

## **Post-doctoral Opportunity: Scale-dependent interactions between carnivores and their prey**

**Re-advertisement: Deadline extended to 26 June 2020 owing to COVID-19 disruptions.**

### **Proposed project:**

Understanding the interactions between the apex predators is key to the effective conservation of the members of this guild, and the reintroduction of these species into areas from which they were extirpated provides valuable opportunities to explore these relationships. Lapalala Wilderness is a 45000 ha private conservation area located in the Waterberg Biosphere Reserve. Most of the apex predators had been extirpated from the reserve. In order to restore ecological integrity through the re-establishment of top-down ecosystem regulation, Lapalala Wilderness reintroduced lions, spotted hyenas and cheetahs in 2019. The proposed post-doctoral fellow will focus on the interactions between these carnivores and forms part of a larger research project, specifically focussing on the effects of scale on the interactions between cheetah and lion, and the impacts of the carnivores on prey species. **Substantial data on space use and prey use by cheetah and lion are available.** Further, the research will include monitoring carnivores using both GPS collars and camera traps (as per contractual obligations with Lapalala Wilderness). The proposed fellow is encouraged to co-develop an appropriate proposal within the scope of the study highlighted below. Importantly, the project must focus on key ecological concepts and fundamental science, which will inform management actions. The broad scope of the project will include:

- 1) Ranging behaviour and space use of cheetahs, hyenas and lions;
- 2) Habitat and prey selection of cheetahs, hyenas and lions;
- 3) Spatio-temporal responses of cheetah to hyenas and lions;
- 4) Spatio-temporal responses of prey to predators; and
- 5) Impact of predation on prey populations.

### **Academic Institutions:**

The successful pot-doctoral fellow will be hosted by Dr Liaan Minnie, School of Biology and Environmental Sciences, University of Mpumalanga and Prof Graham Kerley, Centre for Conservation Ecology, Nelson Mandela University. The fellow may be registered in the Department of Zoology, Nelson Mandela University or the School of Biology and Environmental Sciences, University of Mpumalanga.

## **Requirements:**

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- 1) A PhD in ecology or related field, obtained no more than five years ago;
- 2) Excellent academic and publication record;
- 3) Proven experience with ecological field studies, statistical analyses in R and scientific writing;
- 4) Valid driver's licence; and
- 5) Be available to start as soon as possible, but no later than the end of July 2020.

### *Additional requirements:*

- 1) Written and oral proficiency in English;
- 2) Physically fit, and able to work independently under relatively harsh field conditions;
- 3) Proven experience with GPS movement analyses and occupancy modelling and activity pattern analyses using camera trap data; and
- 4) Proven experience in working in a Big Five area. A FGASA qualification and/or rifle competency would be advantages.

## **Offer:**

The fellow may be enrolled at NMU or UMP, but will conduct field research (August 2020 onwards) at Lapalala Wilderness where accommodation is provided and costs are covered by the project. The tenure of the position is 12 months commencing in July 2020 or soon thereafter. A stipend valued at ZAR255 000 is available for the first year. The position is renewable for a further 12 months, based on satisfactory progress during the first year, but the successful candidate will have to apply for a stipend valued at ZAR255 000 per year from UMP or NMU. This stipend does not include any additional benefits such as health insurance, pension scheme, etc. It is the Fellow's option to supplement this stipend from other sources, and the hosts will support such applications. If the Fellow does not complete the research, the stipend will have to be repaid in full. This offer includes a separate budget for operational costs, but the Fellow is encouraged to apply for additional funding. The second year of funding is subject to satisfactory progress based on an annual progress report. The successful applicant will be eligible for support to attend an international/local conference, to present his or her findings, during the project period. Additionally, there may be opportunities for the co-supervision of post-graduate students.

## **Application procedure:**

Please submit your application consisting of a one-page motivational letter, a two-page proposal highlighting potential research as per the scope provided above, full CV including all publications, full academic transcripts, and email addresses of three academic referees to Dr Liaan Minnie ([liaan.minnie@gmail.com](mailto:liaan.minnie@gmail.com)) and Prof Graham Kerley ([graham.kerley@mandela.ac.za](mailto:graham.kerley@mandela.ac.za)) by **26 June 2020**.