

## 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. 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. 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

<b>Your name</b>	Musa Mlambo
<b>Project title</b>	Wetland Invertebrate assemblages: Biodiversity and Biogeography
<b>RSG reference</b>	12.07.07
<b>Reporting period</b>	2007/12 – 2009/05
<b>Amount of grant</b>	
<b>Your email address</b>	Mlmmus001@uct.ac.za
<b>Date of this report</b>	May 2009

**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
As the project continued the objectives changed slightly, based on the practical, philosophical and scientific drives at the time. The following objectives were achieved with various successes, but there is still a room for improvement.				
Assess large-scale biodiversity patterns of invertebrate assemblages			Yes	This is a continuous process, and my study was the first of its kind, however it contributed significantly towards this, and have received raved comments from colleagues
Assess differential contribution of physico-chemicals to invertebrate composition			Yes	A resounding success was achieved in this objective; this provides the platform now for more hypotheses-driven experimental research to validate our results.
Increase awareness to facilitate better management and conservation			Yes	We still need to do more on this, in terms of the general public awareness, but we did make some progress with landowners_where now they understand the importance of wetland conservation in their land.
Produce a thesis and scientific publications			Yes	I've already submitted my thesis, it is currently being examined and I am working on the scientific papers.
Contribute to philosophical understanding of wetland macroinvertebrate dynamics				Work in progress...

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

I managed to successfully deal with all the difficulties.

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

- This project provided the first regional-wide assessment of biodiversity patterns of wetland invertebrate assemblage and highlighted areas of high conservation priority.
- Five species new to science were discovered, three of these from beetles (Hydraenidae) and one from large branchiopods (Anostraca), showing how woefully incomplete our understanding is, given that these are considered one of the well studied and flagship taxa for temporary wetlands.

- Provided fundamental information about the effect of physico-chemical variables and the relationship between different taxa that is crucial for bioassessment protocols' developments.

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

Logistically, it turned out to be very difficult to involve local communities, considering that the study involved extensive travel around the province to different sites, which also involved some camping and using expensive specialist sampling and analysis equipment. In addition, the issue of access to privately owned property and conservation areas complicated the problem. However, we did involve undergraduate students and Reserve technicians during field and lab work.

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

Yes, this work has pointed at some new interesting avenues of which my supervisor and I are very keen to pursue further, and we attracted some few people that we going to collaborate with.

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

The first paper of this work is going to appear in the *Proceedings of the International Conference on Mediterranean Ponds*, Menorca, Spain, 6 – 8 May 2009.

In the next months, I will be busy converting my thesis chapters into scientific papers to be published in ISI journals.

I've already presented this work in three international conferences: **MC Mlambo**, CC Reed & JA Day. Macroinvertebrate Assemblage Composition of Wetlands in a Biodiversity hotspot. International EcoHealth Forum, 1-5 December 2008, Mérida, México.

**MC Mlambo**, CC Reed & JA Day. Macroinvertebrate Assemblage of wetlands in the Cape Floristic Region, South Africa. 8<sup>th</sup> INTECOL International Wetlands Conference, 20-25 July 2008, Cuiaba, Brazil.

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

RSG was used through out the study as the need arose.

**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	Budget Amount	Actual Amount	Difference	Comments
Field work	R18 000	R18 000		Transport to-and-from 140 sites and accommodation during sampling trips
Lab/field assistance	R15 000	R15 000		This was the salary of an assistant that helped with lab/field work employed for 3 months.
Transport of samples to	R3 000	R3 000		Payment of shipment of samples to-and-from, because of the nature of the

specialist to be identified				samples (biological material) I had to use specialised courier.
Consumables	R5 000	R5 000		(chemicals, vials and jars)
<b>TOTAL</b>	<b>R41 000</b>	<b>R41 000</b>		

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

The important step is to communicate the current results to scientific community and all other relevant stakeholders. The weakness of this study was that, temporal variation was not encompassed given that sampling was conducted on a single season albeit covering large geographic area. Therefore, I would like to incorporate season effect by sampling different times.

**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?**

Not necessarily, but RSG was acknowledge in all the three international meetings I have presented my work and it is still going to be acknowledged in the papers and the thesis.

**11. Any other comments?**

I would like to express my heart-felt appreciation to RSG.