



**RHODES UNIVERSITY**  
*Where leaders learn*



*Selati*  
GAME RESERVE



## **FIELDTRIP REPORT**

7<sup>th</sup> June to 8<sup>th</sup> August 2016

DRY SEASON

Report by:

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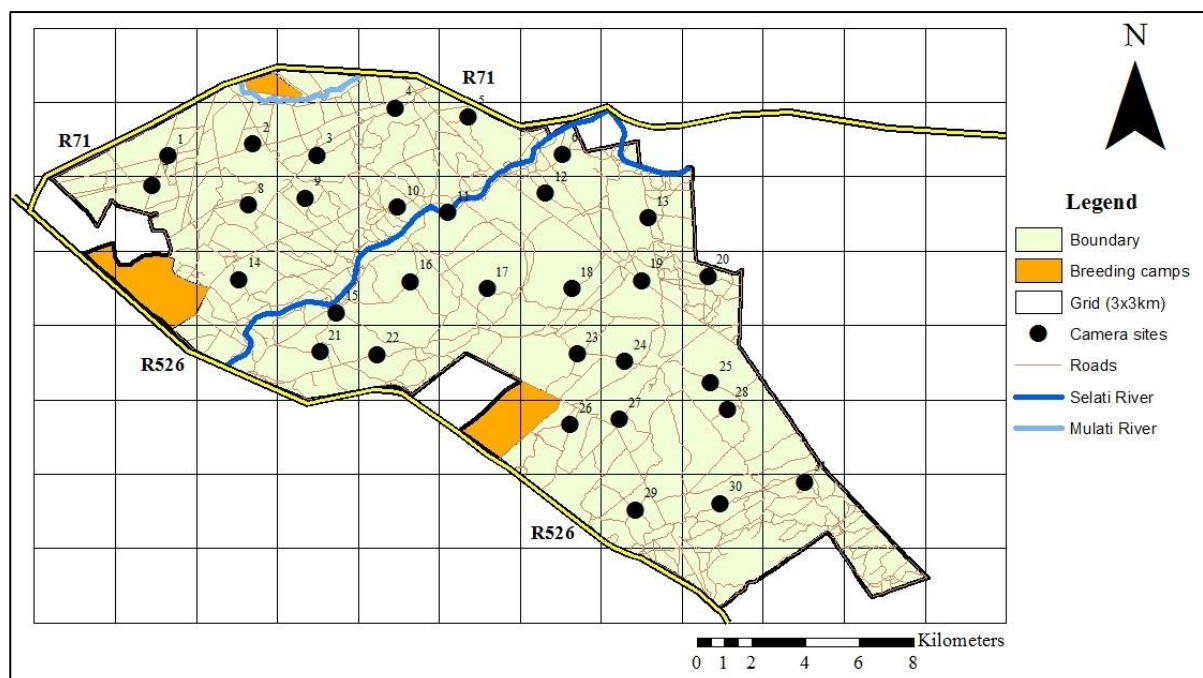
## INTRODUCTION

My first fieldtrip to Selati Game Reserve (Selati) took place from the 7<sup>th</sup> June to the 8<sup>th</sup> August 2016 and proved to be very successful. The first of four camera trap surveys was conducted throughout this period and produced very interesting preliminary results. The first of four road-strip counts was conducted over six consecutive days, from 27<sup>th</sup> June to 2<sup>nd</sup> July 2016. A number of carnivore scats including lion, leopard, caracal, spotted hyena and civet were opportunistically collected throughout the reserve.

## METHODS

### Camera trap survey:

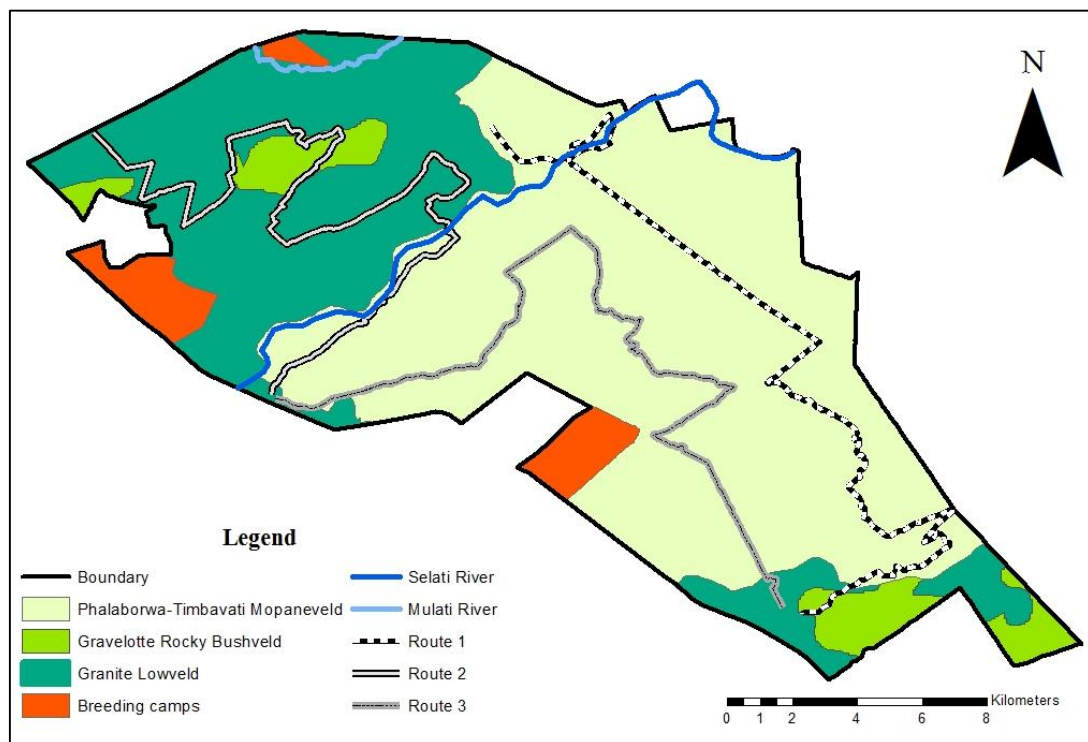
Following the conventional camera trap grid system, 31 Cuddeback Attack cameras were placed throughout Selati, either along game paths (increase likelihood of capturing prey species) or roads (increase likelihood of capturing carnivore species) for 60 consecutive nights (Figure 1). The cameras were attached to trees in metal casings at  $\pm 45\text{cm}$  above the ground to ensure that any prey or carnivore species passing by was captured. The cameras were checked every two weeks to download the pictures captured, replace batteries if needed as well as to ensure that the cameras were still functioning properly. After the 60 night period, all animal pictures captured on all 31 camera traps were analysed in the software programme Camera Base (Version 1.6, Mathias Tobler).



**Figure 1:** The 31 camera trap sites situated throughout Selati Game Reserve.

### Road-trip count:

Three separate transect routes, totalling 95km were chosen to cover the majority of the reserve as well as to pass through all vegetation types (Figure 2). Each of the routes was driven (by the same two observers) twice over a period of six days (27<sup>th</sup> June to 2<sup>nd</sup> July 2016). All animal counts were made in the early morning between 07h00 and 10h45. Once an animal or animals were located the following details were recorded: the distance of the animal or herd from the road (used a rangefinder), GPS co-ordinates, the direction from the line of movement of the vehicle, the species, age, sex and total number.



**Figure 2:** A map depicting the three road-strip count routes which cover the majority of the reserve and pass through the three major vegetation types.

### Scat collection:

The scats of both large- and medium-sized carnivores were opportunistically collected throughout the reserve by both myself and other members of the reserve. Carnivore scats were identified to species level by their size and shape. In the field, the collected scats were placed in air-tight zip-lock bags for storage and each sample was labelled with details such as specie identification, date collected and GPS co-ordinates. All scats collected are being stored in a freezer at Rhodes University until they can be processed.

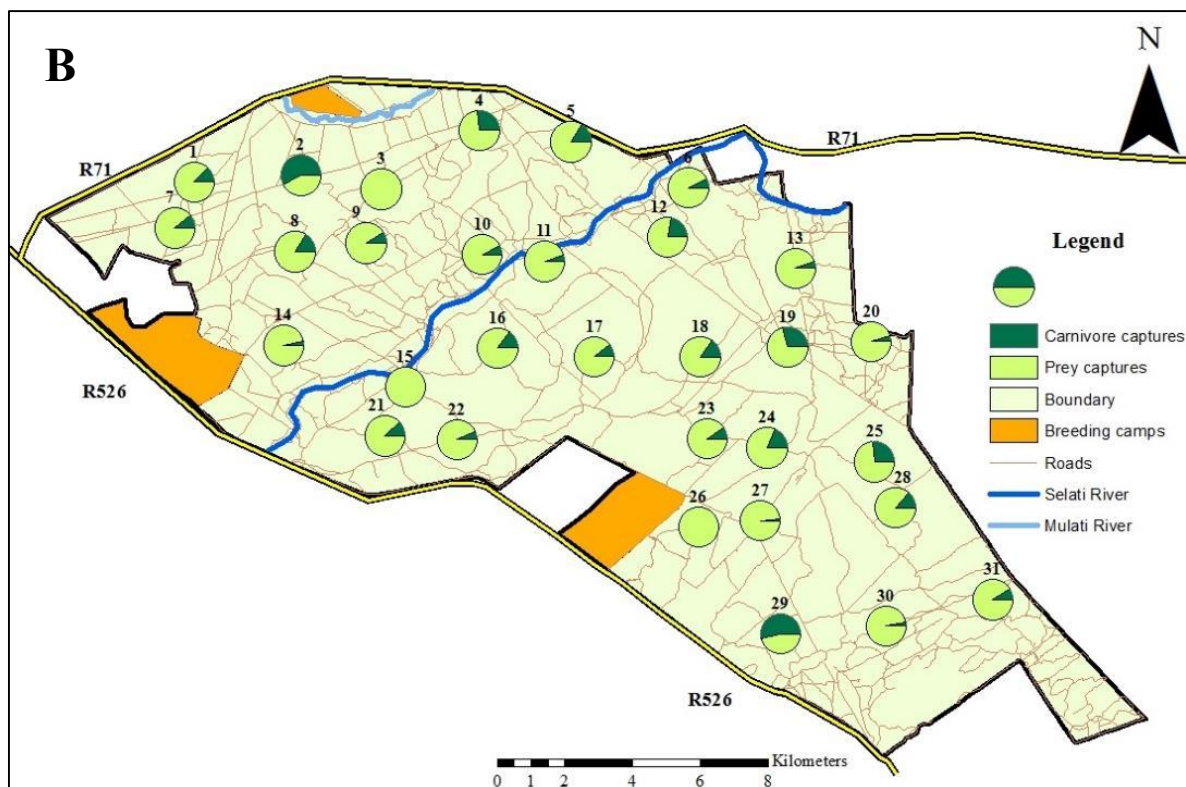
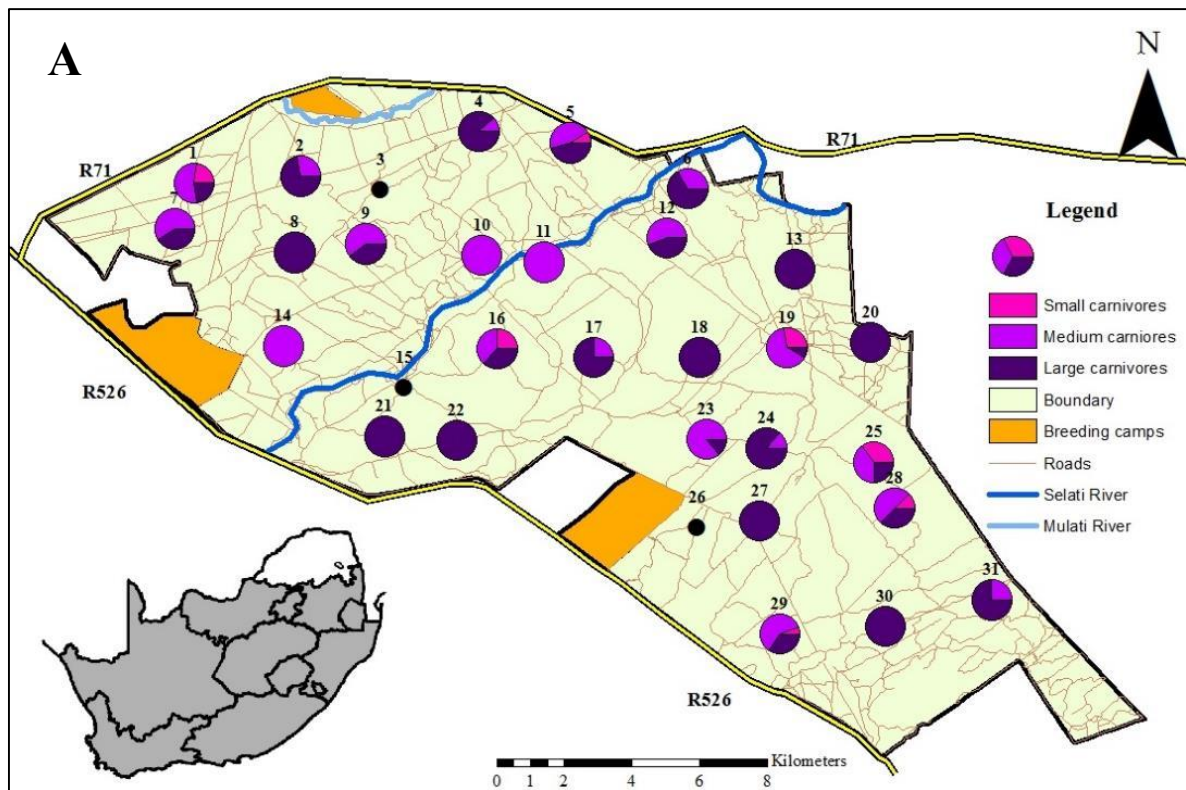
## PRELIMINARY RESULTS and CONCLUSIONS

### Camera trap survey:

The first dry season camera trap survey ran over 60 nights for a total of 1860 trap nights, during which 3458 animal photographs were captured (Table 1). From these photographs, 36 mammal species were identified, of which 14 were carnivores (Table 1). Photographs of prey species were captured throughout the reserve and carnivore species were only not recorded at three camera trap sites (Figure 3). At sites where carnivores were captured, 8 sites captured only large carnivores (Figure 4), 3 sites captured only medium carnivores and no sites captured only small carnivores (Figure 3). Interestingly at sites where small carnivores were captured, there were always more medium carnivores than large carnivores (Figure 3). This could indicate that large carnivores are influencing the spatial dynamics of smaller carnivores through intra-guild competition.

**Table 1:** Summary data from the camera trap survey conducted in Selati Game Reserve between 8<sup>th</sup> June 2016 and 8<sup>th</sup> August 2016.

	n	%
No. trapping nights	1860	-
Total no.images captured	3458	-
Total prey events	1660	100
Small prey (<30kg)	277	16.69
Medium prey (30-90kg)	586	35.30
Large prey (>90kg)	532	32.05
Megaherbivores (>1000kg)	265	15.96
Total carnivore events	306	100
Small carnivore (<10kg)	19	6.21
Medium carnivore (10-20kg)	118	8.56
Large carnivore (>20kg)	169	55.23
Total mammal species	36	-
Total prey species	22	-
Total carnivore species	14	-

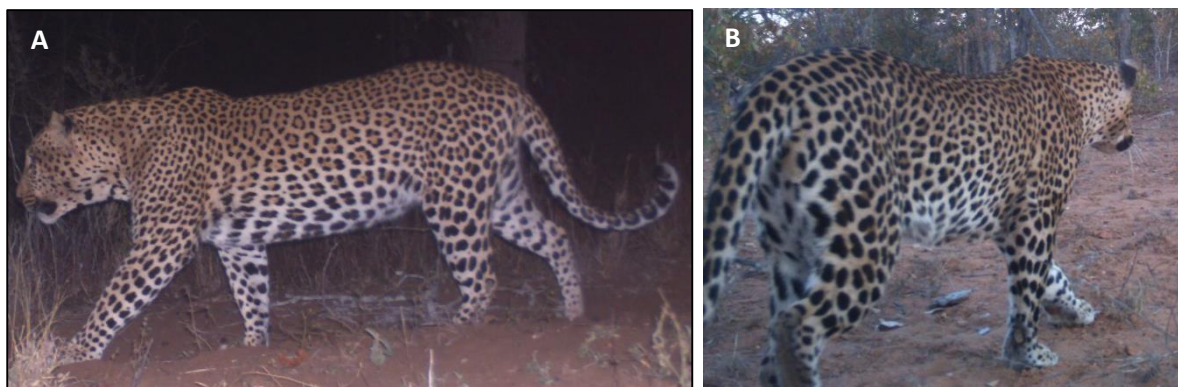


**Figure 3:** Total capture events of small, medium and large carnivores (A) as well as total capture events of prey and carnivore species at each of the 31 camera trap sites in Selati Game Reserve between 8<sup>th</sup> June and 8<sup>th</sup> August 2016.



**Figure 4:** Photographs of large carnivores (A- lion, B- leopard, C- spotted hyena) captured on camera traps in Selati Game Reserve.

A total of 18 leopard photographs were captured throughout the camera trap survey, from which nine individual leopards were positively identified. Three of these nine individually identifiable leopards were identified as males and three as females (e.g. Figure 5).



**Figure 5:** Two of the nine individually identifiable leopards captured during the camera trap survey (A-male, B-female).

A total of 164 spotted hyena photographs were captured throughout the camera trap survey. From these photographs, a total of 72 photographs were classified as being photographs of 'unidentifiable' individuals because they were either partial images or of poor quality (e.g. overexposed or individual too far away from camera (Figure 6). The individual markings of spotted hyenas are asymmetrical, therefore the remaining photographs were split into left- (n= 51) and right-hand side (n=40) photographs. The left-hand side photographs made up the majority of the photographs, therefore they were used to identify individual spotted hyenas. A total of 24 individual spotted hyenas were identified (e.g. Figure 7).



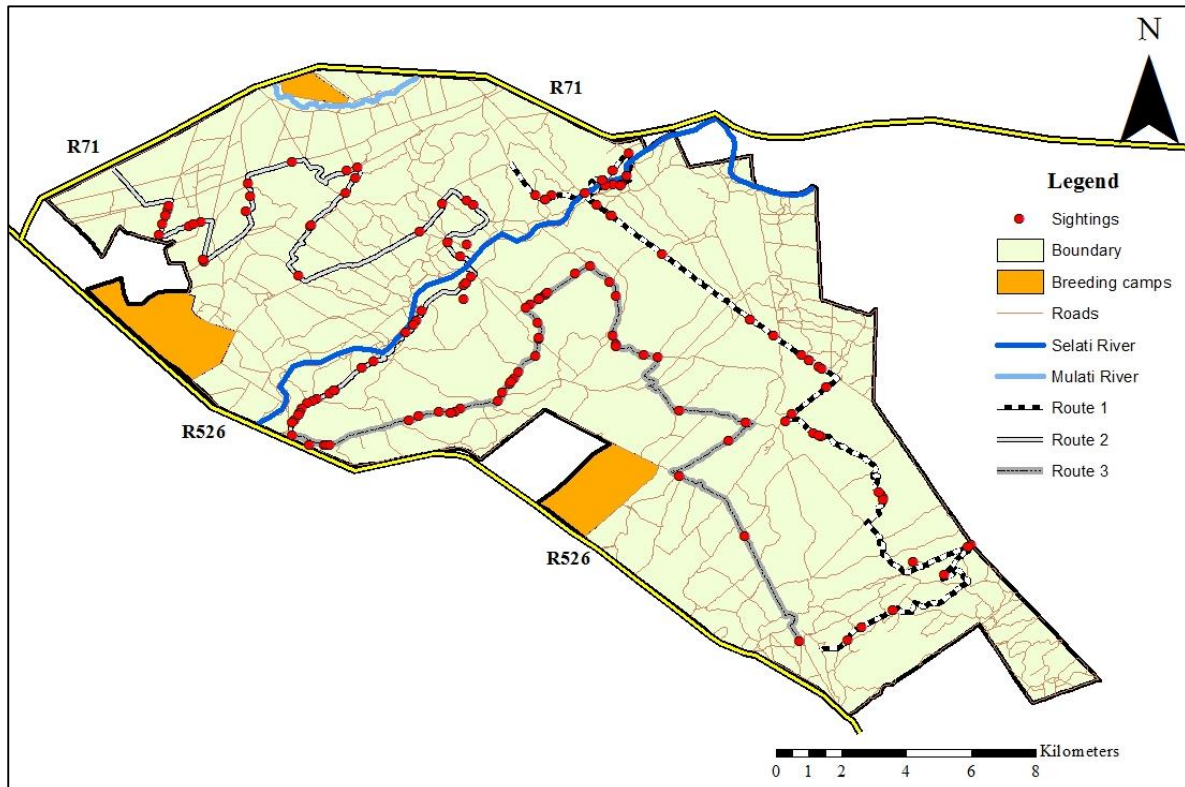
**Figure 6:** Examples of poor quality photographs captured of spotted hyena during the camera trap survey.



**Figure 7:** Three of the 24 individually identified spotted hyenas from the camera trap survey.

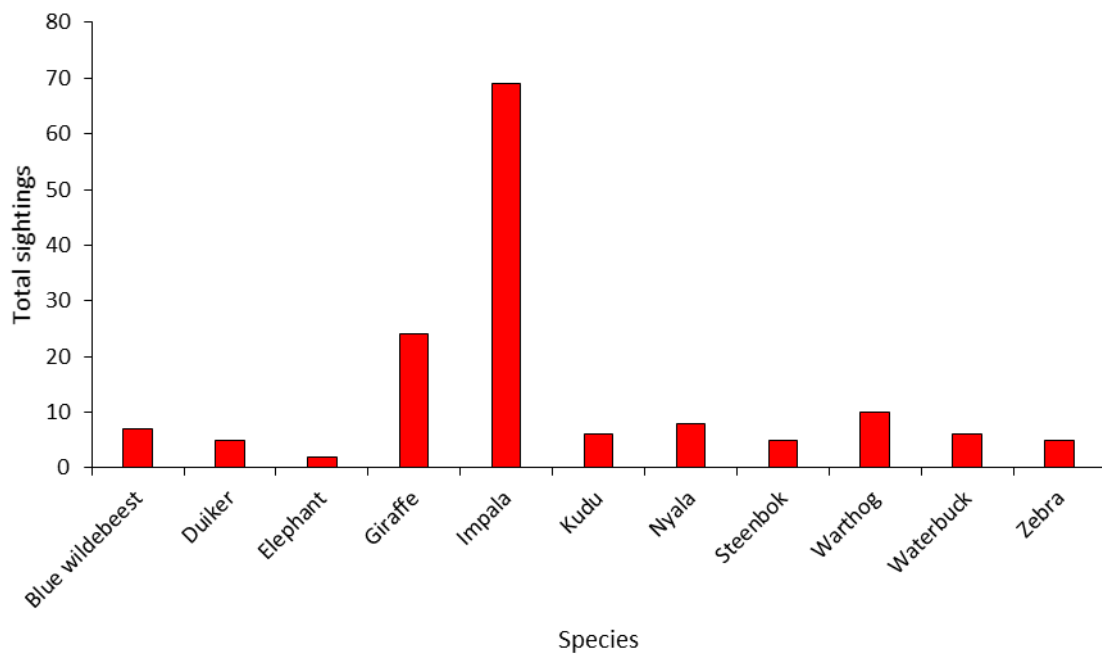
Road-strip count:

Although animals were sighted along all three of the routes, Route 3 produced the greatest number of sightings (Figure 6). Interestingly, very few sightings were made in the south of the reserve (Figure 6), but as expected, a great proportion of the sightings were made along the river (Figure 6). A total of 13 mammal species were identified, of which impala made up the majority of the sightings (Figure 7). Analyses will be conducted once the second dry season road-strip count has been conducted, which will be June-August 2017.



**Figure 6:** Map depicting where sightings of animals were counted along the three road-strip routes.





**Figure 7:** Total number of sightings for each species for the road-strip count survey.