

The Rufford Small Grants Foundation

Final Report

Congratulations on the completion of your project that was supported by The Rufford Small Grants 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	Vinh Quang Luu
Project title	The Annamite Mountain Range: An evolutionary barrier for herpetofauna? A case study in the karst forest of the Hin Nam No National Protected Area, central Laos.
RSG reference	17229-B
Reporting period	February - December 2015
Amount of grant	£7900
Your email address	qluu@smail.uni-koeln.de
Date of this report	12 December 2015

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
To provide an updated checklist of reptiles and amphibians in Hin Nam No National Protected Area			X	76 reptile and amphibian species were recorded for Hin Nam No in this project.
To discover new species and new country records for Laos			X	Nine new species of reptiles and one new country record of an amphibian for Laos. Most important for a new Siamese crocodile population that could be discovered in the frame of the field work (rediscovery of the species in Khammouane Province)
To gather information about the ecology of the reptiles			X	Ecological notes for each species
To predict species occurrences in Hin Nam No in comparison of species composition with Phong Nha – Ke Bang on the opposite side of the Truong Son Range			X	We expect to discover further species of reptiles and amphibians from Hin Nam No in the near future
To indicate a role of the Annamite Mountain range			X	The Annamite Mountain range revealed to be a hotspot of <i>Cyrtodactylus</i> speciation. Further studies are crucially needed to elucidate the evolutionary process of the herpetofauna in this area
To identify threats and conservation status of reptiles and amphibians in Hin Nam No			X	The Critically Endangered Siamese crocodile population is needed to conservation
To raise the awareness for conservation among local stakeholders			X	In particular done for the afore mentioned crocodile population

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

The topography of Hin Nam No is characterized by steep limestone karst, therefore, it was very difficult for moving and camping in the forest. For instance, no water sources were available during dry season in some karst areas.

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

- Providing a list of 76 species of reptiles and amphibians with ecological notes for each species. Most of them were new records for Hin Nam No.
- Description of nine new species of reptiles and one species of amphibian for the first time from Laos.
- Capacity strengthening for lecturers of the National University of Laos and staff of the Hin Nam No National Protected Area on field work skills and reptile identification.

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

Local people were invited to do the field surveys with our team. They helped us to identify the survey sites, distribution location of reptile and amphibian species within protected areas. We also explained about the importance of biodiversity and nature conservation.

5. Are there any plans to continue this work?

I would like to conduct further field survey on the diversity and ecology of reptiles and amphibians in Laos, especially in limestone forests of Hin Nam No. Application for the 2nd Booster Grant will be submitted to investigate the “hidden biodiversity potential” of the Hin Nam No region.

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

To provide essential data for biodiversity assessment and conservation planning, the outcomes of the project (e.g., reports, published papers) will be sent to the management board of the Hin Nam No National Protected Area and researchers of the National University of Laos.

Three papers were published in peer-reviewed journals.

- **Luu, V.Q.**, Calame, T., Nguyen, T.Q., Le, M.D. & Ziegler, T. (2015): Morphological and molecular review of the *Gekko* diversity of Laos with descriptions of three new species. *Zootaxa*, 3986 (3): 279–306. <http://dx.doi.org/10.11646/zootaxa.3986.3.2>
- **Luu, V.Q.**, Calame, T., Nguyen, T.Q., Bonkowski, M. & Ziegler, T. (2015): A new species of *Cyrtodactylus* (Squamata: Gekkonidae) from limestone forest, Khammouane Province, central Laos. *Zootaxa*, 4058 (3): 388–402. <http://dx.doi.org/10.11646/zootaxa.4058.3.6>

One paper will be published soon in peer-reviewed journals.

- **Luu, V.Q.**, Calame, T., Nguyen, T.Q., Le, M.D., Bonkowski, M. & Ziegler, T. (2016): *Cyrtodactylus rufford*, a new cave-dwelling bent-toed gecko (Squamata: Gekkonidae) from Khammouane Province, central Laos. *Zootaxa*, in press.

Two manuscripts were submitted to peer-reviewed journals.

- **Luu, V.Q.**, Nguyen, T.Q., Le, M.D., Bonkowski, M. & Ziegler, T. (2016): A new species of karst-dwelling bent-toed gecko (Squamata: Gekkonidae) from Khammouane Province, central Laos. *Zootaxa*, in review.
- Egert, J., **Luu, V.Q.**, Nguyen, T.Q., Le, M.D., Bonkowski, M. & Ziegler, T. (2015) First record of *Gracixalus quyeti* (Amphibia: Anura: Rhacophoridae) from Laos: molecular consistency versus morphological divergence between populations on both sides of the Truong Son range. *Salamandra*, in review.

Reptile collections, which were deposited in the zoological museums of the Vietnam National University of Forestry, the Institute of Ecology and Biological Resources, Vietnam Academy of Science and Technology, and the National University of Laos, will be used for scientific research and education purpose.

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

The timescale was in accordance with the proposed plan of the project.

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
Batteries for digital camera and other field equipment	£150	£150	0	
Chemicals and plastic boxes for specimen preservation	£100	£100	0	
Headlamps	£250	£250	0	
Individual field equipment	£400	£400	0	
Camping equipment	£500	£500	0	
Personal medication and first aid kit for the project team in the field	£70	£70	0	
Domestic travel	£1500	£765	£735	The local travel was partially supported by GIZ in Hin Nam No NPA
Wage for a field assistant	£600	£900	£300	
Food for a field assistant	£600	£900	£300	
Stipend for a local staff representative and a forest ranger as guide during the field survey	£1200	£1200	0	
Food for a local staff and a forest ranger during the field survey	£1200	£1350	£135	

Wage for porters	£400	£400	0	
Food and lodging principal investigator	£850	£850	0	
Training course and discussions for HNN staff and local people	80	80	0	
Total	7900	7900	0	

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

To continue with the inventory of the herpetofauna is urgently needed for Hin Nam No. It is expected that still a considerable number of new records and new species will be discovered in the Hin Nam No.

Study on zoogeographical relationships of the herpetofauna along the Truong Son Range is also required in the future.

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

I used the RSGF logo for my presentations at the University of Cologne and the Vietnam National University of Forestry.

Staff and local people in Hin Nam No were also informed about the support of RSGF for biodiversity research and conservation through this project.

Finally, in any publication and documentation of this project the logo or name of the RSGF is mentioned in the acknowledgements.

We named a new bent-toed gecko species after the Foundation; the publication will be published soon.

11. Any other comments?

Data analyses (careful and detailed specimen examination, molecular analyses) usually take long time. Therefore, publications resulted from the project will still be sent to RSGF few months after completion of my research.

Finally, I would like to sincerely thank to RSGF for the kindness and strong support. This project is really useful not only for our project team but also for biodiversity conservation in Laos as well as in a global context.