

## Final Evaluation Report

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Your Details	
<b>Full Name</b>	Yvette Cathrine Ehlers Smith
<b>Project Title</b>	<i>Milvus parasitus</i> : migration, drivers, land use and conflict under pressures of climate change, land transformation and human population expansion across Africa
<b>Application ID</b>	29185-1
<b>Grant Amount</b>	£5,801
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<b>Date of this Report</b>	22/02/2022

**1. 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
Capture of 9 yellow-billed kites to fit transmitters				All units that were purchased with the grant money were deployed
Analysis of land-use data by kites				Entirely unexpectedly, only one of the kites has so far returned to South Africa. The rest are still in Central Africa and have not transmitted data sufficient to begin analyses
Publish manuscripts pertaining to kite movement ecology, migration and conservation				Because the data dumping by the kites has not yet occurred, the analyses and paper writing has not yet been able to be achieved

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

Firstly, COVID-19 lockdown delayed our timescale by a year. Once fieldwork was permitted again by our conservation authority and university, the kites took an entire field season to capture, as previous methods successful in similar species (nooses, baiting, etc.) were entirely unsuccessful. We had to innovate a new trapping method which was eventually successful. Entirely unexpectedly, only one of the nine kites captured has returned to South Africa, fulfilling the migration. The others are in various places across Central Africa, and data dumps of movement are sporadic. Therefore, we have not yet been able to describe a migratory season for the species.

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

- a) We have innovated a successful method for capturing this species, which has never been done before.
- b) We have brand new and never-before documented evidence that not all (only one!) individuals perform the migration annually.
- c) This has huge implications for our ornithological and conservation knowledge of this, and potentially other intra-African migrant raptors.

**4. What do you consider to be the most significant achievement of this work?**

We have discovered that not all individuals of this species make the intra-African migration, contrary to expectations and the literature. This has important implications for the ecology and conservation of the species, and potentially other intra-African migrant raptors

**5. Briefly describe the involvement of local communities and how they have benefitted from the project.**

There is great interest from local landowners who have a sense of pride and ownership of the large colony of kites in the area where we trapped the individuals. The potential to inform scavenger dynamics in rural areas has not yet been explored as the data are not yet available from the transmitters.

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

We have since secured 5 additional units as part of the National Geographic Society and Max Planck Institute's Icarus project. These units will increase the sample size and allow for robust assumptions. Due to the nature of the long-term dataset to be gathered over subsequent migration seasons, we expect this work to continue for at least 3-5 years.

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

The results will be published in peer-reviewed journals. A short note has already been published on the movement of a single rehabilitated individual using a device supplied by another team (Ehlers Smith et al., 2021 – African Journal of Ecology).

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

As mentioned in the challenges section, the COVID-19 pandemic and lockdown delayed the project by a year. We anticipated having the first migratory season's data, but as mentioned 8 out of 9 individuals have not returned and the data dumping is sporadic. Therefore, we are eagerly awaiting the return of the birds, or adapting our understanding that not all birds migrate. This means that the long-term implications of the data procurement and analyses may extend beyond our initial expectations (which we see as an exciting and fascinating development!

**9. Budget: 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. It is important that you retain the management accounts and all paid invoices relating to the project for at least 2 years as these may be required for inspection at our discretion.**

Item	Budgeted Amount	Actual Amount	Difference	Comments
Transmitters (Druid Debut units) x 9	£4959	£4959		Exchange rate ~20ZAR = 1GBP
Spectra ribbon for device strap 7 x 1 m ribbon @ 11.50	£81	£81		
Fuel travelling to/from capture site: 50 km/day x 21 days @ £0.2 / km	£210	£210		
Data Service with Platform @ £7.88/month x 60 mo	£472	£472		
Account set-up (Once off)	£79	£79		
Trap		£200	+£200	Prof Downs covered the costs – as the trapping methods had to be changed
<b>TOTAL</b>	<b>5801</b>	<b>6001</b>	<b>+200</b>	

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

We look forward to continuing to monitor the data as it comes in and using it to inform conservation and ecology of this clearly fascinating and dynamic species, and how this may inform our knowledge of scavengers and the vital role they play in the African landscape on the continental scale. We look forward to deploying 10 more units and expanding the project.

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

No publications have been produced yet, but the grant number and acknowledgement has been used in all internal communications, and when data are available for conference proceedings and publications, the full acknowledgement of the Rufford Foundation is assured.

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

**Dr Yvette Ehlers Smith** (Ezemvelo KZN Wildlife, University of KwaZulu-Natal) – lead PI, kite capture, data monitoring, manuscript production.

**Dr David Ehlers Smith** (University of KwaZulu-Natal) – co-PI, kite capture, data monitoring and analyses, manuscript production.

**Mr Brent Coverdale** (Ezemvelo KZN Wildlife) – field support, kite capture.

**Mr Ben Hoffman** (African Bird of Prey Sanctuary) – field support, kite capture.

**Professor Colleen Downs** (University of KwaZulu-Natal) – lab head, logistical and financial support, editorial input of manuscripts.

**13. Any other comments?**

We thank the Rufford Foundation once again for providing the support to begin this ground-breaking research.



