# The Rufford Small Grants Foundation

# Final Report

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.

Thank you for your help.

**Josh Cole, Grants Director**

| **Grant Recipient Details** | |
|---|---|
| **Your name** | Madhuri Ramesh |
| **Project title** | Status survey of the Indian Spiny-tailed Lizard *Uromastyx hardwickii* in the arid regions of Rajasthan, north-western India. |
| **RSG reference** | 27.08.06 |
| **Reporting period** | Mar – Dec 2007 |
| **Amount of grant** | GBP 5000 |
| **Your email address** | madhurir@hotmail.com |
| **Date of this report** | March 2008 |

**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 locate colonies of *U. hardwickii* and estimate abundance within them, using a combination of transects and interviews. | | | Yes | Apart from transects and interviews, time constrained searches were also used in locating *U. hardwickii* colonies. Interviews were particularly useful in documenting past occurrence of this species and identifying probable cases of local extirpations. |
| To determine habitat requirements of the species by measuring variables such as type of soil and vegetation cover. | | Yes | | The substrate ('*thalar*' i.e. gravel plains) and vegetation type (herbs, short grasses) that are most likely to support the species was identified. However, given that not all such gravel plains had colonies of *U. hardwickii*, and densities of colonies varied from 14 to about 1000 active burrows per ha, microhabitat characteristics and availability of food resources need to be studied in greater detail. This was beyond the scope of the current survey and therefore this was not fully met. However, this is being currently addressed. |
| To measure extent of exploitation by estimating proportion of exploitation within clusters and collecting information on trade practices. | | | Yes | Along with primary survey data, interviews with hunting communities and staff of the Forest Department yielded important information on trade and exploitation. |

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

Belt transects (to locate colonies and estimate abundance of *U. hardwickii*) could not be laid in some areas because these were densely populated or intensively cultivated. Instead, Time Constrained Searches were used and *U. hardwickii* was found to be absent in these highly disturbed areas.

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

1. From this survey, 124 sites having active colonies of *Uromastyx hardwickii* have been identified across five arid districts of western Rajasthan. Distribution maps of the species have also been prepared for each district. Hence, for the first time, a list of the exact localities having colonies of *U. hardwickii* is available and most of these lie outside the existing Protected Area Network.

2. This species occurs most frequently in gravel plains vegetated by herbs and short grasses (*'thalar'* habitat*).* Average density of burrows was 15.25 burrows per ha though in some sites this species can occur in densities as high as 1165 burrows per ha.

3. This species is threatened by habitat loss and land use changes caused by developmental activities such as irrigation, afforestation and urbanisation. Keeping in mind the long-term conservation needs of the species, six priority sites have been identified for intensive *in situ* protection of *U. hardwickii* colonies.

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

Both the field assistant and the driver were local people (belonging to ethnic minority communities) and during the course of the survey, they were trained in basic field techniques such as identification, recording of sightings and laying of transects. In addition, the survey provided a valuable opportunity to enhance their understanding of desert ecology and the conservation problems in this landscape, as well as their capacity to observe animals. These skills will enable them to be employed as assistants / observers during surveys conducted by the Forest Department, serve as guides for eco-tours in and around the Desert National Park, as well as assist other researchers in the future.

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

Yes, I intend to carry out a detailed ecological study of *Uromastyx hardwickii* over the next few years which will also form a part of my doctoral dissertation – the first phase of this work has already begun, as of March 2008.

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

Basic ecological information and the photographs taken during this survey are already being used:

i) In power point presentations on the desert ecosystem, as part of GNAPE's outreach and education programme for schoolchildren.
ii) To prepare posters for the Rajasthan Forest Department, for the information centre at the Desert National Park.

A technical report will be published and sent to organisations that are interested in research and conservation such as the, Wildlife Institute of India, Salim Ali Centre for Ornithology and Natural

History and Bombay Natural History Society, Koenig Zoo (Bonn), University of Kuwait (UAE) and University of Texas (Austin).

Scientific papers will also be sent to peer-reviewed journals such as Biological Conservation, Oryx and the Journal of the Bombay Natural History Society.

The technical report has been submitted to the Rajasthan Forest Department to seek their support and active involvement in the long-term conservation of this species both within and outside the PA network, and to develop a suitable management program for *thalar* habitats.

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

The RSG was used for 12 months, from March 2007-March 2008. The actual length of the project was 10 months, but analysis and production of the report took an additional 2 months.

**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 |
|---|---|---|---|---|
| Fellowship for researcher | 698 | 698 | 0 | - |
| Field assistant wages | 244 | 290 | 46 | Bonus for working throughout summer. |
| Food allowance | 326 | 400 | 74 | Initially calculated for 3-member team, but we were sometimes accompanied by locals who guided us to remote villages. |
| Travel to field site and back | 93 | 75 | 18 | Rail fares were less than anticipated. |
| Jeep hire charges | 2442 | 2209 | 233 | No field travel in July. |
| Accommodation | 837 | 600 | 237 | No rest houses in many places, so camped outdoors or stayed with acquaintances. |
| Consumables | 244 | 408 | 164 | Film rolls were costly in tourist areas and report printing was costlier than anticipated. |
| Medical/miscellaneous expenses | 116 | 135 | 19 | |
| **TOTAL** | 5000 | **4815** | 185 | *In GBP, at 1 GBP = INR 86. |

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

1. To conduct a detailed ecological study of *Uromastyx hardwickii*.

2. To further strengthen links with the Rajasthan Forest Department and conduct periodic surveys to monitor population trends.
3. To contribute towards developing a conservation and management programme for *thalar* habitats of the desert.

**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, RSGF has been acknowledged in materials produced during this project like the GNAPE technical report, scientific papers and Power Point Presentations. The RSGF logo has been used on the cover pages of the technical report, and in the presentations. At an informal level, other student researchers have also been told about RSG and the mode of application.

**11. Any other comments?**

The ease with which student researchers can apply for this grant, and the fact that the Rufford Foundation is willing to support such pilot studies makes it a very encouraging experience. I think such opportunities are invaluable in motivating aspiring conservationists, particularly from developing countries.