

## The Rufford Foundation

### Final Report

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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](mailto:jane@rufford.org).

Thank you for your help.

**Josh Cole, Grants Director**

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Grant Recipient Details	
Your name	Shantanu Joshi
Project title	Monitoring freshwater ecosystems using odonates in Western Ghats, India
RSG reference	26890-1
Reporting period	24 January 2020
Amount of grant	£4200
Your email address	<a href="mailto:shantanu@ifoundbutterflies.org">shantanu@ifoundbutterflies.org</a>
Date of this report	28 January 2020

**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
Fieldwork to survey local odonate communities at each site				Due to reasons mentioned below we could only conduct field visits twice at each site.
Measuring water parameters and rapid habitat assessment				We were able to successfully measure variables such as dissolved oxygen, and habitat quality indices of Habitat Integrity Index and 'EPA' Index.
Measuring bioindicator potential of Odonate species				We measured bio-indicator potential of odonate species by calculating 'indicator value' and a novel approach which we dub 'Odonata bioindicator index'.
Creating a database of distributions and indicator potential using other data sources				

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

Our field areas faced some of the worst floods in several decades. We planned to conduct fieldwork in September 2019, after initial field visit in March-April 2019. However, due to unprecedented floods we were stranded during fieldwork and could not reach our field sites. Because of this unforeseen problem we could only sample our field sites at two occasions: March-April and November-December 2019.

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

- Increased understanding of the local odonate communities of four important rivers.
- First study to measure bio-indicator potential of odonates through variety of methods.
- Discovery of a new damselfly species from one of our field sites along the river Sharavathi (manuscript in preparation).

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

Local communities were engaged during our field surveys by informal talks and discussions. We also discussed our work with the staff of the Forest Department. Other than that, local communities did not directly benefit from the project.

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

We're still in the process of analysing some of the data. After that we will take a decision on whether we can continue this work. It would be ideal to expand the same project over a larger area and test insights gained from the current project.

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

We have already shared or plan to share the results of our work with students and others at:

- Bhavan's College, Mumbai - October 2019.
- St. Xavier's College, Mumbai - January 2020.
- DragonflyIndia Workshop at the Student's Conference on Conservation Science (SCCS), Bangalore - September 2019.
- Introduction to dragonflies and damselflies for school children and teachers Eaglenest Wildlife Sanctuary, Arunachal Pradesh - October 2019.
- Odonata of north Karnataka for Karnataka Forest Department (proposed) – February 2020.
- Odonata of North Karnataka for Karnataka for zoology students at Bangurnagar College, Dandeli.

Further results will be shared via social media, popular articles and scientific papers.

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

Due to delay in fieldwork in August-September 2019 because of heavy rains and floods the project has been delayed by a month. Initially, we received money only in March 2019 which itself caused a delay in first phase of fieldwork. Hence, we have planned our expenditure for March 2019 – March 2020 despite our official grant date being 24 January.

**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
Local transport	1600	1500	-100	
Food	800	800		
Accommodation	800	800		
Field gear (torches, batteries, nets)	300	170	-130	
Garmin Etrex20x Handheld GPS	180	160	-10	
Field Assistant	400	360	-40	
Laboratory tests for water parameters	120	390	+270	The cheapest and most accurate way of testing water parameters of our interests was using handheld probes. We bought two probes for this (one for Dissolved Oxygen, one for pH/TDS/Temperature, and hence had to adjust our budget accordingly.
<b>TOTAL</b>	<b>4200</b>	<b>4180</b>	<b>-20</b>	

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

Next step firstly would be to analyse our data more rigorously and share our results with the scientific and general community through scientific papers, popular articles and talks/workshops. We also plan to provide this data to agencies working on freshwater diversity of the area such as Indian Institute of Science, Bangalore and ATREE, Bangalore. Further, we hope to expand bioindicator index that we've created for our study sites to the whole state of Karnataka using additional datasets of species distributions.

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

We used the Rufford Foundation Logo in all of our presentations and learning material provided at the presentations. I also interacted with students at venues mentioned in Question 6 about the Rufford Foundation. Further outreach attempts planned in the next month will help spread publicise Rufford in the study areas.

**11. Please provide a full list of all the members of your team and briefly what was their role in the project.**

**Shantanu Joshi** planned the fieldwork, conducted the analysis and wrote this report.

**Dattaprasad Sawant** assisted in fieldwork.

**Subramanian KA** helped in site selection, planning fieldwork and analysis of data.

**12. Any other comments?**

We plan to continue work on this grant till March 2020. After that we can provide additional information and photos from more outreach attempts in the coming 2 months.



















