grant. We greatly thank for Dr. Benjamin Tapley (PhD), Dr. Kaitlin E. Allen (PhD), Dr. Walter P. Tapondjou, Dr. Kameni Marina N. (PhD) and supervisor Dr. Nono LeGrand Gonwouo for their support and a special expression of gratitude to IDEA WILD for materials. Without forgetting the local guide, the motorbike, the porters, the Assistants, The local population and especially the chief village. He is very welcoming and enjoys talking about everything.

**ANNEX – Financial Report**  
**[Intentionally removed]**

## 11 Appendices

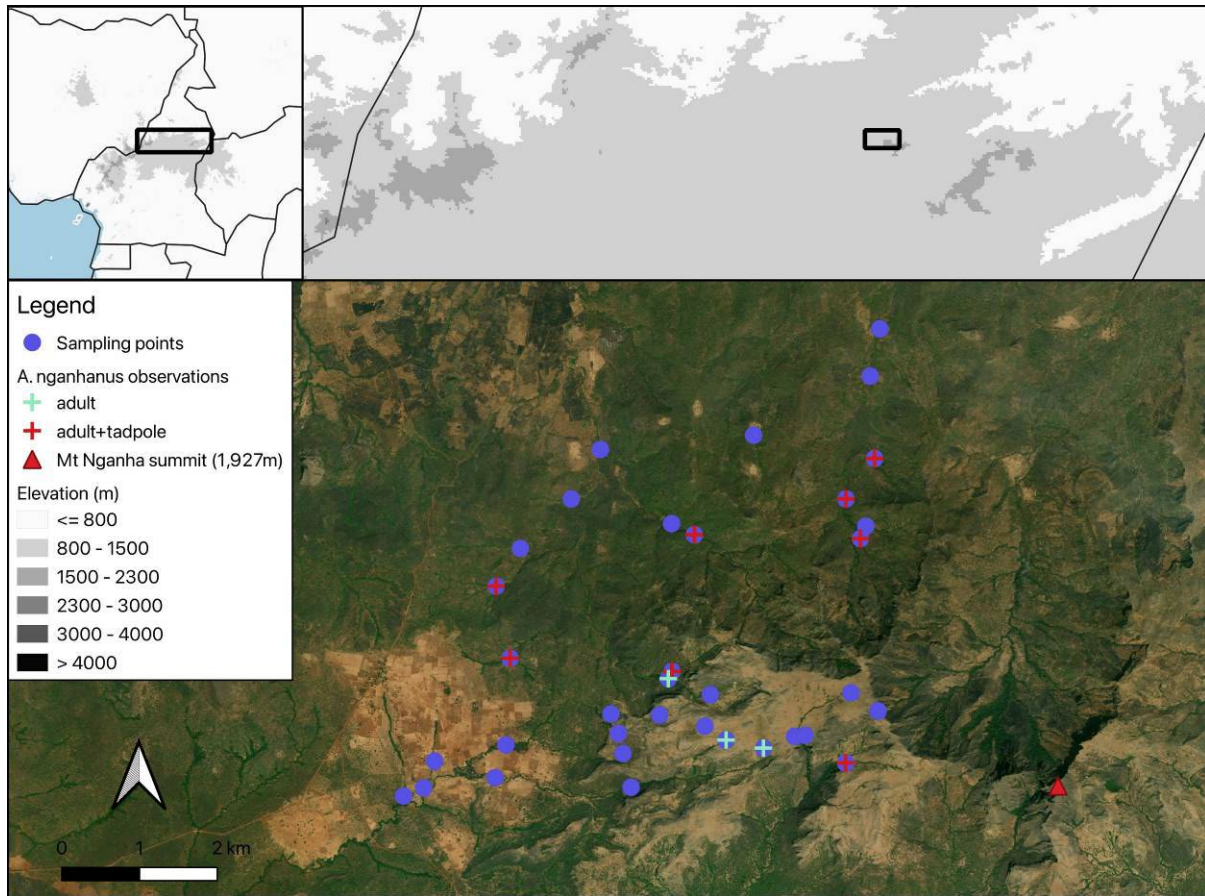


Figure 1: sample points



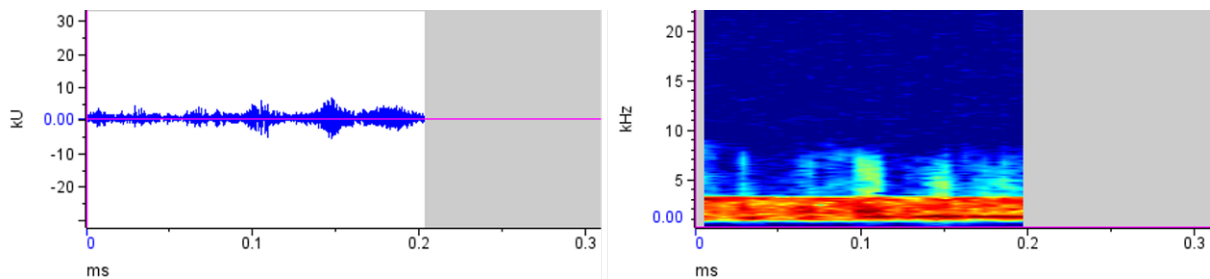
Figure 2: field's members and motorbike



Figure 3: habitats



**Figure 4: *Astylosternus nganhanus***



**Figure 5: frequency and duration of *A. nganhanus* call**



Figure 6: threats



Figure 7: awareness raising





**AMPHIBIENS DU MONT NGANHA AVEC UNE ATTENTION PARTICULIERE PORTEE SUR LES HABITATS PREFERENCIELS ET LA DISTRIBUTION DE *Astylosternus nganhanus*, Amiet 1977, ESPECE EN DANGER CRITIQUE D'EXTINCTION (ADAMAOUA, CAMEROUN)**

**Amphibien : animal qui a une respiration branchiale et pulmonaire**

Anoures




- o Peau rugueuse
- o Pattes avant courtes

Urodèles/ Salamandre



- o Peau lisse
- o Pattes arrière longues et musclées

Gymnophiones



- o Absence de pattes
- o Fousseurs
- o Présence de queue
- o Peau lisse


- Anoures: 7843 espèces (monde); 217 au Cameroun (66 endémiques)
- Gymnophiones: 225 espèces (monde); 7 au Cameroun (5 endémiques)

**Distribution altitudinale des espèces d'amphibiens du Mont Nghanha**


Familles	Espèces	IUCN	Strate		
			A	B	C
Arthroleptidae	<i>Astylosternus nganhanus</i>	CR	+	+	+
	<i>Arthroleptus poecilnotus</i>	LC	+	-	-
	<i>Leptopelis nordequatorialis</i>	LC	-	+	+
Bufonidae	<i>Leptopelis viridis</i>	LC	+	+	-
	<i>Sclerophrys maculata</i>	LC	+	+	-
	<i>Sclerophrys regularis</i>	LC	+	-	-
Hyperoliidae	<i>Sclerophrys sp</i>	/	+	-	-
	<i>Hyperolius balfouri</i>	LC	+	-	-
	<i>Hyperolius nigidulus</i>	LC	-	+	-
Pipidae	<i>Hyperolius riggenbachi</i>	LC	+	+	+
	<i>Xenopus sp</i>	/	+	+	+
Ranidae	<i>Amnirama longipes</i>	LC	+	+	-
Phrynobatrachidae	<i>Phrynobatrachus sp</i>	/	-	+	+
Ptychadenidae	<i>Ptychadena pumilio</i>	LC	-	+	+
	<i>Ptychadena sp1</i>	/	-	+	+
	<i>Ptychadena sp2</i>	/	+	-	-

A: [1100-1400]; B: [1400-1600]; C: [1600-1900]m asl; IUCN: Union International de la Conservation de la Nature ; LC : En List de conservation ; CR : En Danger Critique extinction

**Espèces d'amphibiens en danger critique**



- o Monde  
Anoures: 535 espèces; Salamandres: 117; Gymnophiones:1
- o Cameroun  
Anoures: 18 espèces; Gymnophiones:1
- o Adamaoua  
Anoures:1 espèces (*Astylosternus nganhanus*)



A: A nganhanus (male)  
B: A nganhanus (têtard)

**Mont Nghanha**



- o Altitude, 1900 m de hauteur
- o Le mont Nghanha abrite environ 16 espèces d'amphibiens
- o un lézard et une espèce de grenouille sont endémiques de

Mont Nghanha: vue Nord-Ouest (Wara et ses affluents)

**Micro habitats des Amphibien**



a) prairie, b) galeries, c) eau contenant les têtards de *A. nganhanus*

**Menaces sur les habitats d'amphibiens du Mont Nghanha**



- Produits chimiques et conséquences
- bétails
- déboisement et conséquences


Références  
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Figure 8: awareness posters