



The Meerkatter

The Friends of the Kalahari Meerkat Project Report - www.kalahari-meerkats.com - February 2022

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22/2/22: An eventful day at Big Dune

The morning

Zulus woke up at burrow G358A which is at the northern end of Big Dune, 268m west from Funky Town in an open shrubby area. All was well with Zulus. Their only surviving pup, VZUF066, was doing much better, turning into an eggy monster, much to the relief of the observer. We were all quite worried about her as when she was one month old, she already weighed over 200g (which was double the weight of other pups of her age) and was a podgy pup with the sweetest fat rolls. However, when she first started foraging with the group she presented as having little appetite; refusing pup feeds, only licking egg given to her, making no begging calls. She spent a lot of time resting at bolt holes much to the irritation of the group who were constantly coming to get her and encourage her to stay with the foraging group. This was bizarre compared to pups her age at other groups. Observers hoped it was just due to the fact she was receiving all the resources having no litter mates to compete with and not that something was physiologically wrong with her. Much to our relief, her appetite and energy levels have since grown. With their chubby pup in tow, Zulus set off swiftly from the burrow, foraging up to the top of Big Dune.



Zulus' pup (VZUF066) minutes before the IGI with Gold Diggers
Photo credit: Life History Coordinator Trainee Lila Chillingworth.

Over at Gold Diggers things were not so normal. Gold Diggers, or Goldies as they are affectionately known as, have been using burrow G1228A as their babysitting burrow and have been there since the 18th of February. This burrow is at the southern end of Big Dune, right at the road intersection. From the burrow the meerkats get a good view of anyone who may be running along the top of Big Dune and vice versa. The first part of the morning was quite uneventful, they got up as usual and weights went fine. However, it was when it came to foraging the observer realized something was up. They kept leaving the burrow, then returning in a chaotic fashion before suddenly leaving in earnest. Goldies did not pause to forage, they made their way up the right side of Big Dune. The observer was left wondering what was going on. Why are they not foraging and where are they heading to? It was then that they spotted the Zulus observer, and all became clear, an inter-group interaction (IGI) was about to begin.

When Zulus spotted Goldies they initially retreated so they could gather up and the war dancing began. Both groups war danced towards each other. A short standoff ensued before they clashed together, and multiple fights broke out. Yearling subordinate Goldies male JoJo (VGDM032) attacked an unknown Zulus individual. Both groups then retreated to re-group. It was at this point the Zulus observer noticed Zulus only consisted of the dominant female Spruddel (VZUF028), yearling subordinate females Salazar (VZUF051), Helga (VZUF052) and Spoekies (VZUF062) and yearling subordinate males Zuma (VZUM059) and Willow (VZUM063). Despite being only six in number, Zulus re-grouped and war danced towards the eighteen members of Gold Diggers. Apt they are named after the Zulu people, historically known for their strong fighting spirit. Over the next eight minutes a kind of dance began. One group would advance, war dancing, the other would retreat in response, then re-group and war dance back in return, causing the other group to retreat, group up and advance again. Occasionally the groups would clash together, and fights would break out. Gold Diggers' yearling subordinate male Beatrice (VGDM014) chased and attacked Salazar. Three



Zulus individuals attacked JoJo. In this manner Goldies pushed Zulus to the edge of Big Dune. Here Zulus decided to retreat all the way back to the sleeping burrow, ending the inter-group interaction.



A still from a video of the Zulus-Gold Diggers IGI. The meerkats war dancing in the foreground are Zulus. Photo credit: Life History Coordinator Trainee Lila Chillingworth.

Back at the sleeping burrow the Zulus six were re-joined by the rest of the group including the pup. Luckily no one had suffered any grave injuries with only yearling subordinate female Rowena (VZUF054) having a small puncture wound in her abdomen. However, they could not rest easy as they were beset upon by multiple encounters with four subordinate Goldies males; adult males Jack (VGDM010) and James Sawyer (VGDM011) and yearling males Beatrice and Rogelio De La Vega (VGDM015). These males circled the sleeping burrow, keeping to the shrubbery and occasionally showed their faces which either caused Zulus to alarm softly and go bipedal or war dance them off. Eventually after an hour and a half they left Zulus in peace which enabled them to start their day of foraging again.

Back on the top Big Dune, after their victory against Zulus, Goldies rested in the shade before heading back down to the burrow. Here they stayed for the rest of the morning session and despite all the fights, none of them sustained any injuries. Although two days later James Sawyer had a swollen back left foot which was leaking puss and causing him to limp. Observers were concerned that the main challenge of the evening session would be to actually find the group, as the only collared individual, Beatrice, had been roving that morning. Oh boy were they wrong.

The evening

As predicted, Beatrice was not with the group, so the evening observer waited at the sleeping burrow for Goldies to return. When the meerkats came running back, they headed straight down the sleeping burrow, leaving the observer concerned about the number of weights they were going to be able to get. A couple of individuals re-emerged, followed by yearling subordinate female BMO (VGDF020), who had a pup in her mouth. This pup was not alive

thankfully as she started to eat it. The pup was about 10 cm in length, not counting the tail. Yearling subordinate male Yoriki (VGDF033) noticed BMO was eating something, approached her and managed to eat part of the body she had left behind. BMO then went below and grabbed another pup, which sadly was alive, and proceeded to kill and eat it. The squealing caused all the other adults to run over. The, at this point horrified, observer noted most adults did not want to eat the pup but were just curious as to what the noise was. However, adult subordinate littermates Goldeneye (VGDF007), Juliet (VGDF009), Fleabag (VGDF005) and Yoriki proceeded to fight over what was left of the body. Thankfully only two pups were brought up when the observer was there. Unexpectedly, all the other meerkats became very eggy and the majority of the group's weights could be collected. Goldeneye gained 70g after eating part of a pup. Once the pup had been completely eaten, the group went below without any other incidences occurring.

We cannot be exactly sure whose pups these could have been as there were three litters in the burrow at the time. Fleabag gave birth on the 17th, Juliet on the 20th and Goldeneye on the 21st. BMO is still pregnant at the time of writing. Only Fleabag's pups would have been big enough to be the killed pups although this was surprising to observers as we did not think her pups had survived when the group left no babysitters after she gave birth and no females started lactating until the 21st. Two days later, on the morning of the 24th, BMO was observed bringing up another pup, and began to eat it before Juliet stole it off her and ate the majority. The next evening (25th) the group changed burrows, were not observed moving pups and subsequently left no babysitters. This confirmed the death of all three litters, leaving no pups to compete with the offspring BMO is currently carrying.

Consulting the literature, a study on our population found that in five out of the six incidences of infanticide witnessed, it was performed by pregnant female relatives, killing pups less than 24hours old. In these cases, the pregnant female's litter would benefit from this act of infanticide as the pup to helper ratio would increase and the competition for food to the individual's litter, by older pups, would decrease (helpers do not discriminate between dominant's pups and subordinate's pups when choosing who to help). Helpers have a crucial role in the survival of offspring as parents contribute relatively little to the initial protection of young. Moreover, where predators are abundant offspring survival rates increase in relation to number of helpers.

A subsequent study found that when a subordinate female breeds in a group, the dominant female's pups are lighter when they reach independence. Low pup weight at this age is associated with reduced rates of surviving to adulthood and a reduction in future breeding success. This shows the benefits a dominant female would gain in performing infanticide and stopping a subordinate female from successfully breeding.



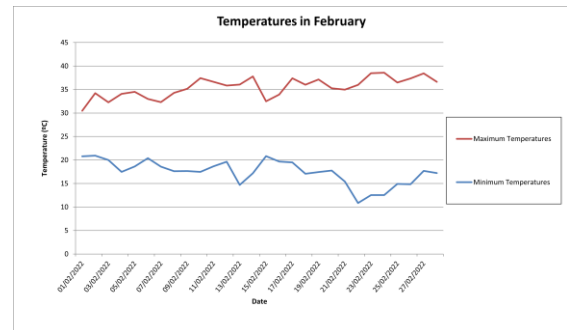
In four of the cases mentioned above the infanticidal animal was a subordinate female and in only one case she was not pregnant. This illustrates the threat posed to a dominant female's litters by subordinate infanticide. A way to reduce this risk is to evict the subordinate females from the group in the late stages of the pregnancy. This removes their ability to access the pups whilst the dominant female is out foraging and cannot act to stop infanticide. In large groups dominant females are more likely to evict subordinates as the likelihood of infanticide occurring is increased, as the group gains less from expanding, compared to smaller groups.

Dominance at Goldies has been unsettled since the disappearance of the former dominant female Cleo (VGDF013) at the end of December 2021. We have been observing a lot of dominance competitions between Fleabag, Juliet and Goldeneye, but no one seems to have won yet. To determine who is dominant we look for direct submissions from half the mature females in the group. Goldies is a group of 18 members so it fits the earlier statement that they should be more at risk of infanticide. Maybe this lack of clear authority allowed BMO to remain in the group and have the confidence to clear the way of competition for her pups. Maybe the stress of the morning's IGI triggered this event, prompting the females to try and reclaim some of the resources they had invested into these litters of pups. These are just speculations, that once again show the value of the Kalahari Meerkat Project in being able to collect data on this kind of events which allows researchers to identify the motives behind them.

Pregnancies in February 2022

Females pregnant in February	18
Females who aborted	0
Females who gave birth, litters lost	3
Females who gave birth, litter emerged	3
Females who gave birth, unknown outcome	7
Females still pregnant at the end of the month	5

Weather at the KMP



The average maximum temperature was 35.5 °C and the average minimum temperature was 17.4 °C. On the 24th temperatures rose to the highest recorded temperature this month of 38.6 °C. The coldest morning was on the 22nd, with temperatures dropping to 10.9 °C. We had 39.2mm of rain in February.

February 2022 Life History Details

Alba (formerly Elrond's Council 2):

- Elrond's Council 2 has been together for more than 2 months and has successfully bred. They are now officially a group and have been renamed Alba (code: AL).
- Alba's group size has increased to 13 meerkats with the emergence of 6 pups, born to dominant female Pippin (VECF003), adult subordinate female Tolkien (VECF019) and yearling subordinate female Kilie (VECF036).
- All meerkats were present at the end of the month.
- Alba had encounters with evicted adult subordinate female Orc (VECF012) on the 2nd, 8th, 11th, and 12th. On the 12th Orc was also joined by an unknown adult, who Alba separately war danced and chased away.
- No inter-group interactions or group splits were observed in February.
- Habituation at the group is *Incomplete*. Pippin is being weighed on a regular basis however, she often does not like to fully commit to getting all the way into the scale. She is comfortable with being followed at 1m and you can sit with her under 1m. The rest of the individuals are fully habituated.
- All individuals appear healthy.

Brussels Sprouts (formerly Make-e-Plan 4):

- Make-e-Plan 4 has been together for more than 2 months and has successfully bred. They have officially been made a group and have been renamed Brussels Sprouts (code: BS).
- All 4 adults were present at Brussels Sprouts and were joined by 5 pups who emerged on the 12th and 13th, bringing the total members present when they were last seen to 9.
- Female dominance is still unsettled.
- No encounters, inter-group interactions or group splits were observed.
- All individuals at Brussels Sprouts seem to be in good health.



- To note, Brussels Sprouts currently has no radio collar. They left their babysitting burrow on the 16th or 17th, hopefully taking all the pups with them. The group has not been seen since, but we continue to search for them.

Elrond's Council:

- All 19 meerkats were present at the end of the month.
- Dominant female Galadriel (VECF032), who had been officially stated as pregnant at the beginning of this month, gave birth on the 24th. On the 27th we glimpsed one very tiny pup in the mouth of an adult inside the burrow, but it is unsure how many more are below.
- On the 17th yearling subordinate female Calypso (VECF027) left the group but had returned again on the 25th. Yearling subordinate male Pucky (VECM023) also left on the 17th and returned on the 19th.
- No encounters, inter-group interactions or group splits were observed this month.
- Habituation is still considered *Incomplete*. Galadriel is still skittish with sudden movements and hands but otherwise can be approached at 1-2m with minimal barking. She voluntarily approaches the scale and is keen to hop in for some egg. The rest of the individuals are fully habituated.
- All individuals appear to be in good health.

Gold Diggers:

- There were 16 out of 18 meerkats present at Gold Diggers at the end February.
- Two meerkats left the group, remaining absent at the end of the month: yearling subordinate males Uncle Hec (VGDM030) on the 19th and Yoshi (VGDM034) on 25th.
- Yearling subordinate females Cosmic Owl (VGDF019), Shiva (VGDF021) and Corrugation (VGDF023) were given their Last Seen.
- On the 4th, yearling subordinate male Baymax (VDGM028) returned to the group. Yearling subordinate female Poki (VGDF029), adult subordinate males Jack (VDGM010) and James Sawyer (VGDM011) and yearling subordinate males Beatrice (VDGM014) and Rogelio De La Vega (VDGM015) left the group after their encounter with Zulus on the 22nd but had returned by the start of the afternoon session. Jack left and returned 4 more times this month on the: 4th, 10th, 16th, and 19th. James Sawyer additionally left on the 2nd and returned on the 7th.
- The group had 5 encounters with 2 unknown adults on the 21st which elicited the response of alarming and war dancing from Gold Diggers.
- On 22nd the group had an inter-group interaction with Zulus.
- No group splits were observed in February.
- Three adult subordinate females gave birth: Fleabag's (VGDF005) litter on the 17th, Juliet's (VGDF009) on the 20th and Goldeneye's (VGDF007) on the 21st. However, their born pups were lost before emergence due to infanticide in the case of Fleabag's litter and a

burrow change for the others, although we cannot rule out infanticide for their litters.

- Initiating the infanticide has worked out in yearling subordinate female BMO's (VGDF020) favour as she is the only remaining pregnant female.
- All individuals seem to be healthy.

Hakuna Matata:

- We are not sure how many individuals are currently present at Hakuna Matata. The group was last sighted on the 3rd and has been on the Heights farm since. We are regularly checking their known territory, so we can start following the group again as soon as they return to our reserve.
- When we last saw Hakuna Matata, adult subordinate male Luther (VLM245) and adult subordinate female Azizi (VHMF039) were absent from the group.
- The dominant female Sencha (VHMF030) was pregnant.
- No individual encounters, inter-group interactions or group splits were observed.
- All individuals appeared healthy when they were last seen.

Jaxx:

- There were 21 out of 22 meerkats present at Jaxx at the end of the month.
- Adult subordinate male Nibs (VJXM137) left on the 16th, remaining absent at the end of the month.
- Yearling subordinate male Oliver (VJXM144) and yearling subordinate female Gray (VJXF150) both left and returned once.
- No individual encounters, inter-group interactions or group splits were seen this month.
- All individuals at Jaxx seem to be in good health.

Lazuli:

- All 13 individuals were present at the end of the month.
- The dominant female Sigma (VLF230) gave birth on the 15th or 16th. We do not yet know how many pups she had.
- Adult subordinate male Slop (VLM253) was moved to the group Unknown.
- No individual encounters, inter-group interactions or group splits were seen this month.
- All individuals seem to be in good health.

Make-e-Plan:

- The total number of meerkats increased to 18 with the arrival of 6 new pups. 17 members were present at the end of the month.
- Yearling subordinate female Emma (VMPF060) left the group around the 19th, remaining absent at the end of the month.
- Yearling subordinate male Priscilla (VMPM046), who was absent at the end of January, returned on the 3rd.



- No individual encounters, inter-group interactions or group splits were seen this month.
- Make-e-Plan became a habituation group after the arrival of adult males Sketchy Bongo (VTSM019) and Sushi (VTSM006) from Trackie-Daks at the end of November. Sketchy Bongo is a very skittish individual and we are working hard on his habituation. We hope being around a well-habituated group will have a positive impact on how comfortable he is around us.
- The radio-collared male Priscilla managed to lose his collar, making it quite challenging to keep track of the group. We regularly send out observers to sweep their known burrows and to look for signs of Make-e-Plan, but we have only had mixed success in finding them.
- All individuals appear to be in good health.

Namaqua:

- There were 11 out of 12 individuals present at the end of the month.
- Pup VNQM030 disappeared from the group on the 19th and will be given his Last Seen if he does not reappear by the beginning of March.
- Yearling subordinate female Megara (VNQF020) left the group from the 11th until the 13th and was evicted from the 14th until the 24th. Sub-adult male Hanspeter (VNQM029) also left and returned a few days later.
- The dominant female Manzai (VNQF013) gave birth on the 21st. We do not yet know how many pups she had.
- Namaqua had an encounter with an unknown female on the 14th.
- No inter-group interactions or group splits were observed in February.
- Megara started showing signs of tuberculosis, with small submandibular lumps on both sides and protruding collarbones and hips. No other Namaqua meerkats are showing signs of TB and seem to be healthy.

Phoenix

- 16 unmarked individuals were present at the end of the month, including 4 pups.
- The only identifiable individual, the radio-collared yearling female Pinky (VPHF001), has been given her Last Seen.
- No encounters or interactions were witnessed this month.
- The group's habituation status is still *In Progress*. On most days observers are tolerated at 2-5m. At the end of the month, the new pups ate some egg that we sprinkled near the burrow. This is great news as they could encourage the adults to also try egg, which would mean they associate our presence with the positive experience of eating egg, which should hopefully make group members more comfortable with our presence.
- All individuals at Phoenix appear to be healthy.

Runaways:

- All 11 individuals were present at the end of the month.

- Adult subordinate male Grigio (VJXM126) was given his Last Seen after being absent from the group since December.
- No individual encounters, inter-group interactions or group splits were seen this month.
- All individuals seem to be in good health.

Side Quest:

- There were 10 out of 11 individuals present at the end of the month.
- Adult subordinate female Timon (VZUF049) left on the 15th, appeared once on the 22nd and was still absent at the end of the month.
- The dominant female Pumba (VZUF048) is pregnant again.
- There were no individual encounters, inter-group interactions, or group splits observed during the month.
- All individuals appear to be healthy.

Trackie-Daks:

- The total number of meerkats increased to 20 with the arrival of 10 new pups. 19 members were present at the end of the month.
- Adult subordinate male Petit Lu (VTSM011) left on the 7th, remaining absent at the end of February.
- There were no individual encounters, inter-group interactions, or group splits observed this month.
- The habituation level is currently *In Progress*. Focus is on the dominant male Coquette (VTSM014) who still needs a lot of habituation work. Adult subordinate male Jiminy Cricket (VTSM007) still needs habituation work too. We hope that the arrivals of new pups, who are generally easier to habituate, will positively influence the habituation levels of the males that need the most work.
- All individuals appear to be healthy.

Ubuntu:

- The group size increased to 24 with the addition of 13 pups to Ubuntu. All members were present at the end of the month.
- Yearling subordinate males Thulani (VUBM036), Scarboi Jnr (VUBM038), and sub-adult males Errie (VUBM041) and Chad (VUBM042) have been given their Last Seen after being absent from the group since December.
- Adult subordinate male Captain Barbosa (VLM265) left and returned once. Adult subordinate female Magali (VUBF023) and yearling subordinate female Cthulhu (VUBF035) both briefly left on the morning of the 8th to retrieve 2 pups the group had left behind in the previous sleeping burrow.
- No encounters, inter-group interactions or group splits were observed this month.
- Habituation is still considered to be *Incomplete*. The habituation of Captain Barbosa is continuing. Weighing sessions have become a lot more chaotic with the arrival of the 13 pups and he is often not comfortable enough around the scales anymore. He can be followed at 1-2m on a good day while he is foraging.



- All individuals appear to be in good health.

Whiskers:

- All 15 individuals were present at the end of February.
- The dominant female Swift (VWF176), yearling subordinate female Emily Bronte (VWF243) and sub-adult females Flake (VWF247) and Chomp (VWF251) gave birth. We do not yet know how many pups they had in total. The litters born to adult subordinate female Luna (VWF235) and yearling subordinate female Laika (VWF236) at the end of January were lost before emergence.
- Adult subordinate female Luna (VWF235) was accepted back into the group on the 1st. Sub-adult male Barone (VWM248) left and returned on the 3rd.
- No encounters, inter-group interactions or group splits were observed this month.
- All individuals at Whiskers seem to be healthy.

Zulus:

- All 12 individuals were present at the end of the month.
- VZUP065 was given its Last Seen after being absent from the group for 10 days and is assumed to have been predated.
- Yearling subordinate males Bear (VZUM056), Mion (VZUM057) and Zuma (VZUM59) left the group on the 10th and returned on the 12th.
- Zulus had encounters with various individuals from Gold Diggers on the 22nd. They encountered adult subordinate males Jack (VGDM010) and James Sawyer (VGDM011) once, yearling subordinate males Beatrice (VGDM014) and Rogelio De La Vega (VGDM015) twice and had two more encounters with an unknown meerkat.
- They had an inter-group interaction with Gold Diggers on the 22nd.
- No group splits were observed during the month.
- All individuals at Zulus appear to be healthy.

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