Update from the field: Black-footed Cat Working Group, South Africa

Research / Narvorsing
Black-footed Cat
Working Group
(Miershooptier Werkgroep)

April 2024, Michelle Swanepoel, field technician

These are notes from the field by the Black-footed Cat Working Group (BFCWG) technician at the Benfontein Nature Reserve study site near Kimberley, South Africa. Black-footed cats (*Felis nigripes)* are fitted with radio collars and monitored as part of a long-term study on the ecology and demography of this elusive little felid. This update will pay tribute to "Kazi", a skilled huntress who has revealed so much to us in the past five and a half years of monitoring her.

Special thanks to Hannes Mans and DeBeers Consolidated Mines for study site access and long-term support of the BFCWG at Benfontein Nature Reserve.

Shongo:

Installing camera traps at the dens of radio-collared cats plays a crucial role in our research, providing valuable data that reveals fascinating insights about these cats.

Figure 1 – Footage obtained from a camera trap reveals Shongo successfully capturing a Cape skink (Trachylepis capensis) during broad daylight.

Shongo's opportunistic nature was vividly demonstrated in recent camera trap footage, confirming a prey speculation made by Dr. Alexander Sliwa in 2021. The footage captured Shongo emerging from his den at 01:49 PM. His attention was immediately drawn to the movement of a cape skink, prompting him to swiftly pounce forward and capture it. Returning to his den, where he proceeded to consume his prey. Later, at 04:37 PM, Shongo emerged again, spending five minutes grooming before retreating back into his den. Thirty minutes later, he emerged once more, resting at the den's entrance until the movement of another cape skink caught his eye at 05:42 PM. Without hesitation, he pounced forward, capturing the second skink and carried it back to his den for consumption.

Figure 2 – Camera trap footage capturing Shongo returning to his den with his prey.

Another intriguing moment captured by the camera trap reveals Shongo resting at the den entrance. At 18:51, he suddenly detected the presence of an aardwolf (*Proteles cristata*) and swiftly darted into the den. Moments later, one of the subadult aardwolves approached, inspecting the den entrance with evident curiosity and some agitation (Fig.4: see fluffed-up tail hair, pers. comm. Dr. Alex Sliwa). Interestingly, the first three aardwolves passed by without much interest in Shongo (Fig. 3). After sniffing around the den for a minute, the aardwolf departed to rejoin its companions. Shongo reappeared from his den a minute later, seemingly unfazed by the encounter.

Figure 3 – (left) Shongo detecting the presence of the aardwolf heading his way, (right) an aardwolf investigating the den occupied by Shongo.

Figure 4 – A subadult aardwolf investigating the den occupied by Shongo, before rejoining his companions.

Kazi:

Black-footed cats are renowned for their nocturnal behavior. However, Kazi displayed a natural inclination for resting amid the lush long grass or near the entrances of burrows during the daytime. Lately, I had several encounters with her where she seems content to relax, unperturbed by my presence.

Figure 5 – Kazi resting at the entrance of dens during broad daylight.

Kazi was an enigmatic presence, captivating to observe as she hunted with unparalleled strength and precision. Her determination made her the favorite to us among all the collared cats. Over the course of 5.5 years of monitoring her, we gleaned invaluable insights from her behavior. It was devastating to discover her absence after she went missing for a couple of days. When I finally found her, the antenna of her collar was flattened against the ground, severely hindering our ability to detect her range.

Initially, there were no clear signs of predation, but upon conducting a necropsy, it became evident that she had been killed by a caracal (*Caracal caracal*). Despite the heartbreak of losing her, I cherish the year I spent monitoring her. Kazi was always full of energy, constantly on the move, showcasing her prowess as a skilled hunter. From capturing larks (*Alaudidae*) to a double-banded courser (*Rhinoptilus africanus*), a white-quilled bustard (*Afrotis afraoides*), and even a young cape hare (*Lepus capensis*), she demonstrated incomparable hunting abilities marked by pure determination, strength, and precision.

Figure 6 – Camera trap footage captures Kazi shaking the dust from her fur moments after emerging from her den.

During my efforts to locate her before discovering her dead, I scaled the koppies on the reserve and thoroughly traversed all the roads within her home range. Despite my efforts, I failed to detect a signal. Thus, I decided to expand my search beyond her usual territory. During this extended search, I encountered three caracals and a pair of black-backed jackals (*Canis mesomelas*). In addition to encountering the caracals and black-backed jackals, a little over a month before Kazi's death, I positioned a camera trap infront of her den and in the footage we observe a caracal investigating the camera trap just one day later.

Figure 7 –Camera trap footage capturing a caracal investigating the den occupied by Kazi the previous day.

The black-footed cat, being the smallest felid species in Africa, is frequently vulnerable to lethal encounters with larger competitors. Intraguild killing, is often conducted to mitigate exploitation competition, particularly over food resources. As heartbreaking as it was discovering her body and the results from the necropsy, it provided us with valuable data, aiding us in identifying primary causes of mortality. Understanding the various causes of mortality within a population provides valuable insights into local ecology, evolutionary pressures, and potential conservation issues affecting small wild cat species.

Kazi will forever hold a cherished place in our hearts and has left an enduring legacy within the project. However, we are eagerly anticipating conducting captures at the end of May 2024 to embark on new discoveries. I consistently value the opportunity to observe and understand the habits and unique personalities of the various cats in our midst.

Search for Rodeo:

Last year, one of our radio-collared cats ventured away from Benfontein on two separate occasions. The first departure occurred on June 25th, and we detected his frequency on June 28th on a neighbouring farm named Susanna, east of Benfontein. By June 30th, he had traveled even further to another farm named Rooifontein, where he stayed for a few days. The last sighting we had of him at Rooifontein was on July 5th. On July 7th, he returned to Benfontein, initially lingering along the border before settling back into his usual territory on July 10th. However, in August, this elusive male disappeared again. Our last documented sighting of him was on August 9th, near the eastern border of Benfontein. Regrettably this time we encountered a complete absence of signals from ground to ground, or from hills in the surroundings.

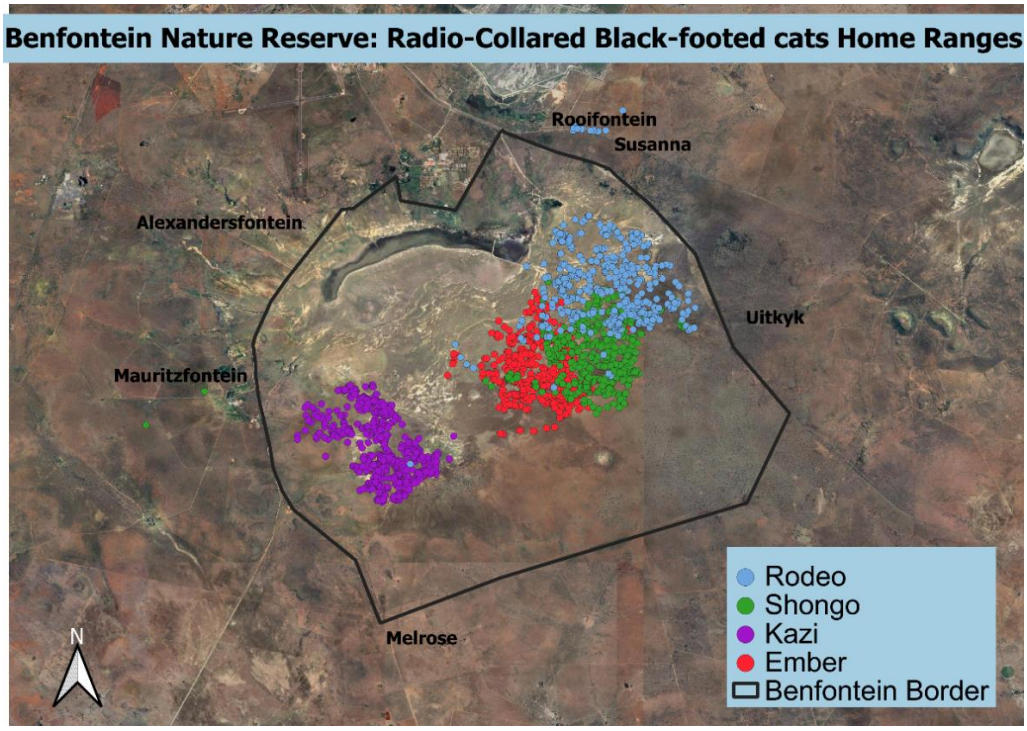

Figure 8 - BNR Study site: A visual representation of Rodeo's excursion, beyond the boundaries of Benfontein Nature Reserve.

In December of last year, we decided to conduct an airplane flight to search for Rodeo in hopes of obtaining a signal. If we could acquire a collar signal, it would have provided us with crucial information regarding black-footed cat dispersal and the survival of such an adult male that moved away from the study site. This serves in modelling the fragmentation of black-footed cat range for the IUCN Redlist assessment, which is just currently underway again. By knowing the distance of dispersal one can model what distances they can cover between suitable habitat patches.

Figure 9 – (left) A visual representation of routes flown during the search for Rodeo via flight. (right) on the left: A. Conroy, M. Swanepoel, during the flight in search of Rodeo.

We reached out to the Bateleurs (https://www.bateleurs.co.za/) to inquire if they had any pilots in the area who could assist us. Thankfully, they were eager to help, and we extend our immense gratitude to the Bateleurs for their willingness to assist in our search. They connected us with pilot Andrew Conroy, who generously volunteered to aid in the search for Rodeo. We conducted two flights on separate occasions, flying transects, but unfortunately, we were unable to pick up a signal from Rodeo. We extend our heartfelt gratitude to Andrew for his remarkable efforts and invaluable contribution to the project, graciously volunteering to conduct two flights in search of Rodeo.

Sailing on waves of gratitude:

As we embark on our quest for new discoveries, your support and sponsorship have been the wind in our sails. We're thankful for your continued support, helping us make significant breakthroughs.

Best regards from the veld,

Michelle Swanepoel