



The Meerkatter

The Friends of the Kalahari Meerkat Project Report - www.kalahari-meerkats.com - March 2020

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Sneaky Subordinate Pregnancies

March has seen several pregnancies from more of the subordinate females, with some of these resulting in success – including Pippin (VECF003) and three females of Zulus. This confirms previous observations that at the end of the breeding season subordinates are more successful in breeding. Dominant females usually conceive at much higher rates than the subordinates, producing more than 80% of pups that survive past their first month.

There are several theories as to how dominant females usually maintain their higher conception rate and have a much higher reproductive success. It is thought that subordinate females often have reduced access to unrelated males within their group and so incest avoidance appears to occur. Within a group, many of the females are likely to be the offspring of the dominant male, with any other subordinate males also being their siblings. Therefore, subordinate females will usually only breed when there are either unrelated males immigrated into the group, or when they are able to interact with roving males.



Pippin (VECF003), subordinate female in Elrond's Council, resting while heavily pregnant. Photo Credit: Meerkat volunteer Zoe Turner.

Another aspect that may impact the likelihood of subordinate females having successful pregnancies is the aggressive reactions they face from the dominant females. Dominant females will often increase aggression towards subordinate females when they are pregnant themselves, usually evicting the females when there may be higher competition between litters. While evicted females are often accepted back into the group following the dominant giving birth - as seen at Make-e-Plan last month with Toscana (VMPF020) and Bigwig (VMPF022) – subordinate individuals that are pregnant may also experience a higher likelihood of abortion. Studies have shown that the aggression they face may induce chronic stress responses, with higher glucocorticoid adrenal hormone levels observed in evicted females that reduce conception and increase abortion rates.

However, these levels of aggression are less common outside of the peak breeding season (September-March). Evictions are costly to the dominant female, and it is often those in better condition with a higher chance of conceiving a second litter that may gain more from evicting. With food availability decreasing as the seasons change, we can assume that it is more beneficial to the dominant female to allow the subordinate females to remain and gain the benefits of a successful large group with the small risk of a litter that may not be her own.

For Elrond's Council, Pippin's successful pregnancy and subsequent birth this month is a first for the group. Since the group was formed in the beginning of 2018, Tayl Baez (VBBF117) has been considered the dominant female since June 2018. She has been the only female in the group since then to have successful pregnancies. February of this year saw Tayl Baez have her first abortion, and with this being only a short period of time before Pippin's pregnancy was noted, it may indicate that the eviction of Pippin would have been too costly to Tayl Baez. While extra mouths to feed in a group will be a difficult as we enter the drier season, increasing group size and reducing inbreeding has many long-term benefits for the group.



Timon (VZUF049), subordinate female in Zulus, sunning at the burrow while pregnant. Photo Credit: Cape Ground Squirrel volunteer Tash Evans.

In comparison, three subordinate females – Lil G (VZUF029), Lentil (VZUF032) and Timon (VZUF029) – becoming pregnant successfully is not quite as surprising for Zulus. Spruddel (VZUF028) has been dominant in the group since May 2019, and while she has had two successful pregnancies, both litters were sadly lost before emergence. In this time, there has only been one other successful pregnancy and litter; Lentil had a litter consisting of Timon and Pumba (VZUF048) shortly after Spruddel lost her litter in May 2019. These recent pregnancies are positive news for the group as they are the first since the previous litter. The recent immigration of the three Whiskers males – Scuzi (VWM213), Pixie (VWM210) and Jay-a-rod (VWM216) – and new dominance change is likely to be a contributing factor. While the outcome of the pregnancies is unknown, babysitters and lactations appear to show success, and there have been four pups seen below in the sleeping burrow at the end of this month. It will be difficult to determine whether the pups may be from Lil G or Lentil's litter due to their birth being only approximately a week apart. As for Timon giving birth at the very end of this month and at only 10 months of age, the fate of her potential pups will also be interesting to follow for how subordinates may succeed or fail in their endeavors to reproduce.

Other subordinate pregnancies of the month include those of Cirilla (VMPF026) and Scylla (VMPF025) of Make-e-Plan. They have avoided eviction; however, it seems that Cirilla may have been unsuccessful with no signs of lactations or any babysitters. Scylla meanwhile remains pregnant at the end of March. In Namaqua, another young individual - Skirmish (VNQF009) - who is just 11 months old is also still pregnant and will be another interesting story to follow.

Lazuli's Dispersal Drama

This month, there was a temporary subgroup formed from Lazuli. While there was hope this could be the start of a new full group, it concluded as a short dispersal adventure with few resulting changes at Lazuli. Even so, it was an interesting time to observe at Lazuli with many volunteers not having prior experience of such situations and behavior.

Sigma (VLF230), the dominant female of Lazuli, gave birth on the 10th March, following some subordinate pregnancies: Annie's (VLF240) which resulted in abortion, and Weasel's (VLF241) who gave birth, but the pups were lost before emergence. In the same session of which it was clear Sigma had given birth, some of the females were not present with the group – Annie, Weasel, and Lennon (VLF246). While Weasel returned back to the group a few days later, Annie and Lennon were still not present. Instead, an observer heading to Lazuli's sleeping burrow for an afternoon habituation session, noticed Annie and Lennon heading away from the burrow where Sigma had given birth. They moved towards a different burrow approximately 500m away. Upon closer inspection, it was also noticed that Annie and Lennon were in fact moving a very small pup! The two females appeared to act alone, although notorious rover, Shandy (VHMM023), was also spotted nearby. It was soon clear that the two females were not acting as part of Lazuli with the rest of the group returning to and remaining at their original burrow.



Annie (VLF240) and Lennon (VLF246) who had left Lazuli at the time, seen moving a small pup to a different sleeping burrow. Photo Credit: Meerkat volunteer Maggie Campbell-Jones.

The following morning, Lazuli were still at their original burrow where Sigma had given birth, but it had appeared that lactations were ending for Sigma and no babysitter was left. The two females were still absent, and so the observer also checked the nearby burrow where Annie, Lennon and the mysterious small pup were seen the previous evening. There, not only were Annie and Lennon present, but so was Shandy! They all appeared to act as part of a group together, and while the two females left to begin foraging, Shandy remained at the burrow appearing to babysit.

In the following days, sightings were recorded for both Lazuli and this new potential subgroup (“Lazuli 2”). In this period, Lazuli were no longer babysitting and there were no lactations occurring. In comparison at Lazuli 2, Lennon had begun to lactate with babysitters being left. The subgroup had seemed to settle, and were regularly seen foraging together, with some dominance competitions seen between the two females.



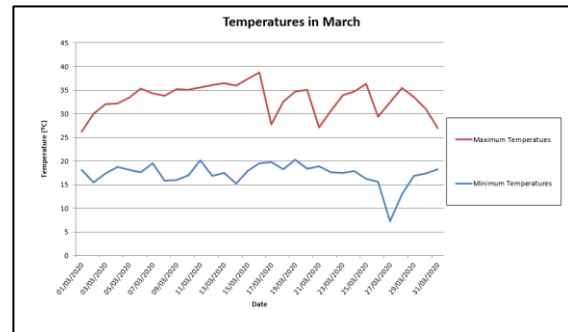
Members of Lazuli showing some vigilance while resting at their burrow one evening following the end of the dispersal. Photo Credit: Meerkat volunteer Maggie Campbell-Jones.

Unfortunately, this appears to not be the right time for a new group to form. On the 26th March, Annie and Lennon were both found with Lazuli foraging with the group, while Shandy was not acting as part of the group but seen nearby – much like his previous roving behavior the group have great experience with. Lazuli had moved to the burrow where the subgroup moved the small pup to, and babysitters were left once again. Since this date, the group has remained re-joined – with several encounters from Shandy, of course. It is unclear at the time being if there are potentially two pups that may have been seen, or if there is just the one successful pup. We will be closely monitoring the group for any further updates on their situation and any future dispersal news.

Pregnancies in March 2020

Females pregnant in March	8
Females who aborted	1
Females who gave birth, litters lost	0
Females who gave birth, litter emerged	1
Females who gave birth, unknown outcome	4
Females still pregnant at the end of the month	2

Weather at the KMP



Temperatures remained stable at the beginning of March, followed by sharp spikes of lower temperatures through the second half of the month. Towards the end of the month, the minimum and maximum daily temperatures show a much smaller range. The highest temperature for March was 38.7°C, while our coolest temperature was 7.2°C. This very low temperature that was felt overnight has been a clear indicator that the seasons are changing. There was 32mm of rain this month at the KMP.

March 2020 Life History Details

Elrond's Council:

- March ended with 3 individuals absent at the end of the month: Smeagol (VECM006), Gimli (VECM010) and Aragorn (VECM011). They left during the month and were seen towards the South of the reserve roving together. This is near to Hakuna Matata and Whiskers territories. The other 14 members of the group are present.
- The un-dyed Yearling Female who has been consistently seen with the group, left and returned once during the month, and has then been seen to be evicted. She was also absent at the end of the month.
- Pippin (VECF003), the oldest subordinate female, gave birth at the beginning of March. Four pups had been seen and dyed, but one (VECP018) was not seen to emerge or forage following a sleeping burrow move and has been assumed predated. The other three pups (VECP017, VECP019, VECP020) have successfully begun foraging with the group from the 28th March.
- Sauce (VZUM026) left and returned to the group twice this month, it is assumed he left to go roving for one of these occasions.
- For the other time that Sauce (VZUM026) left, Arwen (VECM014) and Pippin (VECF003) also left in the same morning as they all appeared to leave the sleeping burrow before the rest of the group. They then re-joined as the rest of the group left the burrow a short time after.
- Before Smeagol (VECM006) was seen leaving, he still was showing signs of his previous left forearm and shoulder wound. While still present, it was healing well, and his limp was greatly reduced.
- All other group members are healthy.



Gold Diggers:

- There were 7 dyed individuals and 7 wild individuals present in the group during March.
- Unfortunately, the group has not been found since the 27th March. They were not seen or able to be tracked in their usual territory for two days. On the 31st March the radio collared individual (VGDM008) was tracked to the North-East region of the reserve near Elrond's Council and Namaqua territories. It is thought that the male may be roving away from the group as there were no signs of the group in that area, however this cannot be confirmed until the group is seen again, or the male is seen while potentially roving.
- All individuals looked healthy when last seen.

Jaxx:

- One of the recent pups, Slightly (VJXM140) left during the month and was still absent at the end of March. The remaining 17 members were all present.
- There was a group split of an uncertain duration during the month. Upon arrival at an afternoon session with the group on the 25th March, Nävis (VJXF128), Rincewind (VJXM131), Nibs (VJXM137), and Slightly (VJXM140) were not present with the group, and the group had not been visited since the 23rd March when all members were present. The following morning session, Nävis (VJXF128), Rincewind (VJXM131) and Nibs (VJXM137) returned to the group together and were accepted, considered a group split. Due to Slightly (VJXM140) not returning from this split, he was considered to have left.
- All individuals look to be in good health.

Lazuli:

- The group currently consists of 13 presently dyed individuals and 2 wild individuals. One of the adult males was successfully dyed this month (VLM264) and is now identifiable.
- Sigma (VLF230), the dominant female, gave birth this month. There were potentially two pups seen and dyed from this litter, but only one has been consistently seen towards the end of the month; VLP263 was absent at the end of March.
- Both Sausage (VLF255) and Xanax (VZUM050) were given their Last Seen this month.
- Weasel (VLF241) left and returned to the group once this month with an unknown reason, as well as being clearly evicted and accepted back once during the month.
- Haopia (VLF244) was also evicted once this month and was accepted back into the group shortly after. Before her return and acceptance into the group, she also appeared at the group on one occasion.
- During March, a subgroup of Lazuli appeared to occur temporarily. Annie (VLF240) and Lennon (VLF246) had left the group on the 10th March, and a few days later on the 13th March an observer saw them moving a pup from the Lazuli sleeping burrow, to a burrow 500m away. The following day, another observer then saw both of these females at the sleeping burrow where they

had moved a pup to, along with Shandy (VHMM023) who had been interacting with Lazuli regularly in recent months. The three individuals appeared to be acting as part of a group together for several days from this point, with the females showing signs of lactations, and apparent babysitting at the burrow. On the 26th March, the two females were seen acting as part of their parent group Lazuli once again, with Shandy (VHMM023) sighted nearby but not acting as part of a group with Lazuli or the two females. From this date, the subgroup was considered to have ended and re-joined the parent group. Shandy (VHMM023) was immigrated back into Unknown as he continues to not be accepted into Lazuli but is acting and regarded as a rover.

- Lazuli had a total of 6 encounters with Shandy (VHMM023) this month, twice before the subgroup formed, and the remaining four times followed the end of this subgroup.
- The group looks healthy.

(Little) Creatures:

- Little Creatures is currently a group of 5 dyed individuals and 2 wild individuals, all present at the end of the month.
- Following the wild female individual of the group giving birth last month, three pups were initially seen. Following this, two of those were seen consistently and able to be dyed (VCRP011, VCRP012). They have both emerged, had their first burrow move, and successfully foraged with the group all during this month.
- All individuals look to be in good health.

Make-e-Plan:

- Make-e-Plan currently consist of 14 individuals who were all present at the end of the month.
- Toscana (VMPPF020) was given her Last Seen this month.
- The litter of the dominant female, Bridget (VQLF011), that were born last month are assumed to have been predated at the beginning of March. They were last seen during a session where they were foraging with the group. The pups were seen to be left in a bolthole during the session and were not seen since.
- Scylla (VMPPF025) and Cirilla (VMPPF026), two subordinate females, were both pregnant this month. Cirilla (VWMPF026) gave birth towards the end of March but it is believed so far that it was likely an abortion as there have not been any lactating females or babysitting. Scylla (VMPPF025) has ended the month still pregnant.
- Vivienne (VMPPF038) was seen with injuries to her face that appear to be the result of a potential snake bite. She had wounds to the right side of her head and chin, with swelling to her face initially and some signs of fatigue. She seems to have improved greatly and is recovering well.
- The rest of the group appears to be of good health.



Namaqua:

- All 11 individuals are present at the group and have not had any movements throughout the month.
- Skirmish (VNQF009), a subordinate female, is currently pregnant.
- The group is in good health.

Tswana:

- Out of 15 members of the group, 14 were present at the end of the month. One of the pups (VTSM013) was last seen on the 28th March and has not been seen since.
- There have now been 6 pups sighted and dyed in the group, and all of these have now also successfully foraged with the group.
- Two adult males have also been successfully dyed in the group (VTSM014, VTSM015). Their behaviour in the group is being monitored closely to determine which male is likely to be dominant.
- The two adult males who immigrated into Tswana in November have not shown any further signs of tuberculosis. The rest of the group remains to look in good health.

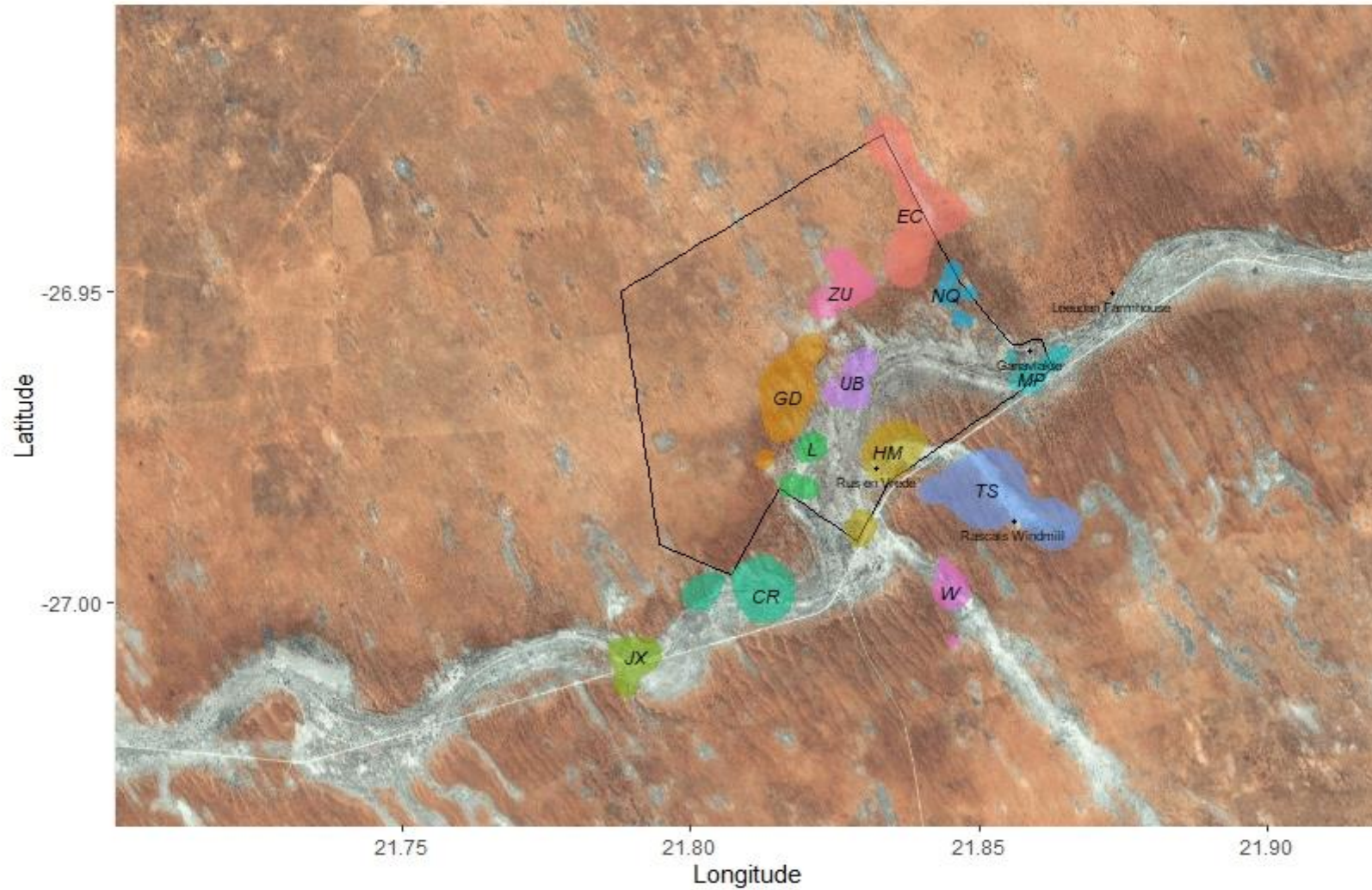
Zulus:

- All 8 individuals are present with the group.
- There is an unknown number of pups in the burrow. Three subordinate females – Lil G (VZUF029), Lentil (VZUF032), and Timon (VZUF049) – gave birth this month. There have been consistent babysitters since the first birth, along with all three females also lactating. Four pups have currently been seen in the burrow mouth, it is assumed that these are from either Lil G (VZUF029) or Lentil (VZUF032), as the litters were born in very close proximity of time.
- All group members are healthy.

The following authors contributed to this report:

Zoe Turner, Life History.

Group Territories March 2020



Key: CR: Little Creatures, EC: Elrond's Council, GD: Gold Diggers, HM: Hakuna Matata, JX: Jaxx, L: Lazuli, MP: Make-e-plan, NQ: Namaqua, UB: Ubuntu, TS: Tswana, W: Whiskers, ZU: Zulus.