

CHEETAH BEHAVIOUR

The End of the Mara's Famous Five Musketeers

While single males can easily survive by themselves, male cheetahs tend to do better when in a coalition

BY NIELS MOGENSEN, FEMKE BROEKHUIS & SILANTOI SAITOTI

You may have heard about or seen photographs of an incredible coalition of five male cheetahs who have gone by various names including *Tano Bora*, the Famous Five, and the Five Musketeers.

The Five Musketeers were formidable but, like with many partnerships, it did not come without its dramas. By following this group from when they first formed in December 2016 to now, the Mara Predator Conservation Programme (MPCP) has been able to document the incredible rise and fall of this famous coalition. So, let's start at the beginning.

Wild cats are usually solitary, in other words, they live alone.

But in Africa, there are two exceptions to this rule; lions, who live in prides, and cheetahs. The social structure of cheetahs is unique in that females are solitary, but males can either be solitary or live in groups also known as coalitions.

Coalitions are usually formed within the first year of males leaving their mothers and can either be made up of related or unrelated males. There are many benefits to being part of a coalition including being able to capture large prey, such as wildebeest and topi, and being able to defend a territory, providing access to females. Consequently, males in coalitions tend to be bigger and healthier than single males. Cheetah coalitions are usually made up of two or three males so a coalition of five individuals is extremely unique.

The story of the Five Musketeers began in December

BELOW

The five Cheetahs together. As the largest known male cheetah coalition in the Mara, the Tano Bora has challenged many assumptions about typical cheetah behaviour. Typically, once reaching adulthood, male cheetah will become solitary or perhaps join another to form a pair. It is very rare to see a group this large bonding together.

2016
 The year the story of the Five Musketeers began in December when five male cheetahs appeared in Naboisho Conservancy located in the Greater Mara Ecosystem in Kenya.



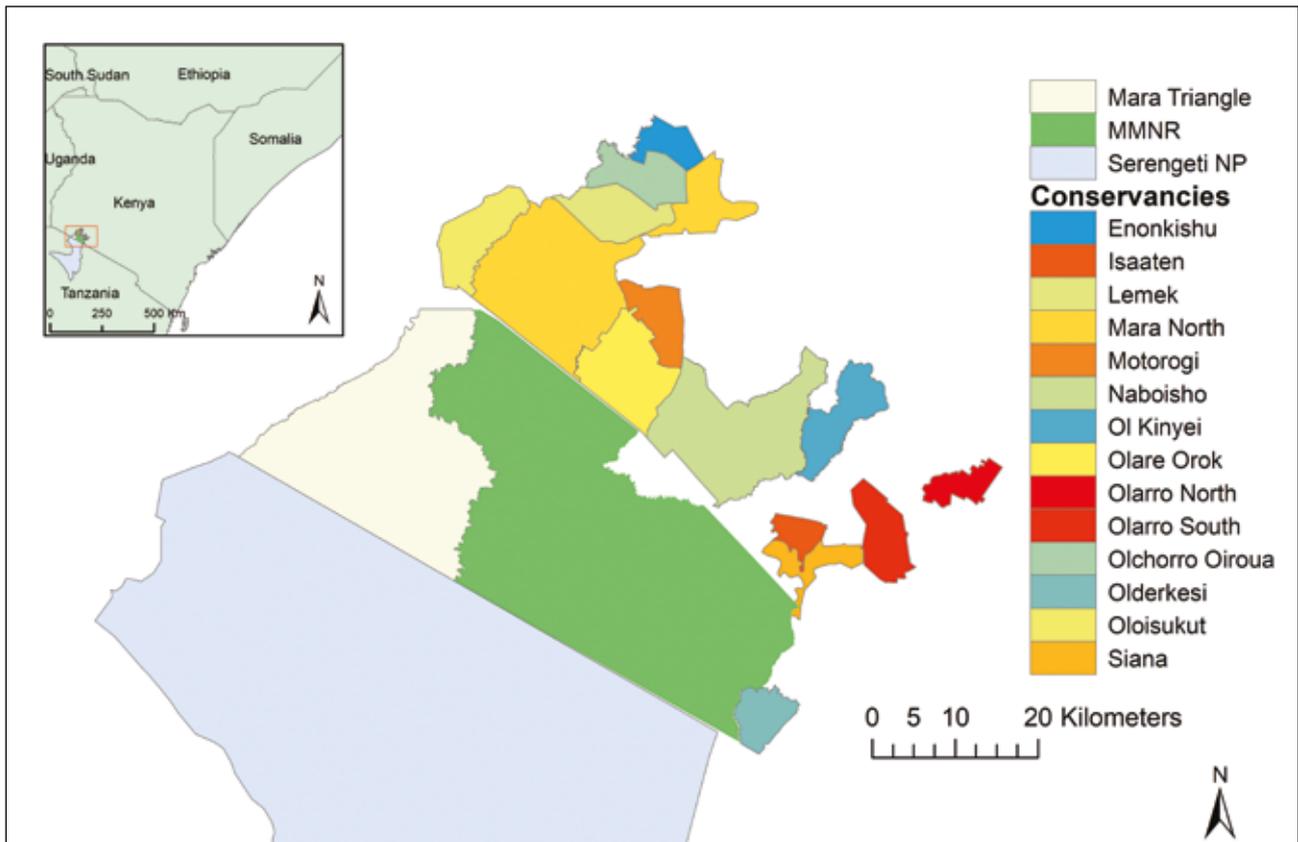


Figure 1: The Masai Mara and its protected areas

In March 2017, we fitted a satellite GPS collar on Dartonian as we wanted to understand the coalition’s movements in and outside the reserve and the wildlife conservancies.

2016, when five male cheetahs appeared in Naboisho Conservancy located in the Greater Mara Ecosystem in Kenya. Only one of the males, also known as Dartonian or Olpadan by many guides, was observed by the research team just before this coalition was formed. Results from a genetic analysis suggest that this single male was an outsider as he is genetically quite different from other cheetahs in the Mara. But where he, or the other four males, came from remains a mystery.



Based on their size and behavioural interactions we believe that the coalition was made up of three components, the single male just described and two male pairs. As with most young cheetahs who have recently left their mother, this coalition roamed far and wide, exploring their new surroundings. The research team sighted them across many of the conservancies, including Naboisho, Olkinyei, Olare Motorogi and Mara North, and also the Masai Mara National Reserve (figure 1 shows the study area). Keeping up with them was sometimes challenging but this became easier once we fitted a collar on one of them.

In March 2017, we fitted a satellite GPS collar on Dartonian as we wanted to understand the coalition’s movements in and outside the reserve and the wildlife conservancies. Several times a day the satellite GPS collar records the exact location of the collared individual providing the research team with crucial information on where the coalition has been, including during times

BELOW

Dartonian in front when he was still the leader. Although he became a coalition member as a single male, he was the largest of group and this could be a reason for him being the dominant member.

12
 The median life expectancy in years of cheetahs in the wild.

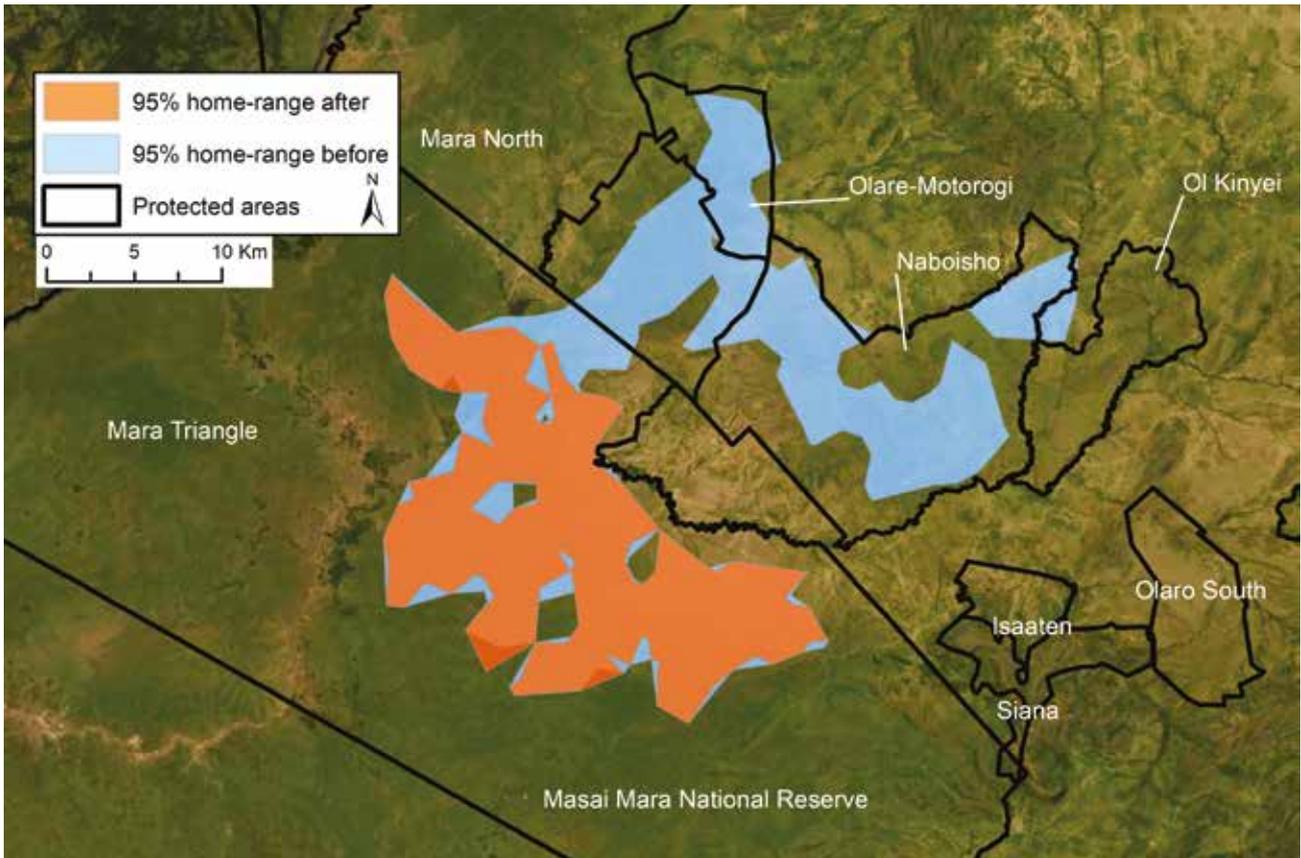


Figure 2: The male coalition’s home range before and after the establishment of their territory.

when it is difficult to follow them (e.g. at night or inaccessible terrain). The collar provided us with some interesting insights, most notably we observed a sudden change in the way that the coalition was moving across the landscape. Before June 2017, the coalition moved large distances, covering an area of approximately 490 km².

Then suddenly their movements were restricted to the Tipilikwani area in the Masai Mara National Reserve. This part of the reserve used to be part of the territory of a two-male coalition called the Oloololo males, but their territory collapsed when one of them died in October 2015. This prime area was therefore easily taken over by the Five Musketeers. Between June 2017 and February 2018, when the collar was removed, the area that they covered reduced to 257 km².

Figure 2 shows the difference in their 95 per cent home ranges, before and after the coalition established a territory. Even though they established a territory, the Five Musketeers still occasionally ventured further afield. On one of these occasions, they went into Naboisho Conservancy where they had an altercation with a solitary male named Forester. At the time, Forester also had a GPS collar and based on information from both collars we could see that the Five Musketeers



PHOTO BY MARA PREDATOR CONSERVATION PROGRAMME.

killed Forester in October 2017 before moving back to the Reserve.

Within the coalition not all were equal as Dartonian was the dominant male in the group, perhaps owing to his larger body size. On many occasions, we observed him fighting with the other members of the group, especially when feeding or wanting to mate with females. However, Dartonian’s dominance took a turn in March 2019 when he contracted a severe injury to his perineal area, potentially caused by a prey while making a kill, according to the vet’s assessment. However, it could also have been caused by an internal fight amongst the five males, as we witnessed several attacks on

BELOW

Dartonian after the separation, during his short term partnership with a younger male. Males often do better in a coalition than being solitary.

A 95% home range is the statistical home range, excluding the most peripheral outlier points. This is where the animal has spent 95% of its time during a specific period.

Dartonian by his coalition mates before the injury. In response, the Mara Kenya Wildlife Service (KWS) vet unit decided to remove his left testicle.

After this, we began to observe that Dartonian was lagging behind the rest, indicating that he was losing his dominance. Despite this, he managed to stay with the rest of the group, but he was always the last one to join in on hunts and was not tolerated much when feeding. But this changed almost a year later.

In June 2021, the Five Musketeers were seen on the boundaries of Naboisho and Olkinyei conservancies, well outside their usual territory in the reserve. Dartonian was still with the group but he was lagging and the other four would snarl at him if he tried to rest with them. Then one day, Dartonian was seen alone with an impala kill while at the same time, the other four males were taking down a wildebeest. A month later the four males were sighted in their usual stomping ground in the reserve but without Dartonian. The incredible partnership had come to an end.

Many factors could have led to Dartonian's downfall. It is possible that after Dartonian's initial injury in 2019, he no longer had the physical ability to maintain his role as leader of the coalition and the other members saw an opportunity to raise their status in the group. In a polygamous mammal society, where males mate with several females, the male's



PHOTOS BY MARA PREDATOR CONSERVATION PROGRAMME

reproductive success is limited by access to females. Perhaps the four remaining males saw a chance to mate with more females by being one less group member. In addition, after the four remaining individuals realised they were still able to hunt large animals like wildebeest without Dartonian's help, conceivably they saw him as unnecessary for their survival and as simply competing for their food. As Dartonian had lost his leadership position and did not have a brother to support him in the coalition, he was the easiest member to evict.

While single males can easily survive by themselves, male cheetahs tend to do better when in a coalition. So, we were excited when we found Dartonian in the company

TOP RIGHT
Dartonian with the collar on. Male cheetahs smell female cheetah marking trees to see if they are in estrus and ready to mate.

BELOW
The four males after separating from Dartonian. Cheetah social life is complex. Unrelated males may form alliances and maintain bonds as long as it benefits all members of a coalition.



BIODIVERSITY

of a younger male who had recently left his mother to start an independent life. Their union, however, only lasted around a month, as Dartonian was seen alone again in the southern part of the reserve while his temporary companion was back in Naboisho Conservancy.

While in the reserve, Dartonian decided to head back to the territory that he once held with his coalition mates. But this ended badly on 25th July 2021. While he was resting, the other four males sought him out and their reunion resulted in a massive fight. Dartonian was seriously beaten, sustaining injuries to his right eye and body. The KWS vet team came to his rescue and he managed to survive the attack. The MPCP research team monitored him closely and he was doing well as a solitary cheetah until January 26th, when Dartonian was found dead early morning, well within his former territory. It might seem odd that he had not left the coalition's territory, but his decision to stay was probably a trade-off between the risk of venturing into unknown grounds and staying around, with the hope of avoiding a confrontation with the four males.

We are not exactly sure what caused his death, but it could very well have been his former coalition mates, as they were seen not far from the carcass. Lions could also have been responsible for his death, but there were no signs of lions that morning. Unfortunately, the carcass was disposed of by the time the MPCP team arrived at the scene and so we were unable to examine him for the type of injuries he had sustained, i.e., bite wounds from either lions or cheetahs.

On 12th February, one of the four remaining males was found in a bad state and was treated the same day. According to the vet, the cheetah was covered in bites from what looked like other cheetahs. However,

the true culprit may never be confirmed. We believe the most likely scenario is that his coalition mates turned on him, which resulted in the cheetah passing away from his injuries the following day.

The coalition may still be going through a power struggle to identify the individual cheetah that is in charge after they kicked out the original leader last year. We have limited research and knowledge on the dynamics of male coalitions, especially when they are so large and include unrelated males. We may continue to see fighting between the group members, or maybe they have now established a new hierarchy between the remaining three cheetahs. ●



NIELS MOGENSEN is the Senior Programme Scientist for the Mara Predator Conservation Programme (MPCP), which falls under the Kenya Wildlife Trust (KWT).



SILANTOI SAITOTI was born and raised in Naroosura, an agricultural hub below the Loita Hills. He is a research assistant at Mara Predator Conservation Programme where focuses on cheetahs.



DR. FEMKE BROEKHUIS is an Assistant Professor at the Wildlife Ecology and Conservation group at Wageningen University in the Netherlands. For the past 14 years, Femke has focused on large carnivore research and conservation in Botswana and Kenya and has a particular interest in cheetahs.

BELOW

The male coalition hunting wildebeest. This formidable coalition became famous for their incredible large group size and for hunting large prey such as wildebeest and Topi at an almost daily basis. They were a huge drawcard for safari guests from around the world.

DID YOU KNOW

Cheetahs have evolved many adaptations that enhance their ability to sprint. Their legs are proportionally longer than those of other big cats; an elongated spine increases stride length at high speeds; they have unretractable claws, special paw pads for extra traction, and a long tail for balance.

PHOTO BY BRIAN SCHUH





TANO BORA TIMELINE

5 YEARS OF THE 5-MALE COALITION WHO HAS BECOME 4

NOVEMBER
2016



First sighting of Dartonian in the National Reserve.

MID DEC
2016



Dartonian joins a coalition of 4 males in Olare-Motorogi Conservancy.

LATE DEC
2016



The 5 male coalition are in Naboisho Conservancy

MID JAN
2017



First time we see the 5 males together in the National Reserve.

MARCH
2017



Dartonian fitted with a GPS collar.

FEBRUARY
2018



Collar removed.

MARCH
2019



Dartonian contracts testicular injury in Olare-Motbrogi Conservancy.

EARLY JUNE
2021



The 5 male coalition are back in Naboisho Conservancy for the first time since 2016.

LATE JUNE
2021



Dartonian is no longer with the other 4 males. He has teamed up with a younger male (son of Kuahidi). All are back in the Reserve.

LATE JULY
2021



Dartonian alone in the Reserve but within his former territory. He is badly beaten up by his former coalition mates.

AUGUST 2021



Dartonian is alone in the Reserve but doing well. He is still seen at times within his former territory.

JANUARY 2022



Dartonian found dead in his former territory.

FEBRUARY 2022



One of the four remaining coalition males dies after a potential attack from his partners.