

The Meerkatter

The Friends of the Kalahari Meerkat Project Report – www.kalahari-meerkats.com – November 2024

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Déja-vu.

Breeding season can be chaotic for observers at the Kalahari Research Centre. With all the activity we are observing in our meerkat population, it seems that almost anything can happen. And yet, it's hard not to have a sense of déjà vu, especially when it seems like history is repeating itself. Nearly a year after the dissolution of the notorious Make-e-plan group, we are witnessing the same situation unfold once more—this time, ironically enough, with Nightwatch.

Nightwatch has had a very difficult year. Since the group's creation in January, the group has had to deal with many challenges. From February the group started slowly losing members, endured some violent inter group interactions with Trackie-daks and Alba, in an attempt to establish a territory in an area with many surrounding groups. The group was also in a struggle against tuberculosis - Make-e-plan's former dominant male Sushi (VTSM006), immigrated into Nightwatch in February this year and started losing weight and developing lumps from March, lowering his chances in the fight for dominance within the group. Later on, adult male Sticky (VMPM064) was also observed to develop a lump on his lower right cheek and was losing weight quickly. Both Sushi and Sticky later disappeared, Sushi's body was found predated on the 6th of June, and Sticky has not been sighted since the 19th of October. A group split took place on the 4th of September when adult subordinate males Oozy (VMPM067) and Wayne (VMPM087), and subadult subordinate female Maggie (VMPF093) were not found with Nightwatch and have not been seen with the group since. This was the start of a much more rapid decline in their numbers as 6 days later, subadult subordinate female Graciekin (VMPF094) also left the group.

By the start of October there were four individuals left: adult males Sticky, Waxillium (VMPM083) and Shrimp (VMPM070). On the 21st of October Sticky and Waxillium were no longer with the group, and on the 25th Shrimp followed suit, leaving pregnant Yorki by herself. Curiously enough, Shrimp was reported asserting his dominance over Yorki by hip-slamming and overmarking her before he left. It would seem that both Waxillium and Shrimp went off roving, as they were both seen healthy a few weeks later. It is difficult to work out whether Sticky left roving or has died, as

he had been showing signs of tuberculosis since July, with a lump on his bottom right cheek. He later became lethargic and lost a lot of weight

and on the 17th of November, 4 days before he was no longer present in the group, he was seen struggling to keep up with the group and left behind during a last-minute burrow change. From these observations, it seems more likely that he was left behind by the group and has passed away. Following the departure of the males, and by the end of the November, there was only one individual left in the group: dominant female Yorki (VGDF033). She was found to have lost a significant amount of weight by the end of October, and it was later confirmed that she had aborted.



Sticky, from Nightwatch on guard on the top of a tree trunk. Photo credit Saverio Carrera, Meerkat Volunteer.

This was the story of the disbandment of Nightwatch, but now let us talk about the creation of Nightwatch and of Gold Diggers 5. Both Nightwatch and Gold Diggers 5 were formed by evicted Gold Digger females, and this year was again, we witnessed many evictions females from Gold Diggers. Prior to the creation of Gold Diggers 5 (12th to 17th of October), two females from Gold Diggers, adult subordinate females Ricky Baker (VGDF031) and Maya II (VGDF039), both got evicted within 5 days. Ricky

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Baker who was the first of the two to get evicted, hung around the group, appearing to try and rejoin the group multiple times. Maya II also left the group (presumably evicted, but this was not observed) and both females eventually made their way west and were seen multiple times on the move.

What seemed to be unfolding felt familiar, as just less than a year ago in January 2024, during dominant female Goldeneye's (VGDF007) pregnancy, Yorki, Maya II, Ricky Baker and adult subordinate female Mikasa (VGDF042) were also evicted and these same females also moved east of Gold Diggers territory, into what was now known as Nightwatch's territory. Both times, the evicted females moved in the same way post-eviction, and as we now know, back in January, this led to the disbandment of Makee-plan, and later on the creation of Nightwatch. The group first started as the sub-Ggroup of Gold Diggers 4 when the four evicted females made their way into Make-e-Plan territory. They were later observed foraging as a group with two males from Make-e-Plan adult subordinate males Jude (VMPM071) and Snapdragon (VMPM074), and then joined by adult subordinate males Patrys (VMPM068), Oozy, Wayne and Sticky. Several days later, Jude was missing from the group, and a few days later, Snapdragon and Patrvs were also gone, meaning that both of the original males to have joined up with the Gold Digger females where no longer members of the group 10 days after first joining up.



Gold Diggers vigilant, a few days before Ricky Baker and Maya II got evicted, Photo credit: Julien Stanley, Life History Coordinator Trainee.

In comparison, let us dive into the creation of Gold Diggers 5 this month, Nightwatch's Shrimp and Waxilium were recently spotted foraging with Ricky Baker and Maya II. The last sighting of the two Nightwatch individuals acting as a group with the females was on the morning of the 10th of November. An observer went to the group in the evening, and whilst waiting at the sleeping burrow for the group to return, found Shrimp already at the burrow, by himself making lost calls. The rest of Gold Diggers 5 finally returned to the burrow, but not in the same composition as we previously observed, the two females were accompanied by former Trackie-Daks dominant male Coquillette (VTSM014) and adult subordinate males Gary (VTDM033) and Johto (VTDM039). There was no sign of Waxillium either

and as they arrived at the sleeping burrow, they chased Shrimp away, kicking him out of the group. We suppose that Waxillium was treated in a similar manner by the Trackie-Daks males as he was not seen with the Gold Diggers females again.

The process of creation for both sub-groups is curiously similar. In both cases, the evicted Gold Digger females left to roam on the eastern side of the reserve. They were then reported as having joined forces with two males from other groups. These original males remained in both cases with the females for about ten days. In both cases, the first males to opportunistically join the females were subordinates that do not meet the requirements to fight for dominance and get replaced by males who do fit those requirements (size, weight and status in previous groups). This indicates how strong competition between males¹ would seem to be, to join up with wandering (evicted) females.

We are very lucky to have been able to observe a clear example of the three stages of dispersal² within our study population. The dynamics of each sex within this process is also very clear, as mentioned in last month's article, the dispersing females tend to endure this process, whereas the dispersing males do so of their own volition during this period. The difference is due to the threat that subordinate females pose to future litters of the dominant female within their natal group³. Once evicted, the subordinate female faces two choices: she can attempt to rejoin the group, often being reaccepted once the pups are born and the female no longer poses a threat to the litter and will also participate in the cooperative behaviors to raise the pups (babysitting, lactating and pup feeding). The other option for the female is to leave the territory of the group and attempt to find other individuals with whom to create a new sub-group. As for what factors affect whether the female choses one option or the other, we have a good example with Side Quest's adult subordinate female Motoko Kusanagi (VSIF013) who has been trying to rejoin her group since being evicted a whole month and a half ago.

The dispersal of evicted females can partially be explained with the number of individuals being evicted. Work has been done on the likelihood of lone females dispersing, compared to larger groups of female dispersing. It was concluded that the risk to reward ratio is not in the interest of the lone female. This is due to the low success rates of dispersal for a single female, and a female is more likely to gain dominance within her group than outside. Whereas when multiple females are evicted the likelihood of successful dispersal is much higher, in this case the probabilities of gaining dominance by leaving rather than staying also switches in the favor of leaving, pushing females to leave the group and attempt to settle elsewhere².

On the other hand, for subordinate males it is beneficial to leave at this time as females often get evicted during the breeding season within all groups, enabling them to mate or even join up to create a new group. They also avoid performing costly cooperative behaviors such as babysitting and feeding the pups, once the litter has been delivered³. Nevertheless, it is not always successful as we demonstrated in both of examples of the first pair of males to join with the Gold Diggers females.

We will pay close attention on this newly created subgroup, as if they remain together for two months or if a potential pregnancy results in a successful litter, we will have a new group in our study population. As we currently have four groups with pregnant females and probably more on their way, we might be witnessing this type of behavior within other groups as well

References:

¹Young et al, 2007. Subordinate male meerkats prospect for extragroup paternity: alternative reproductive tactics in a cooperative mammal.

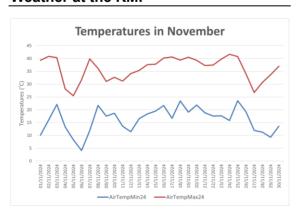
² Maag, N., Cozzi, G., Clutton-Brock, T. & Ozgul, A. (2018) Density-dependent dispersal strategies in a cooperative breeder. Ecology, 99, 1932-1941.

 $^3\mbox{Clutton}$ Brock et al, 1988. Infanticide & expulsion of females in a cooperative mammal.

Pregnancies in November 2024

Females pregnant in November	14
Females who aborted	2
Females who gave birth, litters lost	2
Females who gave birth, litter emerged	2
Females who gave birth, unknown outcome	2
Females still pregnant at the end of the month	6

Weather at the KMP



Summer has started settling in, and the mix between lack of rain and heat is causing a lasting drought. The average minimum temperature was $16.1^{\circ}C$ and the average maximum temperature

was 36.03°C. The hottest day was on the 24^{th} of November, at 41.68°C. The coldest day was on the 6^{th} with a temperature of 4.1°C. It rained three times in November with a total amount of rainfall of 8 mm

November 2024 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):

- 10 out of 13 members of the group were present at the end of November.
- Adult subordinate male Palestrina (VLM211) returned to the group on the 3rd of November after being evicted last month.
- Dominant female Cleopatra (VALF008) was made officially pregnant this month. On the 4th, the three pups, Chia (VALP023), Xue (VALP024) and Bachue (VALP025) foraged with the group for the first time.
- Palestrina was not with the group on the afternoon of the 4th, he woke up with the group on the 5th. On the 18th, Palestrina and adult subordinate males Apollo (VALM010) and Patrick (VALM011) left the group and are yet to return to the group by the end of the month.
- Alba had four encounters this month. On the 10th, the group war danced and chased away

- one unknown individual who retreated. On the 20th and the 28th Brussels Sprouts' adult subordinate male Gurke (VHMM036) was roving at Alba. Both times, the group war danced and chased him away.
- Alba had no group splits or inter-group interactions observed this month.
- All individuals appeared healthy at the end of the month.

Brussels Sprouts (FDC):

- 7 out of 8 members of the group were present at the end of November.
- Dominant female Arabella (VMPF035) gave birth this month. The three pups Porcini (VBSP012), Toadstool (VBSP013) and Shiitake (VBSP014) emerged for the first time this month.
- Sub-adult male Hercules (VBSM011) did not wake up with the group on the 1st of this month. Adult subordinate male Gurke (VHMM036) left on the 18th and was back with the group the same day. On the 20th and the 28th, Gurke left the group and was seen roving at Alba. On both days, he approached the group who war danced and chased him away. He was back with
 - Brussels Sprouts on the evening of the 20th and the evening of the 28th. Hercules is yet to return to the group by the end of the month.
- Brussels Sprouts had one encounter on the 15th
 this month with Elrond's Council adult males
 Perceval (VECM048), Tower (VECM050) and
 Ivory (VECM051). During this encounter,
 Brussel Sprouts retreated down their babysitting
 burrow. The three males followed the group
 below twice and came back up twice before
 leaving the group.
- The group had no group splits or inter-group interactions observed this month.
- All members of the group appeared to be in good health.

Elrond's Council (FDC):

- 13 out of 17 members of the group were present at the end of November.
- Male dominance remained unconfirmed at Elrond's Council.
- Four pups, Furiosa (VECF061), Goujon (VECM062), Romanov (VECF063), and Bazooka (VECM065) joined the group on their first forage this month.
- Pup Natsel (VECM064) was given his Last Seen this month.
- On the 11th, adult subordinate male Perceval (VECM048) left the group, and was seen roving at Zulus. The group war danced and chased him away multiple times, he was back with Elrond's Council the same evening. On the 14th, Perceval, adult subordinate males Tower (VECM050), and Ivory (VECM051), and pups Furiosa (VECF061) and Goujon (VECM062), left the group. Perceval, Tower and Ivory were seen roving at Brussel Sprouts, Perceval, Tower, Ivory, Furiosa and Goujon were seen back with the group on the 16th.Perceval, Tower

- and adult subordinate male Fiufiu (VECM053) left the group on the 17th.lvory and adult subordinate male Piccolo (VECM060) were not with the group on the 26th. Perceval, Tower, lvory, Fiufiu and Piccolo are yet to return by the end of the month.
- Elrond's council had 9 encounters this month. On the 2nd two unknown adults approached the group who war danced and chased them away. On the 22nd. Zulus' adult subordinate male Rain (VZUM067) was roving at Elrond's Council. Rain approached the group multiple times, the group war danced Rain retreated and returned multiple times. On the 26th, two unknown males approached the group. The group war danced at them, they retreated and remained to 50m distance from the group until the group went below. On the 27th, two unknown adult males approached the group multiple times. The group war danced and chased them away, the two individuals retreated to a 9m distance and eventually left.
- The group had no inter-group interactions or group splits this month.
- All individuals appeared healthy at the end of the month.

Gold Diggers (FDC):

- All 10 members of the group were present at the end of November.
- Yearling subordinate female Serafina Pekkala (VGDF049) returned to the group on the 18th after being evicted last month.
- Dominant female Goldeneye (VGDF007) gave birth this month. The pups have not emerged yet but with confirmed lactation and babysitting, the litter is thought to be alive by the end of the month.
- Adult subordinate females Ricky Baker (VGDF031) and Maya II (VGDF029) had not returned to the group by the end of October. Both females have emigrated out of Gold Diggers and immigrated into sub-goup Gold Diggers 5 this month. On the 19th, adult subordinate male Captain Patel (VGDM048) left the group early in the morning. The same day, yearling subordinate male Tampin (VGDM055) left the group during an inter-group interaction with Lazuli. Both males were back with the group later the same day. On the 21st, Serafina Pekkala and Tampin were seen leaving the group while foraging in the morning, they woke up with the group on the 22nd. On the 22nd, Captain Patel left the group and was back with the group later the same day.
- Gold Diggers had three encounters this month. On the 18th, Lazuli's adult subordinate male Kush (VLM298) was roving at Gold Diggers. Kush approached Goldeneye who chattered back. He was seen approaching and sniffing Captain Patel who attacked Kush and the group joined the attack. Gold Diggers war danced at Kush who eventually retreated from the group. On the 19th, during an inter-group interaction with Lazuli, Gold Diggers war danced and

chased Lazuli's yearling subordinate male Tinashe (VLM310) who retreated and returned multiple times. The group war danced and chased adult subordinate male Subigubi (VUBM050) was retreated once.

- The group had two inter-group interactions with Lazuli this month. On the 1st, both groups war danced at each other. Lazuli retreated back to their babysitting burrow. On the 19th, both groups war danced at each other and Lazuli eventually retreated.
- Gold Diggers had one daily group split on the 17th this month.
- All members of the group appeared to be in good health.

Jaxx (FDC):

- All 9 individuals were present at Jaxx at the end of November.
- Adult subordinate female Miss Tick (VJXF173), yearling subordinate females Qhawekazi (VJXF180) and Ntombizonke (VJXF181) and sub-adult female Pino (VJXF188) were given their Last Seen this month.
- Jaxx had one encounter with an unknown individual on the 17th of this month. When seen by the group the unknown individual retreated.
- There were no inter-group interactions or group splits observed this month.
- Habituation at Jaxx is Complete. Dominant male Sneaky (VJXM170) can be easily followed at a 2m distance for 15 minutes. He drinks water and gets into the scale regularly.
- All individuals appeared to be in good health by the end of the month.

Lazuli (FDC):

- 12 out of 14 individuals were present at the end of this month.
- Yearling subordinate male Tahini (VLM301) returned to the group on the 9th after leaving last month
- Two pups, Pataud (VLF319) and Bumble (VLF320), emerged on the 17th this month and joined the group on their first forage on the 28th.
- Yearling subordinate female Coffee (VLF297)
 has been given her Last Seen this month. Adult
 subordinate females Tuna Fish IV (VLF283),
 Brynhildr (VLF293) and Mist (VLF294) did not
 return from the previous month's group split of
 uncertain duration on the 16th. Enough time has
 passed for them to be given their Last Seen.
- Enough time has passed for adult subordinate male Girdle (VLM287) and yearling subordinate male Baba Ghanoush (VLM302) to be emigrated out of the group.
- On the morning of the 23rd, Lazuli had an encounter with two unknow adults. The group war danced and chased the individuals who retreated.
- On the 10th, Tahini was evicted from Lazuli by dominant male Rogelio De La Vega (VUBM015). On the 16th, sub-adult subordinate female Heidi (VLF311) did not wake up with the group. On the 18th, adult subordinate male Kush

(VLM298) was roving at Gold Diggers, he was back at Lazuli on the morning of the 19th. Subigubi and yearling subordinate male Tinashe (VLM310) were seen roving at Gold Diggers during an inter-group interaction with Gold Diggers on the 19th, they were back with Lazuli on the morning of the 20th. On the 23rd, Kush left the group during an encounter with Baba Ghanoush and former Lazuli yearling subordinate female Pita (VLF303). He was seen trying to rejoin the group several times and was chased away by the group but was accepted back the same day.

- Tahini and Heidi are yet to return to the group by the end of the month.
- The group had seven encounters this month. On the 19th, Gold Diggers adult subordinate male Captain Patel (VGDM048) was roving at Lazuli. The group war danced and chased him away, he retreated and stayed at a 40m distance from the group. On the 22nd, Ubuntu's adult subordinate male Beans (VUBM053) was seen at the group's babysitting burrow before the group emerged. He remained at a 30m distance while the group left to forage. Later on, the group war danced at the individual and he retreated. On the 23rd, Lazuli had an encounter with Girdle, Pita and an unknown adult. The group war danced and chased them multiple times and the individuals retreated.
- Lazuli had two inter-group interactions with Gold Diggers this month. On the 1st, both groups war danced at each other. Lazuli retreated back to their babysitting burrow. On the 19th, both groups war danced at each other and Lazuli eventually retreated. On the morning of the 23rd, Girdle and Dik-Diks adult subordinate female Tuna Fish II (VLF303) as well as an unknown adult had an encounter with Lazuli. The group war danced and chased the group who retreated.
- The group had no group splits observed this month.
- All members of the group appeared to be in good health by the end of the month.

Side Quest (FDC):

- All 12 members were present at the end of November.
- Enough time has passed for adult subordinate males Gino Pachino (VSIM012) and Deltron Zero (VSIM015), yearling subordinate male Toph (VSIM024) and sub-adult male Lollipop (VSIM037) to be emigrated out of the group. Adult subordinate female Motoko Kusanagi (VSIF013) has been seen around the group this month but has not acted as part of the group since she left on the 20th last month. Enough time has passed for her to be emigrated out of the group.
- On the 17th, yearling subordinate females Sybil (VSIF025) and Otje (VSF028) left the group briefly and returned with Motoko Kusanagi. Sybil and Otje were accepted back to the group and Motoko Kusanagi was seen running away

- after dominant female Pumba (VZUF048) saw her.
- The group had 13 encounters this month with Motoko Kusanagi. She has been seen waking up at the group's sleeping burrow from a different entrance and leaving before the group, as well as returning later to the group's sleeping burrow and going below using a different entrance. Motoko Kusanagi has been seen foraging at a 20-30m distance from the group and has been war danced at and chased away multiple times by Side Quest individuals. On the 24th, an unknown adult male was seen approaching the group. The group war danced and chased him away and dominant male Legolas (VECM009) was seen overmarking during the encounter.
- Side Quest had no inter-group interactions or group splits observed this month.
- Motoko Kusanagi has a sandy wound on her tailbase which is healing.

Trackie-Daks (FDC):

- All 13 individuals were present at the end of the month
- Male dominance at the group has changed this month as dominant male Guido (VWM275) has immigrated into Trackie-Daks. On the 25th, Guido received enough submissions from eligible males in the group to be considered the new dominant male of the group.
- Enough time has passed for adult subordinate males Guardy McGuardface (VTDM012) and Kroket (VTDM022) to be emigrated out of the group.
- On the 7th, former dominant male Coquillette (VTSM014), yearling subordinate male Gary (VTDM033), sub-adult male Tsodiyo (VTDM039) and pup Hope (VTF045) left the group and returned the same day. On the 10th, Coquillette, Gary, and yearling subordinate male Johto (VTDM039) emigrated out of TrackieDaks as they were seen acting as a group with Gold Diggers adult females Ricky Baker (VGDF031) and Maya II (VGDF039).
- Trackie-Daks had eight encounters this month. On the 7th, Guido approached the group who war danced and chased him away multiple times. Garv was seen chasing Guido away from the group. He remained foraging at a 30m distance from the group. In the evening, Guido went below the same sleeping burrow as the group using a different entrance. On the 8th, Coquillette attacked an unknown individual approaching the group, part of the group joined the chase, the unknown individual retreated. On the 24th, former Trackie-Daks adult subordinate male Moon Moon (VTSM022) was roving at TrackieDaks. Guido led the attack on Moon Moon as the group joined and wounded the individual who retreated bleeding. The following morning, he emerged from the group's sleeping burrow using a different entrance and followed the group at a 50m distance. On the 29th, Ubuntu's adult subordinate male Beans

- (VUBM053) was roving at Trackie-Daks. The group saw the individual and ignored him, Beans remained at a distance from the group during the morning and was not seen in the afternoon.
- The group had no inter-group interactions or group splits observed this month.
- The habituation level is currently Advanced Progress. Guido drinks water and was weighed for the first time this month, he has been weighed four times in total this month. Guido is new to observers following the group but is comfortable at a 2m stand and 3m follow distance.
- All individuals appeared to be in good health by the end of the month.

Ubuntu (FDC):

- 9 out of 11 individuals were present at the end of the month.
- Adult subordinate male Beans (VUBM053) woke up with the group on the 1st this month after leaving the previous month on the 31st.
- Dominant female Agazoth (VUBF039) gave birth this month. The pups have not emerged this month but with observed lactation and babysitting the litter is considered alive.
- Yearling subordinate females Bruindtjie (VUBF063) and Stokkies (VUBF062) and Yearling subordinate male Wobble (VUBM064) have been given their Last Seen this month.
- Enough time has passed for adult subordinate male Libby (VUBM058), and yearling subordinate males Flibbertijibbet (VUBM066) and Hooligan (VUBM068) to be emigrated out of the group.
- On the 9th, Beans left the group and returned on the 11th. The group war danced at him before accepting him into the group. On the 22nd, Beans was roving at Lazuli. He was seen at the group's babysitting burrow before Lazuli was up and remained at a 30m distance from the group while they left to forage. He was back with the group on the 23rd. On the 28th, Beans was roving at Trackie-Daks. He remained at a distance from the group during the morning session and woke up with Ubuntu on the 30th.
- Adult subordinate female Martini (VUBF061) and yearling subordinate female Tiddlywink (VUBF069) have been seen foraging in Ubuntu's territory on the 3rd this month. They are yet to return to the group by the end of the month.
- Ubuntu had three encounters this month. On the 13th, and unknown individual approached the group. Ubuntu war danced and chased the individual who retreated. On the 28th, Vetkoeks adult subordinate male Zuma (VZUM059) was roving at Ubuntu. The group war danced and chased Zuma multiple times, he remained at a 50m distance from the group.
- The group had no observed inter-group interactions or group splits this month.
- All members appeared to be in good health by the end of the month.

Zulus (FDC):

- 8 out of 9 individuals were present at the end of November.
- Dominant female Spruddel (VZUF028) has been made officially pregnant this month. Yearling subordinate female Leona's (VZUF070) four pups Bonnie (VZUP077), Rainbow (VZUP078) and Catch-a-mo (VZUP079) have joined the group on their first forage on the 8th this month.
- On the 1st, adult subordinate male Rain (VZUM067) left the group and returned later the same day. On the 9th, Rain left the group and was back with the group on the 10th. On the 11th and the 15th, Rain left the group and was back with the group later the same day. On the 16th, Rain left Zulus, he is yet to return by the end of the month.
- The group had two encounters this month. On the 11th, Elrond's Council adult male Perceval (VECM048). The group war danced and chased Perceval away who retreated and returned multiple times. On the 21st, an unknown individual appeared at the group, the group war danced, the individual retreated.
- Zulus had no observed inter-group interactions or group splits this month.
- All individuals appeared to be healthy by the end of the month.

Life History Monitoring Groups:

Dik-Diks (LHM):

- 8 out of 10 individuals were present at the end of the month.
- Dominant female Juliet (VGDF009) was made officially pregnant this month.
- On the 2nd, adult subordinate females Shelby (VGDF022) and Tuna Fish II (VGDF026) left the group during a morning session, they were back with the group on the morning of the 7th. Shelby and Tuna Fish II were not with the group on the morning of the 21st, they are yet to return to the group by the end of the month.
- The group had one observed encounter this month. On the 2nd, the group war danced at an unknown individual who retreated.
- Dik-Diks had no inter-group interactions or group splits observed this month.
- Habituation of the group remains in Advanced progress at the end of the month. Dominant female Juliet (VGDF009) and adult subordinate Shelby (VGDF022) drink water and get into the scale. Juliet was seen eating egg this month. Both are comfortable with follows at a 2m distance.
- All members of the group appeared to be in good health at the end of the month.

Vetkoeks (LHM):

 All 4 individuals were present at the end of the month.

- Dominant female Mooncake (VHMF053) gave birth this month. Four pups (VVKP020, VVKP021, VVKP022, and VVKP023) emerged this month and have joined the group on their first forage.
- Adult subordinate male Zuma (VZUM059) was roving at Ubuntu on the 27th. The group war danced and chased him away multiple times and he remained at a 50m distance from the group. He was back with Vetkoeks on the 29th.
- Vetkoeks had no observed encounters, intergroup interactions or group splits this month.
- All individuals appeared healthy at the end of the month.

Habituation Groups:

Cape Crusaders (HAB):

- The group was found this month with the help of trackers from the Leopard Ecology and Conservation Project (LEC) from Botswana. The group was visited 11 times this month. Female dominance at the group is confirmed as Rosetta is the only eligible female. Dominant female Rosetta (VCCF004) is the only transpondered and identifiable individual in the group. Yearlings Juno (VCCM005), Oggy (VCCM006) and Tallie (VCCM009), and subadults Hedgehog (VCCP010), Badger (VCCP011) and Fox (VCCP012) have been given their Last Seen this month as they have not been seen in nine months and are not transpondered. Rosetta was successfully fitted with a new radio collar on the 13th this month. Habituation at the group is currently In Progress. On the 20th, five unknown males were seen with Rosetta but only two of them were habituated enough to eat egg, and one was comfortable to be approached to up to one meter. On the 28th. an observer reported Rosetta and one unknown sub-adult emerging from the sleeping burrow, the other individuals have not been seen since the 20th. Rosetta is interested in egg and water and was weighed this month. She is comfortable with the presence of observers at 1m distance when sat down. We will continue to visit the group regularly to improve habituation and determine the group composition.
- An unknown adult male in the group was reported, based on a photo being taken from far away, with submandibular lumps on both sides of his cheeks - a sign of late stages of tuberculosis. However, none of the males showed such lumps on later visits.

Hogwarts (HAB):

- All 4 individuals were present at the end of the month.
- Dominant female Salazar (VZUF051) was made officially pregnant this month.
- Former dominant female Helga (VZUF052) was given her Last Seen this month.

- The group had no observed encounters, intergroup interactions or group splits this month.
- Hogwarts were visited 9 times this month. The group's habituation is classed as In Progress. Salazar and sub-adult subordinate male Nkosana (VHWM001) are comfortable with hands, observers sitting and moving next to them, are interested in both egg and water and are easy to weigh. Sub-adult subordinate male Buckbeak (VHWM002) drinks water and was seen sniffing egg. he got into the scale multiple times this month. He is easy to mark and is comfortable with hand grooming as well as movement at less than a metre distance. Habituation of dominant male Caraxes (VHWM004) improved by the end of the month, he drinks water and was seen approaching the scale and sniffed egg on the 27th. He is comfortable with observers sitting at a 1m distance and is better with new observers at the sleeping burrow. He is not comfortable leaving the sleeping burrow unless observers sit at a distance from the Approach/depart sessions have reduced this month due to lower numbers of observers.
- All members of the group appeared in good health at the end of the month.

Mandalore (HAB):

The group was visited eleven times this month. Habituation is classed as *In Progress*. Observers carried out beep checks in order to assess the territory of the group. The group was found on Heights six times this month. We will continue visiting the group in the coming months to determine if Mandalore could be a habituation group in our current population.

Phoenix (HAB):

Phoenix was not searched over the course of the month, as there were not enough observers available for sweeping their known territory. Habituation is *In Progress*. Habituation work was not carried out this month. The group was opportunistically seen once on the morning of the 25th. Four individuals emerged and sunned at a 20m distance from the observer, when the group left to forage, one individual stayed behind, potentially babysitting.

Whiskers (HAB):

- 7 out of 8 individuals were present at the end of the November.
- Female and male dominance remains unconfirmed at Whiskers.
- Yearling female Sheila (VWF267) gave birth this month, she is lactating, and the group is actively babysitting.
- Yearling male Pintabean (VWM269) returned to the group on the 11th after leaving the previous month.
- On the 7th, adult male Guido (VWM275) left the group, and was later emigrated out of Whiskers

- and immigrated into Trackie-daks. Pintabean left the group on the 28th and is yet to return to the group by the end of the month.
- Whiskers had no encounters, inter-group interactions or group splits observed this month.
- The group's habituation is classed as In Progress. Habituation of adult male and Gojo Satoru (VWM274) is consistently improving, he is interested in water and are comfortable with the scale and some grooming. He is both comfortable with 1m sitting distance and 2m standing distance. Adult male AgentK (VWM276) is now very interested in water, he was weighed for the first time on the 4th this month but is still cautious of the scales and is skittish with movement. The three males are not comfortable with 50m group follows, they alarm and go below. We will continue visiting the group in the coming months to improve habituation.
- All injuries from the previous month have healed.
 All members of the group appeared in good health by the end of the month.

Disintegrated Groups:

Nightwatch (LHM):

- Dominant female Yorki (VGDF033) aborted this month. She lost weight early into her pregnancy and was not reported as lactating.
- Enough time has passed for adult males Sticky (VMP064), Waxillium (VMPM083) and Shrimp (VMPM070) to be emigrated out of the group.
- This left Yorki as the final member of the group. Observers visited her nine times this month as a Life History Monitoring Group. She was last seen on the 14th and reported
 - as skinny, losing weight fast, as well as being lethargic and having uncoordinated movement. Her radio collar was removed on the 14th this month thus officially ending the status of Nightwatch as a group in the population.

Sub-groups:

Gold Diggers 5:

 Former Gold Diggers adult subordinate females Ricky Baker (VGDF031) and Maya II (VGDF039) and former Trackie-Daks dominant male Coquillette (VTSM014) and yearling subordinate males Gary (VTDM033) and Johto (VTDM039) were first seen together on the evening of the 10th this month using a sleeping burrow in

Nightwatch territory.

- A radio collar was fitted on Maya II on the 11th. They have been seen together this month acting as a group.
- Coquillette received submissions from half of the eligible males making him the dominant male of the sub-group.

Habituation at the group is *In Progress*. Ricky Baker and Coquillette drink water but do not approach the scale. We will continue

visiting the group in the coming months to monitor the sub-group in order to determine if Gold Diggers 5 will be a full group in our population.

The following authors contributed to this report:

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