

## The Rufford Small Grants Foundation

### Final Report

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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](mailto:jane@rufford.org).

Thank you for your help.

**Josh Cole, Grants Director**

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Grant Recipient Details	
Your name	Jayaditya Purkayastha
Project title	Showcasing Urban Herpetofauna : A conservational effort through community participation
RSG reference	10203-1
Reporting period	September 2011 to August 2012
Amount of grant	£2983
Your email address	mail.jayaditya@gmail.com
Date of this report	28 August, 2012

**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 generate a bioinventory of herpetofauna present in Urban Habitat of Guwahati city, Assam, India			√	We have successfully compiled a checklist of herpetofauna of Urban Habitat of Guwahati, one of its first kind for India. We also believe that no bioinventory can be fully achieved in truest sense of the term as always there would be more species to look out for.
To conduct conservation education and awareness programmes for local communities		√		On the whole we have taken our mission to a rather small number of stakeholders in comparison to the city as a whole. There will always be more to work for.
To compile a pictorial guide on Urban Herpetofauna of Guwahati			√	We are happy with the book and hope the readers are too.
To determine the effect of urbanisation on herpetofauna		√		We are just on the stepping stone of this study. It is a broad aspect and we would like to extend our work on this.

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

- a. The most difficult situation that we faced was dip in INR
- b. Heavy floods have made working situation tough and hazardous.

We managed the situation to certain extent by

- i. Requesting certain schools to provide buses of their own for field trips with their students.
- ii. Student field trips were reduced to 14 trips in place of 20.
- iii. The flood coincided with active period for herpetofaunal study and thus the study was slowed down to some extent. This laps of time though did not hamper our herpetofaunal inventory but surely had irrevocable influence on additional studies.

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

- a. This study was one of its kinds for India. We have generated a checklist of Urban Herpetofauna of Guwahati which should help in the long term assessment and conservation programmes taken up by government agencies. In this study, we also found data of

importance and interest to science. We found some rare and interesting herpetofauna in Guwahati such as *Xenochrophis schnurrenbergeri*, *Xenochrophis cerasogater*, *Hemidactylus flaviviridis*, *Boiga gokool*, *Nilssonina nigricans*, *Fejervarya sp.*, *Ichthyophis garoensis* and have studied their natural history. Through this study we found a gecko which in all likelihood should be a new species to science (Work going on in collaboration with Dr. Aaron Bauer).

- b. The book “Urban Herpetofauna”: Amphibians and Reptiles of Guwahati, A Pictorial Guide was published.
- c. Snakes caught in the gill nets of Deeporbeel wetland were mostly killed by the fishermen but with our repeated awareness programmes, the fishing folks have become more tolerant to snakes (as they are now better equipped with knowledge). During this study period, we have also rescued several snakes from households and found *Lycodon aulicus* to be the most common one.

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

In this project we mainly targeted two groups of local community: the students and forest fringe residents. Through different workshops we generated knowledge amongst students on different aspects of herpetofauna and their conservational importance. Students also took active part in various events conducted for herpetofaunal awareness. Their interest on the topic was gauged based on their active participation (quizzes, face paintings, speech, photography competitions etc.) for the fringe community we restricted our work to snake bite management, identification and importance of conservation of snakes. Fringe people took active part in workshops on snake bite management and also helped in our field survey. They also provided us with secondary data and informed us about the myths and folklores on herpetofauna prevalent in their society. These helped us in construction of the book and other popular articles to sensitise people. The Book “Urban Herpetofauna”: Amphibians and Reptiles of Guwahati, A Pictorial Guide, and T-Shirts we freely distributed.

A mega awareness programme was organised on the occasion of “Save the frogs day”, on 28<sup>th</sup> April, 2012. The programme involved 12 different schools and colleges of Guwahati. The programme comprised of talks and presentation by eminent herpetologists, wildlife photographers, journalists of the region; face painting competition; speech competition. In order to promote and inspire young and budding zoologists to take up herpetology, we also helped one of the eminent personnel in this field.

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

Surely yes, we have got good response from stakeholders, administration and media houses. Our work is in a budding stage, a very well formed bud and we surely would like to see it bloom.

The society that we live in this part of world is afflicted with misinformation and superstition regarding herpetofauna, so addressing this issue through awareness programs and workshops helps a great deal in generating interest as well as in conservation. Moreover, here we have just a handful of workers (mainly because in India we do not have any specialisation course on herpetology) on herpetofauna so we would like to target more students to come and join this field of study through different programmes. We already motivated some students to take up a small herpetofaunal study on turtles of Kamakhya temple pond as a part of their graduating degree project, to generate

academic interest to this group of animal as well. Their findings have been sent to a scientific journal.

Snake bite is another neglected issue in this part of the world with no accurate data existing on snake bite and its treatment. Even through this study we found that health giving centres are unprepared to face such types of emergency and even the educated lot go for traditional healing practices in case of snake bite, let alone village people.

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

We have done it through:

A) Publications

Book: "Urban Herpetofauna": Amphibians and Reptiles of Guwahati, A Pictorial Guide.

Scientific publications during the period:

- i. Das, M, Brahma, R.K., Purkayastha, J. (2011): More in our mind than in their mouth? A preliminary inspection inside the oral cavity of two house Geckos: *Hemidactylus frenatus* Schlegel, 1836 and *Hemidactylus aquilonius* McMahan & Zug, 2007. *Herpetology Notes* (4) 303-306
- ii. Das, M., Purkayastha, J. (2012): An insight into hemipenial morphology of five *Hemidactylus* Oken, 1817 (Reptilia: Gekkonidae) species of Guwahati, Assam, India. *Hamadryad* 36(1) 32-37
- iii. Purkayastha, J., Purkayastha, A. (2012): A case of White-breasted Kingfisher (*Halcyon smyrnensis*) Preying on a Gecko (*Hemidactylus aquilonius*). *Asian Journal of Conservation Biology* 1(1) 45-46
- iv. Purkayastha, J., Matsui, M. (2012): A New Species of *Fejervarya* (Anura: Dicroglossidae) from Northeastern India. *Asian Journal Of Herpetological Research*. 3(1) 31-37
- v. Jayaditya Purkayastha, Ahmed Mahmudul Hassan, Hasanul Islam, Jessica Das, Manoj Sarma, Mituseela Basumatary, Nilakshi Sarma, Nishant Chatterjee, Sachin Singha, Vishnupriya Nair, Arundhati Purkayastha, Jayashree Dutta, Madhurima Das: On the turtles of the temple pond of Kamakhya, Assam, India. (In review, *Reptile Rap*)
- vi. Jayaditya Purkayastha, Madhurima Das, Gernot Vogel: Comments on *Xenochrophis cerasogaster* (Cantor 1839) (Serpentes: Natricidae) with remarks on its natural history and distribution. (In Preparation).
- vii. Saibal Sengupta, Jayaditya Purkayastha, Madhurima Das, Binod Baruah: Herpetofaunal assemblage of Deeporbeel Ramsar Site, Assam, India. (In Preparation).

Popular Write Ups:

- i. Fang Facts (in English), *Horzon*, The Assam Tribune
  - ii. Sohure Bonno Jibon [Urban Wildlife] (In Bengali), *Shangbad Lohori*
  - iii. Shaper Shombondhe [On Snakes] (In Bengali), *Shangbad Lohori*
- B) Presentations of results in different schools, colleges and community centres of the study area.
- C) Addressing media, both print and electronic (through interview and talk shows) on our topic of interest to make our mission reach maximum.

**7. Timescale: Over what period was the RSG used?**

RSG was used from September 2011 to July 2012.

**How does this compare to the anticipated or actual length of the project?**

Our estimation of time frame of the project was accurate.

**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 Trips	600	480	-120	We reduced the cost of travel by getting conveyance help from some of the school authorities in the form of their school bus.
Distributable	548	550	+2	Initially we gave away few badges but we found it ineffective in arousing interest of the children so we had to alter it by t-shirts which costs more but was seen to be more effective because students retained them.
Equipment rent for presentation	300	320	+20	These consisted of Projectors and sound systems.
Stationeries/Materials/Venue Charge for organising events	400	400	0	
Two Unskilled labour for field trips/ events etc @ £ 6 per trip/event	180	220	+40	
Printing and Editing of Charge for Pictorial Guide Book for 500 copies	750	822	+72	As there was a dip in Indian currency we felt the same for printing of books, thus, the cost was more than expected.
Postage	0	150	+150	
Contingencies	205	180		
<b>Total</b>	<b>2983</b>	<b>3122</b>	<b>+139</b>	

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

- A book on Urban Herpetofauna and Snake bite management in the local language of Assam “Assamese” needs to be formulated.
- More awareness programmes for community on herpetofauna needs to be organised.
- Snake bite issue is needed to be dealt with at both popular and scientific level. Society is needed to get rid of myths and superstition prevailing on snakes and its bite which will save both, lives of humans as well as the snake. Attempts are to be made to discourage traditional snake bite healing practices and make people know on actual medication. Since

snakes of northeast India are unique so is their venom. Therefore, proper molecular characterisation of the venom of the snakes especially the green pit viper (*Trimeresurus* group) needs to be carried out.

- Since we have an inventory on herpetofauna of urban habitats ready, we need to move on to some of the reserve forests adjacent to Guwahati and compare their herpetofaunal diversity to the urban counterparts with more emphasis on the fringe herpetofauna. This will help us identify the species more vulnerable to urbanisation and help in formulating conservational strategies.

**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?**

Yes, the RSGF logo was used in every banner and distributable material, book in relation to the project. RSGF received publicity during the course of our work, both verbally during every event commencement as well as through print and electronic media.

Links of newspaper articles during the project period

- [http://www.telegraphindia.com/1120316/jsp/northeast/story\\_15257222.jsp#.UDnhLMEgdn4](http://www.telegraphindia.com/1120316/jsp/northeast/story_15257222.jsp#.UDnhLMEgdn4)
- <http://economictimes.indiatimes.com/environment/flora-fauna/guwahati-reptiles-withstand-urbanization-onslaught/articleshow/11729221.cms>
- <http://www.assamtribune.com/scripts/detailsnew.asp?id=feb0312/at042>
- [http://articles.timesofindia.indiatimes.com/2012-04-28/guwahati/31451748\\_1\\_amphibians-frog-s-day-new-species](http://articles.timesofindia.indiatimes.com/2012-04-28/guwahati/31451748_1_amphibians-frog-s-day-new-species)
- <http://www.assamtribune.com/scripts/details.asp?id=apr3009/City3>
- <http://sevensisterspost.com/ngo-takes-frogs-leap-to-save-earth/>
- [http://articles.timesofindia.indiatimes.com/2012-06-06/guwahati/32078068\\_1\\_saplings-world-environment-day-tree-plantation](http://articles.timesofindia.indiatimes.com/2012-06-06/guwahati/32078068_1_saplings-world-environment-day-tree-plantation)
- [http://articles.timesofindia.indiatimes.com/2012-03-20/guwahati/31214745\\_1\\_frog-species-new-species-joint-research](http://articles.timesofindia.indiatimes.com/2012-03-20/guwahati/31214745_1_frog-species-new-species-joint-research)

**11. Any other comments?**

As an off shoot of this project work a new species of Dicroglossid frog has been described from Mawphlang of Meghalaya state. The new species is named as *Fejervarya sengupti*.

Purkayastha, J., Matsui, M. (2012): A New Species of *Fejervarya* (Anura: Dicroglossidae) from Northeastern India. Asian Herpetological Research. 3(1) 31-37

<http://www.ahr-journal.com/index.php?module=case&act=Show&id=69&Pid=0>