



The Meerkatter

The Friends of the Kalahari Meerkat Project Report - www.kalahari-meerkats.com - December 2023

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The Golden Boys

The year 2023 has been a golden year for many Gold Diggers rovers. Many found a new group to join, and their arrival drastically changed groups' dominance dynamics. While a dominant female is generally natal to the group, male dominants are typically unrelated immigrants joining groups either singly or as part of a coalition (Clutton-Brock & Manser, 2016). They may actively displace an incumbent dominant or following the death or disappearance of the previous male they may assume dominance. This has been the case for some of the most renowned Gold Diggers rovers.



Baymax anal marking a shrub near Zulus sleeping burrow. Photo credit: Matilde Montagna, (Meerkat Observer).

At Zulus a new potential competitor for dominance arrived. Adult subordinate male Baymax (VGDM028) immigrated into Zulus group on the 28th of October 2023. Born in February 2021, he started roving in January 2022. Between 2022 and 2023 he was seen at many Gold Diggers neighbouring groups: Zulus in June 2022, Ubuntu in August 2022, then Lazuli in July 2023 and Brussels Sprouts in October 2023. His preference for Zulus, which at that time had a vacant male dominant position, became evident in October 2023. He was commonly observed waking up and foraging with the group and was finally accepted as part of the group on the 28th of October 2023. During that same period two wild rovers, and potential dominance competitors, also joined Zulus: adult subordinate males Fritzl Rösti (VZUM074) and Nac Mac Feegle (VZUM075). A month after his arrival, on the 23rd of November, Baymax evicted adult subordinate male Fritzl Rösti (VZUM074). On the same day Nac Mac Feegle was not seen waking up with the group, leaving Baymax and yearling subordinate male Rain (VZUM067) as the only competitors for dominance. Now it is only a matter of

time: The first one to receive a direct submission from their opponent will gain Zulus' dominant position.



Close up of James, dominant for the second time at Brussels Sprouts. Photo credit: Haley Halbrook, (Meerkat Observer).

The closing stages of 2023 also proved to be a turning point for James (VGDM011) and his campaign for dominance in Brussels Sprouts. Following years of roving and attempted dominance claims, James immigrated into Brussels Sprouts together with his littermate, adult subordinate male Jack (VGDM010) in May 2022. On that occasion, profiting off the absence of a dominant male at Brussels Sprouts, they were both seen lurking around the group attempting to mate. The two brothers were soon observed competing for dominance by rubbing noses and hip slamming each other. In August 2022, following a direct submission from Jack and adult subordinate male Gurke (VHMM036), James finally gained dominance. However, he was only able to maintain his position until November 2022. Immediately after, he was observed being submissive towards other individuals of the group, in particular Gurke. During James's lowest moment, Gurke took over the dominant position in December 2022. In October 2023 yearling subordinate male Chillil (VBSM005) as well as James, after gaining his confidence back, attempted to gain the dominance status. All three males, James, Gurke and Chillil, were repeatedly observed fighting and rearing against each other. Gurke sustained serious injuries and lost his dominant position on the 22nd of October 2023. The competition between James and Chillil continued until the 26th of October 2023, when Chillil received direct submissions from both James and Gurke. However, his dominance did not last long as he was observed submitting again to the other eligible males two weeks later. Finally, on the 25th of November 2023,

after a few weeks of restless competition and submissions, and a full year after his first bout as dominant, James regained his command over the group at Brussels Sprouts.

The end of 2023 also meant the end of the roving days for the well renowned Gold Diggers adult subordinate male Beatrice (VGDM014) and dominant male Rogelio de la Vega (VGDM015). Brothers, roving mates and finally competitors, their lives were interlinked until the end. Together, in August 2022, they started their own sub-group with Zulus adult subordinate females Salazar (VZUF051), Helga (VZUF052) and Rowena (VZUF054), which lastly for only a few weeks. During their very busy roving season observers saw them excessively marking on all the trees surrounding groups' sleeping burrows. Rogelio even tried his luck by mating with Zulus dominant female Spruddel (VZUF028) during an encounter with the group in November 2022, and with Lazuli dominant female Dumpling (VLF272) in January and September 2023.

By the end of October, however, both Beatrice and Rogelio decided to leave their roving days behind when they focussed their effort on immigrating into Lazuli, which had unsettled male dominance at the time after the departure of former dominant male Odin (VLM266). Between the 21st and 26th of October, Rogelio and Beatrice together with yearling subordinates Subigubi (VUBM050) and Vegeta (VGDM038), were officially declared immigrated into the group. Both Rogelio and Beatrice were seen waking up and foraging regularly with the group, and, unsurprisingly, fiercely hipslamming their way into dominance. The race for the vacant dominant position suddenly ended with Beatrice's disappearance. Last seen at the group on the 28th of October, his body was later found hanging up a tree, most likely left there by a raptor. Following the death of his brother and companion of adventures, Rogelio did not waste time in collecting submissions from Lazuli's males, asserting his dominance status in the group.

James and Rogelio definitively ended the year on a high, while Baymax is starting 2024 with a great quest ahead. Will he be able to assert his dominance at Zulus? And will James and Rogelio be able to defend their newly acquired positions? These questions remain open for 2024, so it is with great anticipation that we will follow the outcome of Baymax's dominance and how well James and Rogelio will defend their status.

Whatever happened to the Whiskers and what next?

As we reflect on the past year of 2023 many of the meerkat groups have experienced great change. This change has come in the form of dominance shifts, new pups, new immigrants, and loss of individuals and all these changes have come to pass at the beloved Whiskers group.



Whiskers in May 2023. Photo credit: Livio Flueeler, (Zurich Masters Student).

In January 2023 the Whiskers, welcomed three little pups into their group: Kylie (VWF265), Bruce (VWF266) and Sheila (VWF267). These three pups have quite the miraculous origin story as they were born to adult subordinate female Laika (VWF236) between the 31st of December 2022 and the 5th of January 2023 whilst she was not acting as part of the Whiskers group and was frequently chased away by dominant female at the time, Luna (VWF235). In the same month (December 2022) four more females had given birth; Luna on the 12th and adult subordinate females Crunchie (VWF250) on the 16th, Virginia Woolf (VWF244) on the 23rd and (VWF247) on the 29th, however all the litters were lost before they emerged. Kylie, Bruce, and Sheila were lucky to be accepted into the group even though their mother Laika was a subordinate, and at the time, evicted female. In most cases like this the pups may succumb to infanticide by the dominant female or are abandoned by the group. However, Kylie, Sheila and Bruce all survived and have recently celebrated their first birthdays.

Between the 22nd and 28th of March 2023, Whiskers had another successful litter of three pups; Mya (VWF268), Pintabean (VWM269) and Cricket (VWM270), and they were born to either Crunchie or Flake, who gave birth at the same time. Unfortunately, Cricket was last seen on the 19th of May, however Mya and Pintabean remain with Whiskers to this day. Pintabean is known for his enthusiastic fondness of egg, so much so that he will perform some rather impressive aerial acrobatics to get his paws on the egg box.



Curious little pup Mya photographed in May 2023. Photo credit: Livio Flueeler (Zurich Masters student).

Throughout the winter period between April and October there is less breeding activity, however on the 8th of August 2023 observers noticed Luna's growing belly and she was made officially pregnant on the 18th of August. During the time that she was pregnant Luna evicted four adult subordinate females: Laika, adult subordinate female Emily Bronte (VWF243), Virginia Woolf and adult subordinate female Chomp (VWF251) on the 11th of August. Luna gave birth between the 9th and 11th of September, and after a long line of five previous litters which were lost before emergence this was a chance for Luna to have her first successful litter.

Things were looking promising as after the birth of the litter, observers recorded signs of lactation and babysitting at the group. Observers saw four pups at the babysitting burrow and were able to mark three pups: Litwick (VWP271), Phantump (VWP272) and Pumpkaboo (VWP273). Litwick was the first pup to emerge on the 4th of October 2023. All three marked pups were seen on the morning of the 5th of October. However, on the afternoon of the 5th an observer went to the babysitting burrow and saw the previously evicted Laika encounter the two babysitters: Flake and yearling subordinate female Candy Land (VWF256). The observer saw Laika go below and heard fighting in the sleeping burrow, the group did not return to the babysitting burrow that night. We can only speculate what happened in the sleeping burrow, but the pups were not seen again.

Whiskers had a high female to male ratio to begin with in 2023 and this shifted even higher when dominant male Brea (VLM157) left on the 3rd of October, followed by adult subordinate male Rollo (VWM240) and the remaining yearling subordinate males Scrabble (VWM253), Clue (VWM255) and Battleship (VWM257) on the 16th of October. This left Pintabeau, a sub-adult at this time, as the last man standing, keeping our definition of a group (three or more individuals of mixed sex) intact. Rollo, Scrabble, Clue and Battleship were sighted together on several occasions after this far away from Whiskers forming a same sex coalition in search of breeding opportunities elsewhere.

With Brea gone and little competition for male dominance, the Whiskers group dominant male position was available for the taking. This position

was opportunistically seized by roving Vetkoeks adult subordinate male Zuma (VZUM059). Zuma immigrated into Whiskers on the 24th of October, and he became dominant by default, as there was no other eligible male in the group, on the same day. He was observed to be displaying dominant behaviours for example anal marking vegetation and bolt holes. However, his dominance tenure did not last long (less than one month) as he emigrated out of Whiskers on the 13th of November and rejoined Vetkoeks on the 14th of November.

The day that Zuma left Whiskers, the group had two encounters with four unknown individuals in the morning and afternoon. It is extremely likely that these individuals were the four wild males that joined Whiskers making them an official habituation group. External takeovers of male dominance by forcing out the current dominant individual is one of the processes that terminate dominance tenures (Duncan C et al. 2023) and could be what happened to Zuma in this instance. Whiskers may now have a wild dominant male, however, as we have not yet been able to mark them, we cannot differentiate between the wild males and therefore distinguish who is dominant.

From the 14th of November onwards four wild males have been consistently seen with the group making them a habituation group. Towards the beginning of habituation, the males would not get up whilst observers carried out morning weights and it wasn't until observers retreated to a 15 – 40 meter sit that the males would cautiously venture out of the sleeping burrow entrance. They also would not leave with the group if the observer was within 40 meters of the sleeping burrow. With time their habituation has progressed, and the comfort distance of the wild males reduced so they would leave with the group whilst an observer sat at 20 meters. Towards the middle of December, the wild males became comfortable sunning with an observer sat at 5-10 meters from them and were ok with slow movements. The males are more comfortable with observers when the rest of the group is around and are not yet able to be followed, however their habituation is progressing nicely.

On the 17th of December Luna did not wake up with the group and was not seen for the rest of the month. Therefore, female dominance remained unsettled at the end of the year. Meanwhile yearling subordinate female Medusa (VWF263) became officially pregnant on the 30th of December and a few other subordinate females were noted as possibly pregnant. As we move into the new year we will look out for new female dominance, monitor the progression of the wild male's habituation and hope that all these changes bring greater prosperity to the Whiskers.

References

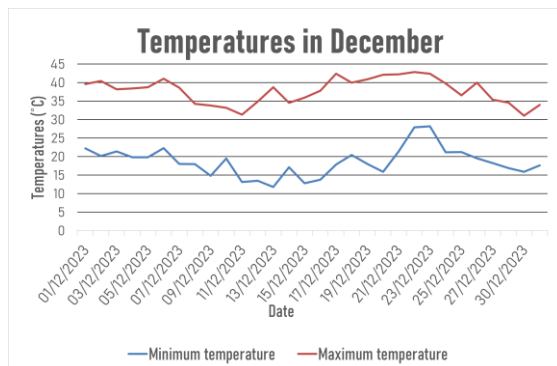
Clutton-Brock T, Manser M. 2016. Meerkats: Cooperative breeding in the Kalahari. In: Koenig, Walter D; Dickinson, Janis L. Cooperative breeding in vertebrates: studies of ecology, evolution, and behavior. Cambridge: Cambridge University Press, 294-317.

Duncan C, Thorley J, Manser M, Clutton-Brock T. 2023. Dominance loss and tenure maintenance in Kalahari meerkats. Behavioral Ecology. 34(6):979–991. <https://doi.org/10.1093/beheco/arad066>

Pregnancies in December 2023

Females pregnant in December	15
Females who aborted	1
Females who gave birth, litters lost	2
Females who gave birth, litter emerged	1
Females who gave birth, unknown outcome	0
Females still pregnant at the end of the month	11

Weather at the KMP



The temperature has stayed in the mid-thirties this month. The average minimum temperature was 18.9°C and the average maximum temperature was 37.8°C. The hottest day was on the 22nd of December, at 42.4°C. The coldest day was on the 3rd and was a mild 5.9°C. There was 45mm of rain this month.

December 2023 Life History Details

Due to the large number of groups we are covering, we have made some changes to the way we are collecting data at the KMP. There are four different levels of data collection, that we will briefly introduce here.

Full data collection group (FDC)

We collect LH data at the group and regularly visit the group for full adlib and weights sessions.

Life History monitoring group (LHM)

Observers tend to visit these groups for shorter amounts of time. We collect LH data and increase our visits when new pups need to be habituated. We do not collect adlib data at these groups but collect morning and evening weights a few times per week.

Habituation group (HAB)

Habituating meerkats to our presence is the main goal at these groups. As the group's habituation progresses, we start collecting LH and weights data as well. In a later stage, we try to follow the group after morning weights, introduce lunch weights and start approaching the group in the afternoon.

Sub-group (SUB)

The amount of data we can collect at these groups depends mainly on whether a radio-collared individual is present. If that is the case, we try to collect LH, weights and adlib data, as it is very interesting to witness group dynamics within these newly formed groups. However, we do not always have a radio collar at these groups. In these cases, we focus on collecting LH data during opportunistic sightings.

Full Data Collection Groups:

Alba (FDC):

- All 16 individuals of Alba were present at the end of December.
- Dominant female Tolkien (VECF019) gave birth between the 4th and 7th of December to five pups. Before even emerging, all five pups moved with the group to a new burrow. They are very comfortable with hands and interested in egg.
- Subordinate female Cleopatra (VALF008) was officially made pregnant on 29th of December. It is the first noted pregnancy for Cleopatra.
- Enough time has passed for us to officially emigrate subordinate yearling female Tuktuk (VALF001) from the group, as she was not acting as part of the group anymore.
- Previously emigrated adult subordinate male Nigoni (VALM004) was given his Last Seen this month.

- On the 3rd of December Cleopatra left the group and returned one week later on the 10th.
- Adult subordinate male Pucky (VECM023) and yearling subordinate male Tiramisu (VALM007) disappeared following an inter-group interaction with Brussels Sprouts on the 4th of December. Tiramisu was seen encountering Brussels Sprouts. Pucky returned to the group the same day in the afternoon, while Tiramisu returned on the 8th. Adult subordinate male Charlie (VECM031) left the group on the 16th and returned the same day.
- Alba had an inter-group interaction with Brussels Sprouts on the 4th of December. Pucky attacked and chased yearling male Chillli (VBSM005) who retreated. Pucky then attacked adult subordinate male Gurke (VHMM036). Alba repeatedly war danced towards Brussels Sprout and chased the group away.
- The group did not have any encounters or group splits this month.
- All individuals appeared healthy at the end of the month.

Brussels Sprouts (FDC):

- 4 out of 5 individuals were present at the end of the month.
- Dominant female Arabella (VMPF035) was made officially pregnant on the 10th of this month.
- Yearling subordinate female Totoro (VBSF001) and yearling subordinate female Lyra (VBSF002) were emigrated out of the group this month.
- Yearling subordinate male Chillli (VBSM005) was not seen with the group in the afternoon on the 2nd, he woke up with Brussels Sprout the following day on the 3rd. On the 4th, during an intergroup interaction with Alba, Chillli and adult subordinate male Gurke (VHMM036) ran off and were not seen until the 5th in the morning, when they were accepted back into the group.
- During an inter-group interaction with Zulus on the 12th Chillli left Brussels Sprouts and approached Zulus, while Brussels Sprouts' individuals were retreating following Zulus war dancing towards them. He returned and was accepted back into the group on the 16th morning, after having received a dominance assertion by James. On the 28th Chillli left the group again.
- Brussels Sprouts had an encounter with Alba's yearling subordinate male Tiramisu (VALM007) on the 4th of this month. Arabella and dominant male James (VGDM011) chased away Tiramisu. Tiramisu retreated after Brussels Sprouts war danced towards him.
- Brussels Sprouts had four inter-group interactions this month. On the 4th Brussels Sprouts had an inter-group interaction with Alba. Alba's adult subordinate male Pucky attacked and chased Chillli (VBSM005) who retreated. Pucky then pursued in attacking subordinate male adult Gurke (VHMM036). Alba repeatedly war danced towards Brussels Sprouts and chased the group away. Brussels Sprouts had

two inter-group encounters with Zulus on the 12th and on the 13th. In both occasions Zulus war danced towards the group and Brussels Sprout retreated. In the same morning on the 13th Brussels Sprouts had an inter-group encounter with Gold Diggers. Also on this occasion Brussels Sprouts retreated after Gold Diggers war danced towards them.

- Chillli remained absent at the end of the month.
- The group did not have any group splits this month.
- All members of the group appeared to be in good health.

Elrond's Council (FDC):

- 12 of 13 individuals were present at the end of December.
- *Male dominance* remained *unconfirmed* at Elrond's Council.
- Dominant female Snoop Kat (VECF039) was made officially pregnant on the 14th of this month.
- Pup Khriassala (VECM054) was assumed predated and was given his Last Seen this month. Adult subordinate males Milo (VECM034), Survivor (VECM042) and yearling subordinate male Petit Di Gio (VECM046) were also given their Last Seen this month.
- On the 1st of this month adult subordinate males Kuzco (VECM040) and Shisharka (VECM041) and subordinate yearling males Chabal (VECM047), Perceval (VECM048) and Karadoc (VECM049) did not wake up with the group. They all returned on the 16th. Shisharka left again on the 29th of this month.
- On the 16th before returning and being accepted by the group, Kuzco, Shisharka, Chabal, Perceval and Karadoc appeared to the group together with former Alba's yearling subordinate female Tuktuk (VALF001) and an unknown adult male. Elrond's Council war danced and chased away Tuktuk and the unknown male and accepted back Kuzco, Shisharka, Chabal, Perceval and Karadoc after mobbing them.
- Shisharka remained absent at the end of the month.
- The group did not have any group splits or inter-group interactions this month.
- All the individuals at Elrond's Council appeared to be in good health.

Gold Diggers (FDC):

- 16 of 21 members were present at the end of December.
- From dominant female Goldeneye (VGDF007) most recent litter, five pups emerged. Pups VGDP057 and VGDP059 were not seen since the 22nd and pups VGDP056 VGDP058 since the 23rd.
- The previously evicted yearling subordinate females Dizle (VGDF040), and Mikasa (VGDF042) were accepted back into the group on the 1st of the month. Yearling subordinate female Pain Perdu (VGDF051) was not seen since the 3rd. The same day formerly evicted

yearling subordinate female Maya II (VGDF039) was found babysitting at the babysitting burrow and is now part of the group again.

- Pain Perdu and pups VGDP056, VGDP057, VGDP058, VGDP059 remained absent at the end of the month.
- On the 4th of December the group had an encounter with Lazuli yearling subordinate male Girdle (VLM287), who was war danced and chased away.
- On the 13th of the month Gold Diggers had an inter-group encounter with Brussels Sprouts. Gold Diggers war danced and chased the group away.
- The group did not have any group splits this month.
- All members of the group appeared to be in good health.

Jaxx (FDC):

- 17 of 18 individuals were present at Jaxx at the end of December.
- *Female dominance* remained *unconfirmed* at Jaxx.
- Yearling subordinate female Miss Tick (VJXF173) gave birth and lost her litter before emergence on the 15th of the month, when there were no signs of lactation or babysitting observed and the group moved sleeping burrows.
- Adult subordinate female Jub Jub (VJXF160) was made officially pregnant on the 13th of December.
- Emigrated adult subordinate females Gray (VJXF150) and Queen Jane (VJXF158) were given his Last Seen this month.
- Adult subordinate male Fred (VJXM146) and yearling subordinate female Nomvula (VJXF172) left on the 4th of December. Nomvula returned the same day, while Fred returned on the 7th. He then left again on the 9th and returned on the 10th. On the 23rd adult subordinate female Baloo (VJXF080) was not found with the group. Dominant male Leonard (VLM211) left the group and was found with Baloo and then re-joined the group later that day He left again on the 23rd, followed Baloo and went below 50m away from the group. Leonard was found back with the group on the morning of the 24th. On the 24th adult subordinate male Hank the Tank (VJXM164), yearling subordinate males Howard Moon (VJXM165), Sneaky (VJXM170), Kamvelihle (VJXM174) and Hlumelo (VJXM176) left the group when Baloo appeared to the group that day. They then returned the same day on the 24th. Kamvelihle left again on the 27th and returned on the same day. Adult subordinate male Stan (VJXM161) left on the 30th and returned on the same day.
- On the 7th of December Jaxx had an encounter with Scully. On the 24th the group encountered an unknown adult.
- Baloo appeared to the group on the 23rd, she was chased away, and Leonard followed her. She appeared again on the 24th and was chased

away by Hank the Tank, Howard Moon, Sneaky, Kamvelihle and Hlumelo.

- Baloo remained absent at the end of the month.
- Jaxx had three daily group splits on the 2nd, 4th and on the 24th of December. They also had two overnight group splits on the 19th and 24th of December, as well as one group split of uncertain duration on the 24th.
- Jaxx did not have any inter-group interactions this month.
- Baloo has fully recovered from her previous injuries. All other individuals appeared to be in good health.

Lazuli (FDC):

- 19 out of 24 individuals were present at the end of December.
- Yearling subordinate female Brynhildr (VLF293) was made officially pregnant on the 29th of December.
- Emigrated adult subordinate males Odin (VLM266), Moteck (VLM261), Taco (VLM273), Phar Lap (VLM275) as well as yearling subordinate males Monster (VLM290) and Fergus (VLM286) were given their Last Seen this month.
- Yearling subordinate male Girdle (VLM287) left on the 4th of December and was seen roving at Gold Diggers, he returned on the 8th of December. Adult subordinate female Ma Di Tau (VLF278) left the group on the 5th of December and returned the following day on the 6th. Yearling subordinate male Meeko (VLM300) and yearling subordinate female Mist (VLF294) left on the 10th of December and returned later that day. Girdle left again on the 14th during an inter-group interaction with Dik Diks, he returned later that day. Meeko left the group on the 18th and returned later that day. Ma Di Tau and yearling subordinate female Ruby (VLF288) left on the 30th of December. On the 31st of December yearling subordinate female Chicken (VLF289) did not wake up with the group. Yearling subordinate male Kush (VLM298) along with Meeko left during an inter group interaction with Dik Diks on the 31st.
- Yearling subordinate male Thor (VLM292) has been emigrated out of the group this month.
- Girdle appeared to the group on the 14th of December during an inter group interaction with Dik Diks. Ruby appeared to the group on the 31st of December.
- Ruby, Ma Di Tau, Chicken, Meeko and Kush remained absent at the end of the month.
- Lazuli had three encounters with former Zulus adult males Tazara (VZUM064) and Willow (VZUM063) and yearling Robin (VZUM066) on the 4th and 5th of December. On the 5th of December Lazuli had another encounter with an unknown male. In two separate occasions the group also encountered Willow on the 5th and Tazara on the 11th of December. On the 13th and 14th of December the group had two encounters with Brussels Sprouts yearling subordinate male Chillli (VBSM005). Robin encountered the group

two more times by himself on the 30th of December and was joined by Willow for another encounter with Lazuli on the 30th of December. On the same day (30th) Lazuli had one more encounter with an unknown adult.

- Lazuli had four inter-group interactions with Dik-Diks on the 14th, 19th, 21st and 31st of the month. In all four interactions Lazuli war danced towards Dik-Diks, who then retreated.
- The group had eleven daily group splits on the 1st, 2nd, 8th, 9th, 10th, 14th, 21st and 23rd of December. There were two overnight group splits on the 10th and 14th of December and two group splits of uncertain duration on the 13th and 19th of December.
- All individuals seemed to be in good health.

Side Quest (FDC):

- All 16 meerkats were present at the end of this month.
- Side Quest had one inter-group interaction with an unknown group on the 6th of December, Side Quest retreated.
- The group had no encounters or group splits this month.
- This month Side Quest individuals once again appeared to contract ringworm, by the end of the month many of the symptoms had healed. Besides this all individuals appeared to be physically fit.

Trackie-Daks (FDC):

- All 12 individuals were present at the end of the month.
- Of dominant female Fly's (VWF237) most recent litter one more pup was marked and all four have emerged; Kanto (VTDM036), Paldea (VTDM037), Unova (VTDF038) and Johto (VTDM039).
- Fly was found predated on the 30th of December, likely by a terrestrial predator and a Cape fox was seen in the surrounding area.
- Former Trackie-Daks adult subordinate males Moon Moon (VTSM022) and Frida (VTDM005), as well as yearling subordinate males Princess Carolyn (VTDM013), Hamish (VTDM014), Trimazz (VTDM015) and Raclette (VTDM017), were given their Last Seen this month.
- Trackie-Daks had no group splits, no encounters, and no inter-group interactions this month.
- The habituation level is currently *Advanced Progress*. Dominant male Coquillet (VTSM014) has been keen to approach the scale this month both in the morning and at lunchtime. Coquillet is most comfortable at the sleeping burrow or if observers stay around 1m away while he is foraging.
- All individuals appeared to be healthy.

Ubuntu (FDC):

- All 17 individuals were present at the end of the month.

- Pup Scarper (VUBP070) was given their Last Seen this month.
- Adult subordinate female Evikutty (VUBF051) immigrated back into the group on the 6th of December. On the 5th of December pup Vamoose (VUBM072) did not wake up with the group and was seen lost on the Ubuntu flats. Vamoose spent a night alone before he was reunited with the group on the 6th of December. On the 6th of December pups Scarper and Hightail (VUBM073) were left behind by the group at a bolt hole but they were found the following day by dominant female Agazoth (VUBF039) and reunited with the group on the 7th of December. Scarper was not found with the group on the 9th of December and has not been seen since.
- Ubuntu had one encounter with Evikutty on the 2nd of December before she was accepted into the group.
- Ubuntu had no inter group interactions this month.
- The group had two daily group splits on the 2nd and 4th of this month.
- Agazoth appeared to have lost a lot of weight this month and we are continuing to monitor her body condition. All other members of Ubuntu appeared to be in good health at the end of the month.

Zulus (FDC):

- 8 out of 11 individuals were present at the end of December.
- *Male dominance* remained *unconfirmed* at Zulus.
- Dominant female Spruddel (VZUF028) gave birth on the 15th of December however the litter was lost before emergence on the 16th following no babysitting and no signs of lactation. The group moved sleeping burrows on the 17th of December. One of Spruddel's newly born pups Petal (VZUP076) was observed to be eaten by Helga (infanticide) on the 16th of December.
- Adult subordinate female Helga (VZUF052) was made officially pregnant on the 20th of December. Adult subordinate females Salazar (VZUF051) and Rowena (VZUF054) were made officially pregnant on the 23rd.
- Helga was evicted by Spruddel on the 16th of December and was accepted back into the group later that day.
- Salazar and Helga were evicted and chased away by the group on the 30th of December and Helga was evicted the following day by Spruddel on the 31st of December.
- Adult subordinate males Nac Mac Feegle (VZUM075) and Fritzl Rösti (VZUM074) were emigrated out of Zulus and will be given their Last Seen next month.
- Salazar, Helga and Rowena remained absent at the end of the month.

- Rowena appeared to the group following her eviction on the 31st of December and was attacked and chased away by Spruddel.
- On the 2nd of December Zulus encountered an unknown male. The group encountered Brussels Sprouts yearling subordinate male Chilli (VBSM005) on the 12th of December and twice on the 13th. Zulus had two more encounters with an unknown individual on the 20th and 29th of December.
- Zulus had two inter-group interactions with Brussels Sprouts on the 12th and on the 13th. On both occasions Zulus war danced towards the group and Brussels Sprouts retreated.
- Zulus had one daily group split this month on the 11th of December.
- All individuals in Zulus appeared to be healthy.

Life History Monitoring Groups:

Dik-Diks (LHM):

- All 12 members of the group were present at the end of this month.
- *Female dominance* remained *unsettled* at the end of this month.
- Adult subordinate female Tuna Fish II (VGDF026) aborted between the 22nd and the 24th of this month. She appeared saggy and skinny, and no signs of lactation were observed.
- Adult subordinate female Juliet (VGDF009) was made officially pregnant on the 29th of December.
- Sub-adult subordinate male Regis (VDDM004) was emigrated out of the group this month.
- The group had no encounters this month.
- The group had an inter-group interaction with an unknown group. The unknown group war danced towards Dik Diks and then retreated. Dik Diks had four inter-group interactions with Lazuli on the 14th, 19th, 21st and 31st of the month. In all four occasions Lazuli war danced towards Dik Diks, who then retreated.
- The group had a group split of uncertain duration on the 21st of this month.
- Habituation at this group is considered *Advanced Progress*. All three habituation individuals, adult subordinate female Shelby (VGDF022), Juliet, and sub-adult subordinate male Jaskier (VDDM001) improved with follows. Juliet and Jaskier are still wary of fast movements and occasionally bark if observers get too close during follows. Nevertheless, they all seem more relaxed during follows. We will continue to do follow habituation with Jaskier, Juliet and Shelby. All individuals approach the scale, are weighable and eager for water or egg.
- All individuals appeared to be healthy.

Vetkoeks (LHM):

- All 6 individuals were present at the end of the month.
- Of the former litter of dominant female Mooncake (VHMF053) six pups were marked.

However, only four emerged. They have all received their last seen this month and are assumed predated, as they were abandoned when the group changed burrow.

- Vetkoeks had no recorded encounters, inter-group interactions or group splits this month.
- All individuals appeared healthy at the end of the month.

Habituation Groups:

Cape Crusaders (HAB):

- There were 8 individuals consistently seen at this group.
- *Male dominance* at this group remains *unknown*.
- Of the former litter of the dominant female Sky (VSIF003) pup VCCP009 emerged and had their first forage and first move with the group.
- Two pups Terry (VCCP007) and Berry (VCCP008) that were marked were given their Last Seen.
- Cape Crusaders had no encounters, inter-group interactions, or group splits observed this month.
- The habituation of this group is classed as *In Progress*. Observers can get as close as 3 meters to the unknown adult males of this group while standing, and at 1 meter while sitting down. We will continue movement and distance habituation at the sleeping burrow as well as egg frenzies to encourage interest in egg and the scale. Pup habituation is going well as pup VCCP009 approaches observers for egg.
- The individuals of this group appeared to be healthy.

Hakuna Matata (HAB):

- Hakuna Matata were not seen this month.

Make-e-Plan (HAB):

- All 15 individuals were present at the end of December.
- Adonalsium (VMPF092), Maggie (VMPP093) and Graciekin (VMPP094) foraged with the group for the first time on the 12th of December.
- Yearling subordinate females Stinky (VMPF063) and Stoney (VMPF065) were given their Last Seen this month.
- Make-e-plan had no encounters, inter-group interactions or group splits this month.
- The group's habituation is classed as *Incomplete* as there are only specific individuals at this group that require habituation. Yearling subordinate male Jude (VMPM071) is still the focus of habituation at this group. His follow habituation has progressed this month and observers can now follow him between 5-10 meters. At the sleeping burrow Jude will approach observers for egg during egg frenzies and drink from the water bottle. We will continue with scale habituation as well as follow

habituation on specific individuals, and general hand habituation. Pup habituation is going well, all pups eat egg, drink water and are good with hands.

- All individuals in the group appeared to be healthy.

Phoenix (HAB):

- Phoenix was not seen by observers this month. We continued to burrow sweep their known territory through the month, however they were not found.

Whiskers (HAB) :

- 10 out of 11 meerkats were present at Whiskers at the end of December.
- Dominant female Luna (VWF235) did not wake up with the group on the 17th of December and with her absence *female dominance* remained *unconfirmed* at Whiskers.
- Yearling subordinate female Medusa (VWF263) was made officially pregnant on the 30th of December.
- Former dominant male Brea (VLM157) was given his Last Seen this month.
- Luna did not wake up with the group on the 17th of December and remained absent at the end of the month.
- Whiskers had no encounters or inter-group interactions this month.
- Whiskers had one daily group split on the 18th of December.
- The group's habituation is classed as *incomplete* as three to four wild males have joined the group this month. We have seen progress in the wild males' distance habituation this month and observers are able to stand at 5 meters from the males whilst they are sunning with the group at the sleeping burrow. We will continue with distance and movement habituation at the sleeping burrow as well as egg frenzies to encourage interest in egg.
- All individuals appeared to be healthy.

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