



The Meerkatter

The Friends of the Kalahari Meerkat Project Report – www.kalahari-meerkats.com – September 2025

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The Last Stand

In many social mammals, the survival of offspring depends not only on the mother's maternal care, but on the cooperative effort of the wider group. Here at the Kalahari Research Centre, we observe many cooperative behaviours which contribute to pup survival, including guarding, provisioning, teaching, and babysitting. This article focuses on babysitting as a key cooperative behaviour essential for the successful rearing of young in meerkat groups. We will also explore the lengths to which an individual may go to uphold their altruistic responsibilities.

Meerkats are altricial, meaning their young are highly dependent at birth. Their undeveloped state means they require extensive care and protection before they can survive on their own. Therefore, pups will typically remain below ground for approximately 14-25 days before first emerging from the burrow where they will be continued to be babysat until they are ready to forage with the group. Babysitting alleviates the mother's energetic costs of rearing young, allowing her to forage for the resources needed to fuel lactation and maintain her own health. Remaining at the burrow also provides several benefits for the pups: it shields them from most predators and allows a single babysitter to maintain constant vigilance. Babysitting comes with significant costs. While other group members forage, typically gaining approximately 2% of their body weight in a 24-hour period, babysitters lose 1-2% in that same time – resulting in a net difference of 3-4% (Clutton-Brock *et al.*, 2000). Frequent babysitters can lose up to 11% of body weight if babysitting consistently over a sustained period, hence, babysitting duties are shared by the group members, distributing the costs more evenly. This lost foraging time and subsequent weight loss is commonly the most immediate cost attributed to babysitting as an altruistic behaviour, occasionally, however, a babysitter may be forced to risk serious injury, or even death, to protect the litter against predators or rival neighbouring groups.

Over the years, we have observed multiple heroic acts in the name of babysitting. One such case which occurred earlier this year involved subordinate adult male BlackJack (VVKM002) from Vetkoeks. On the 28th of January 2025, BlackJack spent the afternoon session babysitting at the sleeping burrow, where at least three pups were sheltered. Unfortunately, however, upon return to the burrow, the group found only one surviving pup – and BlackJack was missing. The circumstances remained a mystery until he rejoined the group on 2nd February. When BlackJack reappeared, the right side of his face was badly swollen and showed clear signs of necrosis. These

injuries revealed that the cause of his disappearance was likely a confrontation with a puff adder. Though two of the pups had been killed, it seemed that his stand against the intruder had ensured the survival of one pup. Subsequently, BlackJack was hailed a hero by our observers.



Toadstool standing guard at Brussels Sprouts (Photo Credit: Sean Nelson, Meerkat Volunteer)

This September, however, it was sub-adult male Toadstool (VBSM013), from Brussels Sprouts, who found himself acting as the pup's sole protector. In this interaction, the threat was not a snake, but another meerkat group. Two observers had been following Gold Diggers during a morning foraging session when the observers found themselves heading further into the neighbouring territory of Brussels Sprouts. Gold Diggers are notoriously adventurous, and this alone was not cause for concern. However, when Gold Diggers came across a large burrow, commonly inhabited by Brussels Sprouts, it was evident that their attention had been turned away from foraging. Gold Diggers closed in on the burrow and their behaviour immediately shifted from a relaxed and dispersed foraging group, to a tightly grouped, coordinated formation, accompanied by increased vigilance and communication. Vocalisations increased with frequency, maintaining strong group cohesion, and multiple individuals undertook the responsibility of bipedal vigilance. As is typical when they are in this excited state, the meerkats arched their backs, puffed their fur, and raised their tails to appear as large and intimidating as possible. The group then began an intense and thorough inspection of the burrow system that belonged to Brussels Sprouts.



Brussels Sprouts' pups emerging from their sleeping burrow early in the morning (Photo Credit: Irina Kornberg, Mole Rat Project Field Assistant)

Several individuals cautiously edged towards the immediate entrances of the burrow system, hesitantly peering inside and occasionally springing backwards when spooked. As Gold Diggers is a relatively large group, it did not take long for them to detect the strong scent of the babysitter and newborn pups. Toadstool had been discovered, and he was trapped. The group gathered around a single entrance, all together, building the courage to venture deeper into the burrow. The largest individuals found their place at the front of the assault, taking turns to tentatively step into the darkness and attempt a snap at Toadstool, never fully committing to the attack. Each time that a Gold Diggers individual grew too bold and ventured too deep, Toadstool would launch from the darkness, snapping aggressively and sending the group ushering back in retreat. Nevertheless, each time the group would quickly regain their composure and continue to encroach on the burrow. The 16 Gold Diggers individuals, 11 of which are sub-adult or older, make a formidable force when it comes to conflict with other groups. A lone individual like Toadstool is utterly defenceless when facing a group of Gold Diggers' size. Luckily for Toadstool, he did not have to face the group all at once. The burrow entrance and tunnels are typically very narrow, often just wide enough for a single individual to pass through at a time. The physical constraint of the burrow entrance and tight tunnels protects defenders inside the burrow from facing multiple adversaries at once. As a result, despite Gold Diggers' considerable advantage in group size, the prospect of being forced into one-on-one combat in such a confined space is a risk few individuals are willing to take. The conflict was drawn out, but Toadstool stayed, positioned strategically, hissing, growling, and lunging at the intruders. He was under constant pressure, without relief, for over two hours. The price of succumbing to fatigue, or even making a simple mistake, would almost certainly have proven fatal for Toadstool and the pups. After a long stalemate, Gold Diggers moved on to continue foraging, leaving Toadstool and the pups unharmed.

Ultimately, the interaction could have ended much worse for Toadstool, who could have quite easily fled to safety, at a cost of leaving the pups to the mercy of a rival group. So, we must ask, what makes individuals so dutiful when it comes to the protection

of pups that are not their own? In this case, Toadstool and the pups have all come from the same mother, Brussels Sprouts' dominant female Arabella (VMPF035), and likely the same father, dominant male James Sawyer (VGDM011). Which means the pups are, at the very least half siblings, if not full siblings, of Toadstool. We may be able to attribute high relatedness as cause for this act of selflessness, as individuals who are closely related are more likely to act altruistically towards one another (*Hamilton, W. D. 1964*). However, non-related males, who have immigrated into a group, often exhibit all the same cooperative behaviours as related individuals, showing that alternative explanations are also required. For example, helping behaviours which increase group size may generate fitness benefits which are large enough to offset the immediate advantages of 'cheating' (*Clutton-Brock & Manser., 2016; Clutton-Brock et al., 2001*), which is when an individual receives benefits from the social group while avoiding the costs of contributing, thereby increasing their own fitness at the expense of the group. This behaviour reflects the deeply cooperative foundations on which meerkat societies have formed and emphasises how kin selection has favoured the evolution of cooperation in meerkats. Babysitting is one way in which individuals can safeguard the stability and long-term success of the group, and, in a system where group cohesion translates to collective strength, babysitting, even to the extreme, commonly proves a worthy investment.



Individuals of Brussels Sprouts resting at their sleeping burrow (Photo Credit: Sean Nelson, Meerkat Volunteer)

As spring approaches and breeding season begins, we can look forward to the vast emergence of pups within our study population. Undoubtedly, we can expect to observe much more babysitting, and hopefully the successful rearing of many more litters.

References

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Pregnancies in September 2025

Females pregnant in September	12
Females who aborted	1
Females who gave birth, litters lost	1
Females who gave birth, litter emerged	2
Females who gave birth, unknown outcome	2
Females still pregnant at the end of the month	6

September 2025 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):

- 14 out of 20 individuals were present at the end of September.
- Dominant female Cleopatra (VALF008) was made officially pregnant this month.
- On the 1st, yearling subordinate male Kronk (VALM018) returned to the group. On the 6th, Kronk left the group, returning in the afternoon of the same day. On the morning of the 14th Kronk, and yearling subordinate males Merlin (VALM016), and Funnylittleguy (VALM019) left the group. Merlin and Funnylittleguy returned later that morning. Kronk returned in the afternoon on the same day. On the 15th Merlin, Kronk, and Funnylittleguy left the group. On the 15th, Yearling subordinate female Tress (VALF020) was evicted. On the 20th yearling subordinate female Chia (VALF023) was evicted. On the 30th yearling subordinate female Bachue (VALF025) left the group.
- Merlin, Kronk, Funnylittleguy, Tress, Chia, and Bachue were absent from the group at the end of the month.
- Enough time has passed for subordinate adult male Bibu (VALM014) to be given his last seen.
- Alba had 2 encounters this month. On the 20th Renegades' sub-adult male Do Bronx (VRGM003) was seen foraging on the edge of the group. The group war danced at him, causing him to retreat. He was later seen standing near the G129A sleeping burrow and went below at a different entrance to the group. On the 21st, Do Bronx was seen 20 metres away from the group. The group repeatedly chased him. Do Bronx retreated but remained within 20 metres from the group, with the group eventually ignoring him.
- Yearling subordinate male Xue (VALM024) had a bump on his muzzle this month which was healed by the end of the month. Tress was limping on her left leg this month, we are unsure if this injury has healed by the month's end. Sub-adult subordinate males Disco (VALM029), and Yibo (VALM030) had lumps on their noses this month, which have not yet healed by the month's end. All other individuals appeared healthy at the end of the month.

Brussels Sprouts (FDC):

- All 10 members were present at the end of the month.
- Dominant female Arabella (VMPF035) gave birth this month on the 17th. The litter is yet to emerge, but there is clear lactation and babysitting, the litter is thought to be alive.
- On the 4th, adult subordinate male Gurke (VHMM036) returned to the group. On the 9th Gurke left the group and returned the following

morning. On the 14th Gurke left the group and returned the same evening. On the 17th Gurke was seen resting and digging at the Zulus babysitting burrow. He had returned to his group by the evening on the same day.

- Sub-adult subordinate male Toadstool (VBSM013) had an encounter with Gold Diggers this month when they mobbed the babysitting burrow that was being used by Brussels Sprouts.
- Brussels Sprouts had no inter-group interactions or group-splits this month.
- All members of the group appeared to be in good health by the end of the month.

Gold Diggers (FDC):

- Gold Diggers had 14 out of 19 members present by the end of the month.
- Dominant female Goldeneye (VGDF007) was pregnant throughout the whole month and had not yet given birth by the end of the month.
- On the 2nd adult subordinate male Captain Patel (VGDM048) returned to the group. On the 3rd, sub-adult subordinate female Poes (VGDF070) did not wake up with the group. On the 4th yearling subordinate male Snackajack (VGDM063) left the group and returned the same evening. On the 12th adult subordinate female Serafina Pekkala (VGDF049) left the group. Serafina Pekkala appeared at the group the following morning, foraging 30m from the group, whilst the group remained vigilant. On the 14th, Snackajack left the group, and returned to the group on the 16th. On the 16th adult subordinate female Peanut (VGDF047) left the group. On the 18th, Snackajack was evicted, being war danced and chased away by the group. He rejoined the group on the 19th. On the 20th adult subordinate female Manchego (VGDF054) was evicted from the group. Captain Patel left the group on 23rd and was seen resting at the Brussels Sprouts babysitting burrow and returned to Gold Diggers the same evening. Snackajack left the group on the 23rd and returned the same day. Sub-adult subordinate male Bubbu (VGDM069) left the group on the 26th and returned on the 27th.
- Peanut, Serafina Pekkala, Manchego, and Poes are still absent at the end of the month.
- Gold Diggers had 7 encounters this month. On the 3rd, Lazuli's adult subordinate male Tinashe (VLM310) was seen foraging near the group. The group war danced and chased him, and he retreated. On the 9th, Lazuli's subordinate yearling male Pot Belly (VLM317) approached the group – only to flee when the group war-danced towards him. On the 12th, Lazuli's yearling subordinate males Pot Belly and Fat Belly (VLM316) were foraging with the group and were chased away after the group returned to the sleeping burrow. On the 13th, Fat Belly returned and was chased by the group and retreated but proceeded to stay 15 metres away. On the 18th the group mobbed the Brussels Sprouts' babysitting burrow and had an encounter with Brussels Sprouts' sub-adult subordinate male Toadstool (VBSM013). On the

20th, the group mobbed an unknown individual at the Brussels Sprouts' babysitting burrow – the group war-danced and chased the individual, who fled. Lazuli's Tinashe and Pot Belly had an encounter with the group on the 27th, and were war danced and chased by the group.

- Gold Diggers had no inter-group interactions or group-splits this month.
- Sub-adult subordinate female Poes (VGDF070) was seen limping badly in the evening of the 2nd, suffering from a suspected snakebite. She was not seen after that and is presumed dead. Juvenile subordinate female Ares (VGDF075) had growths on the claws of both of her front paws this month, which had healed by the end of the month. All other members of the group appear in good health.

Jaxx (FDC):

- Jaxx increased from 13 to 21 members present at the end of the month.
- Six pups, Fennel (VJXP208), Woof (VJXP209), Sprout (VJXP210), Fifi (VJXP211), Matty G (VJXP212), and Alvin (VJXP213) had their first emerge and foraged with the group for the first time this month.
- On the 4th yearling subordinate female Dexter (VJXF190) and yearling subordinate female Pulpi (VJXF189) returned to the group.
- On the 5th yearling subordinate male Gobi (VJXM194) left the group. He returned on the 8th. On the 26th sub-adult subordinate female Trinity (VJXF197) left the group with pups Fennel (VJXP208), Sprout (VJXP210), Fifi (VJXP211), and Matty G (VJXP212), after they became separated from the group during an alarm. They all returned on the 30th. On the 30th sub-adult subordinate male Freddie (VJXM204) left the group.
- Freddie is yet to return by the end of the month.
- Enough time has passed for subordinate adult female Brave (VJXF178) to be given her last seen.
- There were 5 group splits this month and one encounter. On the 2nd sub-adult subordinate males Icetruck (VJXM196) and Skinner (VJXM199), sub-adult subordinate females Trinity (VJXF197) and Orsybear (VJXF203), and juvenile males Minnie (VJXM206), and Mtho (VJXM207) were seen more than 100 metres from the group. This split lasted for 45 minutes. On the 13th, subordinate yearling females Pulpi, Dexter, Gobi, Icetruck, Skinner, Orsybear, Minnie, and Mtho along with sub-adult males Doomsday (VJXM198) and TunafishV (VJXM202), and subadult female Hurley (VJXF201), split from the group for 24 minutes. On the 16th, dominant male Mr Worldwide (VJXM200), Pulpi, Dexter, Doomsday, Orsybear, TunafishV, Freddie, and Minnie split from the group for 2 hours. On the 17th, Skinner, Hurley, Orsybear, Minnie, Mtho, and subordinate sub-adult female Milo (VJXF205) split from the group, returning that same evening. On the 26th Gobi, Pulpi, Icetruck, Trinity, Hurley and TunafishV split from the group for 29 minutes. An unknown adult

encountered the group on the 24th, causing the group to bipedal alarm.

- Habituation is classed as *Advanced Progress*. Habituation of the dominant male, Mr Worldwide (VJXM200), is going well, he has not yet shown interest in egg or water but is comfortable with observers sitting at 1 meter distance at the sleeping burrow and follows at a 5-meter distance.
- Pulpi had a wound on her tail base this month, which is still present and the end of the month. She also had a small wound on her forepaw and Doomsday had a scab on his nose, both of which have healed as of the end of the month. All other members of the group appeared to be in good health by the end of the month.

Lazuli (FDC):

- Lazuli decreased by 3 individuals, with 10 out of 13 members present at the end of September.
- Dominant female Masiwa (VLF308) was made officially pregnant this month.
- On the 3rd, adult subordinate male Tinashe (VLM310) left the group and was seen roving at Gold Diggers. He returned to the group on the 6th. On the 9th yearling subordinate male Pot Belly (VLM317) left the group and was seen roving at Gold Diggers. On the 12th, Tinashe and yearling subordinate male Fat Belly left the group and were seen roving at Gold Diggers. Tinashe and Pot Belly returned on the 13th. Fat Belly returned on the 16th. On the 16th, Yearling subordinate female Bumble (VLF320) left the group, she returned later that evening. On the 25th juvenile subordinate males Reblochon (VLM322) and Thrutch (VLM324) left the group, returning later that evening. On the 27th Tinashe and Pot belly left the group and were seen roving at Gold Diggers. On the 29th Pot Belly returned to the group and Bumble and sub-adult subordinate female Pataud (VLF319) were evicted. Tinashe, dominant adult male Rogelio de la Vega (VGDM015), and yearling male Tumtum (VLM315) left the group on the 29th and were seen roving at Vetkoeks. Pataud returned to the group on the 30th but was evicted again that same morning. Rogelio de la Vega and Tumtum returned to the group on the 30th.
- Tinashe, Pataud and Bumble were still absent from the group at the end of the month.
- The group had one group split this month. Dominant male Rogelio de la Vega (VGDM015), Tinashe, Fat Belly, Bumble, Reblochon, and Thrutch along with yearling subordinate male Petit Bidon (VLM318) and Pataud split from the group on the 17th for 25 minutes.
- The group had 1 encounter this month. On the 3rd Ubuntu's yearling subordinate male Wors (VUBM075) was seen by the group and war danced and chased. He retreated but stayed around 50 metres away from the group until the end of the session.
- The group had one inter-group interaction this month, with Dik-Diks on the 25th. Lazuli war danced and excavated G1367A, the babysitting burrow being used by Dik-Diks, causing one unknown adult and 4 pups to retreat.

- Petit Bidon had a lump on his muzzle this month which had healed by the month's end. All other members of the group appeared to be in good health by the end of the month.

Side Quest (FDC):

- Side Quest increased by 5 individuals, from 16 to 21 members present at the end of the month.
- Dominant female Pumba (VZUF048) gave birth on the 3rd. Five pups, VSIP055, VSIP056, VSIP057, VSIP058, and VSIP059 first emerged between the 20th and 22nd – they have not foraged with the group by the end of the month.
- On the 1st Yearling subordinate female Truffle (VSIF040) left the group, returning on the 3rd. On the 4th, Truffle left the group again. She returned to the group on the 11th.
- Side Quest had one daily group split on the 11th, lasting 1 hour and 10 minutes, involving Truffle, sub-adult subordinate females Bunny (VSIF042), Billy (VSIF043), Portman (VSIF045), Mrs HS Balls (VSIF047) and Jungo (VSIF048), and juvenile males Snoopy (VSIM049) and Turnip (VSIM053), and juvenile female Tadpole (VSIF054).
- Side Quest had one encounter with a wild rover on the 19th, whom they chased. He was later seen at the sleeping burrow.
- The group had no inter-group interactions observed this month.
- Tadpole had a wound on her forepaw this month, and Jungo had a bleeding wound on her chest. Both injuries were healed by the end of the month. All other individuals appeared in good health by the end of September.

Trackie-Daks (FDC):

- Trackie-Daks decreased by 4 individuals, with 14 out of 18 members present at the end of the month.
- *Female dominance was confirmed* at Trackie-Daks this month. Refilwe (VTDF041) received submissions from over half of the eligible females at the group.
- Dominant yearling female, Refilwe, was made officially pregnant this month and gave birth on the 27th. The litter is yet to emerge, but there is clear lactation and babysitting, the litter is thought to be alive.
- On the 2nd, yearling subordinate female Mulan (VTDF046) was evicted. Yearling subordinate female Hope (VTDF045) left the group on the 3rd. On the 6th Adult subordinate female Chinchilla (VTDF029) returned to the group. Chinchilla left the group again on the 7th. On the 8th yearling subordinate female Fishstick (VTDF044) left the group. On the 10th yearling subordinate males Tsodiyo (VTDM042), Raisibe (VTDM043), and Jonesy (VTDM047) left the group. Fishstick appeared at the group on the 15th, but the group did not react. Fishstick was also observed multiple times going below and waking up at the groups sleeping burrow, without the group seeing her. Yearling subordinate male Peely (VTDM048) left the group for the day on the 21st, returning the same evening. Fishstick appeared at the sleeping

burrow on the 22nd and ran away when the group saw her. Fishstick returned to the group on the 28th. Hope returned to the group on the 29th. Chinchilla, Tsodiyo, Raisibe, Mulan, and Jonesy were still absent at the end of the month.

- Trackie-Daks had 2 encounters this month, one with an unknown adult on the 2nd, whom the group war danced and chased until it retreated. On the 28th they had another encounter with an unknown individual whom the group war danced and chased multiple times.
- The group had one inter-group interaction this month. On the 28th Trackie-Daks had an interaction with five unknown individuals. The group war danced and chased them multiple times until they retreated.
- The group had no group-splits observed this month.
- The habituation level is currently classed as *Complete*. Dominant male Guido (VWM275) drinks water and was weighed 3 times this month. He is comfortable with 2m follows for 15 minutes.
- Raisibe and Peely had lumps on their noses this month, which were not seen at the end of the month. All other individuals at the group appeared to be in good health at the end of the month.

Ubuntu (FDC):

- All 16 individuals were present at the end of September.
- Dominant female Agazoth (VUBF039) gave birth this month. The litter was presumed lost before emergence, with one dead pup found above the burrow, with evidence of infanticide.
- On the 4th juvenile subordinate female Zuzu (VUBM086) left the group. Yearling subordinate female Hotfoot (VUBF071) returned to the group on the 5th after being absent at the end of last month. Hotfoot was evicted again later that same morning. On the 5th juvenile male Kiki (VUBM088) left the group, returning the following morning. On the 9th sub-adult subordinate male Chonky (VUBM078) left the group, returning the following day. Hotfoot appeared at the group on the 11th and retreated when the group approached. On the 22nd yearling subordinate male Wors (VUBM075) left the group, returning on the 24th. Sub-adult subordinate female Stella (VUBF083) left the group on the 27th and returned the same day. Wors left the group on the 30th, returning that same day. Zuzu was absent at the end of the month.
- Enough time has passed for yearling subordinate male Pap (VUBM074) to be given his last seen.
- There was a daily group split on the 9th, lasting 1 hour and 5 minutes, involving Chonky, Wors, dominant adult male Greebo (VHMM048), and sub-adult subordinate female Stella (VUBF083).
- Ubuntu had two encounters this month. On the 12th, an unknown adult male was chased and war-danced by the group, causing him to retreat. On the 24th, an unknown adult approached the

group – he retreated when the group war-danced and chased him.

- Ubuntu had one inter-group interaction this month. On the 18th, the group encountered Vetkoeks, who retreated and returned to their sleeping burrow.
- Hotfoot had a wound on her tail base this month. Kiki had a bleeding wound on his forearm this month. All other individuals in the group appeared to be in good health.

Vetkoeks (LHM):

- Vetkoeks increased by 5 individuals, from 8 to 13 members at the end of the month.
- Dominant female Mooncake (VHMF053) gave birth this month on the 7th. Five pups, VVKP031, VVKP032, VVKP033, VVKP034, and VVKP035 emerged for the first time on the 29th.
- *Male Dominance* is still unconfirmed at Vetkoeks this month.
- Vetkoeks had 3 encounters this month. On the 18th, Mandalore's adult male Floki (VWM241) approached the group and the group war danced and chased him multiple times. On the 23rd they had another encounter with Floki, where they chased him away. On the 29th they had an encounter with Lazuli males, adult dominant Rogelio de la Vega (VGDM015), adult subordinate Tinashe (VLM310), and yearling subordinate Pot Belly (VLM317). The group war danced and chased them continuously.
- Vetkoeks had one inter-group interaction this month. On the 18th, the group encountered Ubuntu, where Vetkoeks retreated to their babysitting burrow.
- The group had no group-splits observed this month.
- All individuals appeared healthy at the end of the month.

Zulus (FDC):

- Zulus increased by 5 individuals, from 12 to 17 individuals present at the end of September.
- Five pups, VZUP085, VZUP086, VZUP087, VZUP088, and VZUP089 emerged for the first time on the 13th, and foraged with the group for the first time on the 20th.
- Zulus had 5 observed encounters this month. On the 1st Hogwart's yearling subordinate male Buckbeak (VHWM002) encountered the group 3 times, war dancing and chasing him the first time, retreating when he snarled at them the second time, and ignoring him the third time. On the 4th they had another encounter with Buckbeak, war dancing and chasing him until he retreated. On the 17th they had an encounter with Brussels Sprout's' adult subordinate male Gurke (VHMM036), who was resting at the Zulus babysitting burrow, less than 2 metres from the pups, and digging around the burrow entrances – he was chased away by adult subordinate male Sweep (VZUM072) who was babysitting. On the 22nd they had an encounter with Hogwart's yearling subordinate male Nkosana (VHWM001), who appeared 10 metres from the group, with no reaction from them. On the 23rd

they had another encounter with Nkosana who was again 10m from the group, and again they showed no reaction.

- Zulus had no observed inter group interactions this month.
- Zulus had one observed group split this month on the 12th that lasted 19 minutes. It involved Sweep, sub-adult subordinate male Vesemir (VZUM080), juvenile male Bopp (VZUM081), and juvenile female Io (VZUM084).
- Dominant female Leona (VZUF070) was noticed with a partially closed gunky eye this month, that had healed by the month's end. All other individuals in Zulus appeared to be healthy by the end of the month.

Life History Monitoring Groups:

Dik-Diks (LHM):

- Dik-Diks increased by 2 individuals, from 16 to 18 members present at the end of the month.
- Four pups, VDDP030, VDDP031, VDDP032, and VDDP033 emerged for the first time this month on the 27th and foraged for the first time on the 28th.
- On the 13th eldest subordinate female Shelby (VGDF022) returned to the group. Adult subordinate males Jaivyn (VUBM048) and Scramble (VDDM007) were not seen at the group from the 7th. Yearling subordinate male Braveheart (VDDM011) did not wake up with the group on the 13th. Jaivyn, Scramble and Braveheart were still absent at the end of the month.
- Dik-Diks had one inter-group interaction this month on the 25th with Lazuli. Lazuli war danced and excavated G1367A, the babysitting burrow being used by Dik-Diks, causing one adult and 4 pups to retreat.
- Dik-Diks had no observed encounters this month.
- Dik-diks had one daily group split on the 27th, lasting 2 hours 27 minutes. The individuals involved were Shelby, sub-adult subordinate males Sobhuza (VDDM013) and Mushu (VDDM018), and sub-adult subordinate females Sibani (VDDF015), Sneh (VDDF016), and Stripe (VDDF028).
- Habituation is classed as *Advanced Progress*. Dominant female Juliet (VGDF009) has shown much improvement in her habituation, she drinks water and approaches the scale but has not been weighed this month.
- Shelby had a wound on her tail base this month, which has not yet healed by the end of the month. All other members of the group appeared to be in good health at the end of the month.

Elrond's Council (LHM):

- All 17 individuals were present at the end of September.
- Yearling subordinate female Cadenza (VECF059) was made officially pregnant this month but was then believed to have aborted her litter on the 20th, with no signs of lactation or babysitting.

- On the 9th yearling subordinate males Goujon (VECM062) and Bazooka (VECM065) were seen leaving the group. They returned to the group on the 11th. On the 20th yearling subordinate females Furiosa (VECF061) and Romanov (VECF063) did not wake up with the group. They returned to the group in the afternoon of the same day. Furiosa and Romanov left the group again on the 23rd, running away from the group's sleeping burrow when Cadenza emerged. They woke up with the group again on the 24th and foraged with them, indicating acceptance back into the group.
- The group had one encounter this month. On the 30th, two unknown adults approached the group, but were chased away by the group.
- The group had no inter-group interactions, or group-splits observed this month.
- Habituation is classed as *Advanced Progress*. Dominant male Jonsnow (VECM070) has shown significant improvement – he has shown some interest in egg and is comfortable with observers standing at a 2-meter distance. He has not yet been weighed. He is comfortable with group follows but will forage at a distance from observers.
- Dominant female Snoop Kat (VECF039) still has a deep, open wound on the left side of her chest and is still limping and lethargic. She has also developed an infected abscess on her left eye. Her radio collar was removed this month as she had lost too much weight. Cadenza, Goujon, Romanov and Bazooka all had small lumps or wounds on their muzzles this month. All other members of the group appeared to be in good health.

Habituation Groups:

Hogwarts (HAB):

- Hogwarts increased by 4 individuals, from 11 to 15 members present at the end of the month.
- Four pups VHWP014, VHWP015, VHWP016 and VHWP017 emerged for the first time on the 5th. They foraged for the first time on the 7th and moved for the first time on the 8th.
- Dominant female Salazar was made officially pregnant on the 24th of this month.
- Yearling subordinate male Buckbeak (VHWM002) returned to the group on the 2nd, after being seen roving at Zulus on the 1st. Yearling subordinate male Nkosana (VHWM001) left the group on the 22nd and was seen roving at Zulus. He woke up with the group on the 24th.
- Habituation is classed as *In Progress*. Habituation of sub-adult subordinate male Buckbeak (VHWM002) is going well, he is drinking water, is comfortable around the scale but was not weighed this month. Dominant male Caraxes (VHWM004) is still barky and will only approach if the observer is laying down, but

regularly drinks water. He was not weighed this month. Habituation at the babysitting burrow has been successful this month as the group has been leaving the burrow to forage later, due to the litter. Both individuals are comfortable with less than two meters sitting and movement.

- All individuals appeared healthy at the end of the month.

Whiskers (HAB):

- All 10 individuals were present at the end of September. Three pups Iron (VWM285), Katana (VWM286) and Maus (VWF287) had their first move and forage this month, on the 1st and 12th respectively.
- *Female dominance was confirmed* at Whiskers this month. Sheila (VWF267) received submissions from over half of the eligible females at the group.
- On the 26th, both dominant female Sheila (VWF267), and subordinate adult female Bruce (VWF266) were made officially pregnant.
- Whiskers had no encounters, inter-group interactions, or group splits observed this month.
- The group's habituation is classed as *In Progress*. Adult subordinate male Agent K (VWM276) is eating egg and is comfortable with a 1-2m distance when the observer remains seated. We will continue visiting the group and increasing Agent K's comfort distance as well as potentially getting his weight.
- Agent K had an open wound on his mouth this month. All other members of the group appeared to be in good health.

The following authors contributed to this report:

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