

Mills MGL. Thick bush and stronger predators complicate cheetah's hunt. Custos:16-18.

Keywords: 1Afr/Acinonyx jubatus/cheetah/Kruger National Park/radio collar/radio transmitting/research

In the Kruger National Park the cheetah is also a low density species. Over the last few years I have been studying these cheetahs to gain an understanding of the factors that limit their numbers. It is essential to fit radio transmitting collars to some animals. Two females and one male of a unseparable triumvirate, which had been together for at least six years were radio-collared and observed.

Cheetah Research



Thick bush and st complicate ch

The cheetah, like all large carnivores, needs extensive space in which to live. That is why it is only in large conservation areas that it is possible to protect these beautiful, fleet-footed cats. Once considered an endangered species, the cheetah is now regarded as vulnerable. It has been exterminated in large parts of its former range in Africa, the Middle East and India, mainly as a result of loss of habitat and hunting. But there are some areas such as Tanzania's Serengeti National Park and parts of Botswana and Namibia, where relatively large populations still exist. Last year I was lucky enough to visit the Serengeti and saw seven different cheetahs in one and a half days! The Serengeti's open habitat and large numbers of gazelle provide ideal cheetah habitat.

In South Africa viable populations of cheetahs are found in the Kalahari Gemsbok and Kruger parks, and in the private reserves to the west of Kruger. Some of the Natal reserves also have small populations. Attempts to reintroduce cheetahs into small reserves such as the 13 400 hectare Suikerbosrand Nature Reserve near Heidelberg in the Transvaal were unsuccessful. Without competitors, the cheetahs did too well and killed unacceptably high numbers of prey, particularly blesbok and springbok.

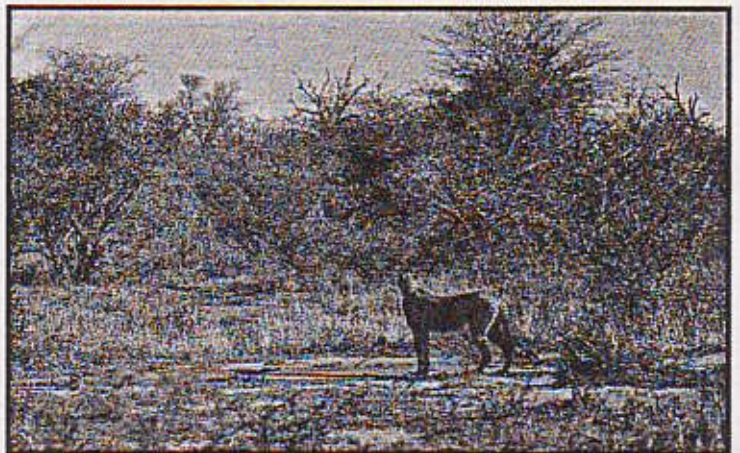
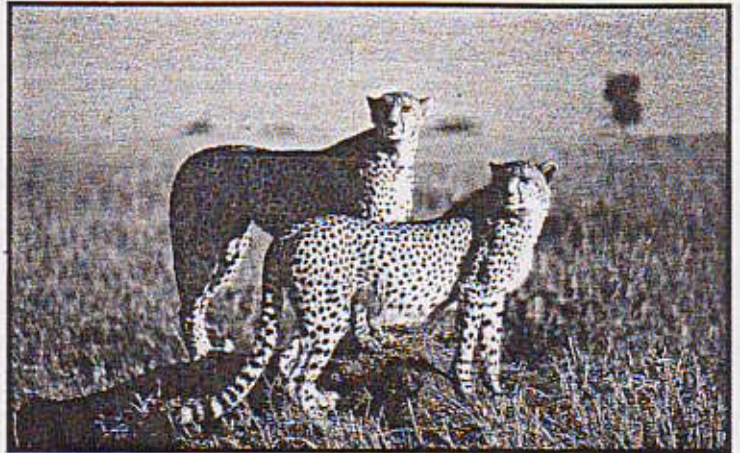
The cheetah provides a good example of how natural selection has moulded an animal's body to its environment and way of life. Its long, powerful legs, deep chest and small, streamlined head are all adapted for unexcelled speed. Its long tail acts as a counter-balance when twisting and turning at high speed. The cheetah is the fastest mammal on earth, capable of reaching a speed of 95 kilometres per hour. To attain this speed the cheetah uses up tremendous amounts of energy. This causes a rapid rise in body temperature and if the hunter has not caught up with its prey after about 400 metres at full speed, it has to abandon the hunt to prevent over-heating.

Cheetah females have up to six cubs at a time, although they usually only manage to raise about two. Predation by lions and hyaenas is probably the main cause of cub deaths. The males play no role in raising cubs, and they are dependent on their mother for as long as 18 months. Mother and cubs sever ties abruptly. They will be together one day, apart the next, and never join up again. The siblings stay together for a few months until the females come into season for the first time, after which they begin their solitary existence. Male cubs stay together for male cheetahs often pair up, or form a triumvirate, and co-operate in defending a territory against other males. Territorial fights sometimes result in the death of the loser.

Although the density of cheetahs in the Kalahari Gemsbok National Park is low, the Auob riverbed must be one of the best places in the world to watch cheetahs hunting. The narrow riverbed concentrates springbok, the cheetah's favourite prey, in this area. Three or four female cheetahs, together with their offspring, and several males, inhabit the 120 kilometre riverbed and its environs. A careful search along the Auob will often yield one of these groups, and with some luck and patience it may be possible to see them hunting, as cheetah are mainly daytime hunters.

In the Kruger National Park the cheetah is also a low density species. The area between Lower Sabie and Crocodile Bridge, east of the tar road, which covers about 350 square kilometres and is considered good cheetah habitat, is inhabited by three adult males and two to three adult females and their cubs. Over the last few years I have been studying these cheetahs to gain an understanding of the factors that limit their numbers.

In order to find cheetahs on a regular basis in an area like Kruger, it is essential to fit radio transmitting collars to some animals. Obviously before you can do this you have to catch and immobilise your animal. However, catching cheetahs is not easy. You can drive

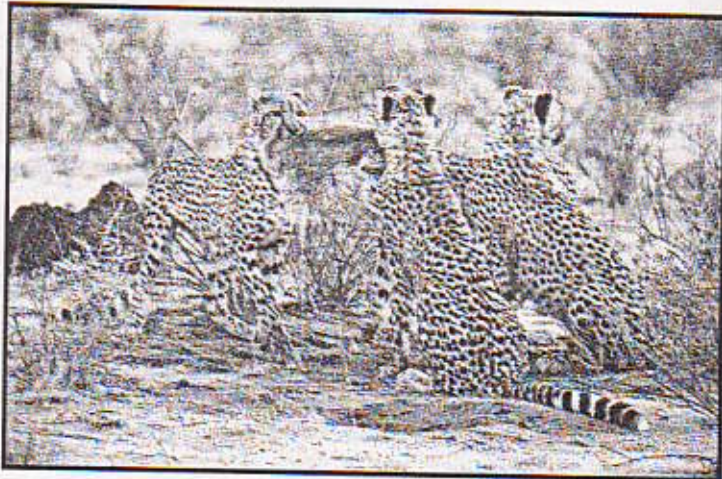


Two male cheetahs on open Serengeti plains (top) and cheetah in the thick bush cover of Kruger Park (above). • Die Serengeti-vlakte (heelbo) is die ideale habitat vir die jagluiperd. Die Wildtuin se ruie plantegroei (bo) bemoelilik sy jagtog.



Male cheetah killed by other males in a territorial fight in the Kalahari Gemsbok National Park. • 'n Jagluiperd-mannetjie wat deur ander mannetjies doodgemaak is in 'n territoriale geveg in die Kalahari-gemsbok Nasionale Park.

Stronger predators cheetah's hunt



Four large cheetah cubs with a steenbok kill in Kalahari (top) and a male with a zebra foal in the Kruger Park. • Vier onvolwasse jagluiperds met 'n steenbokvangs in die Kalahari (heelbo) en 'n mannetjie met 'n bontkwaggavul in die Wildtuin.



A female cheetah is robbed of her prey by a spotted hyena. • 'n Gevlekte hiëna steel 'n jagluiperdwyfie se prooi.

around for a good many days before finding one, and then you have to be able to get close enough to have a chance to hit it with an immobilising dart.

An alternative technique is to set a trap, but you have to find the right bait. Obviously when trying to tempt a cheetah into a cage-trap in Kruger the use of meat as bait is not a good idea. You will catch things like spotted hyaenas, jackals and lions long before a cheetah gets near to it.

On the advice of people who had caught cheetahs in other areas, we used faeces from strange cheetahs and set the trap at a cheetah scent-marking sight. Three weeks later we still had not caught an animal. Then we got hold of some urine from a female on heat from the De Wildt Cheetah Breeding Station. I sprinkled a generous amount of the urine onto a piece of rag, placed it in the trap, and two days later caught a fine adult male!

This male was one of a triumvirate, which had been together for at least six years and which we called the Three Musketeers. They were inseparable. If one of them got separated from the others, it would call incessantly, with a curious short, sharp yelp, until they were reunited.

We also managed to radio-collar two females in the area. Both bred well. Katrien raised four cubs from two litters in four years and Shenai raised a litter of two in the year that we radio-tracked her. One of Katrien's daughters, Maggie, recently gave birth to three cubs in the study area.

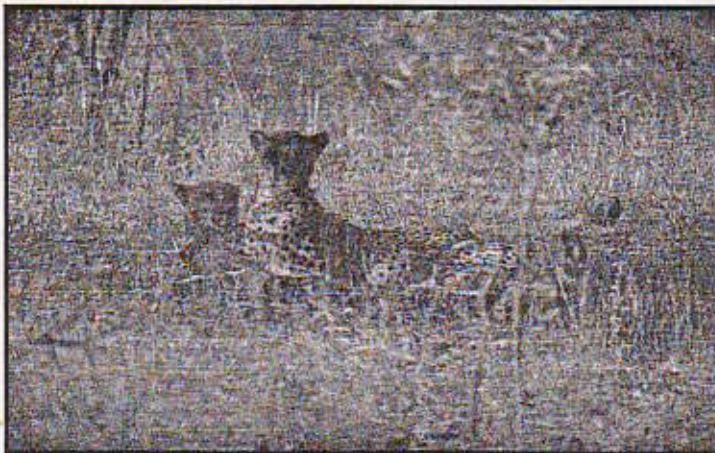
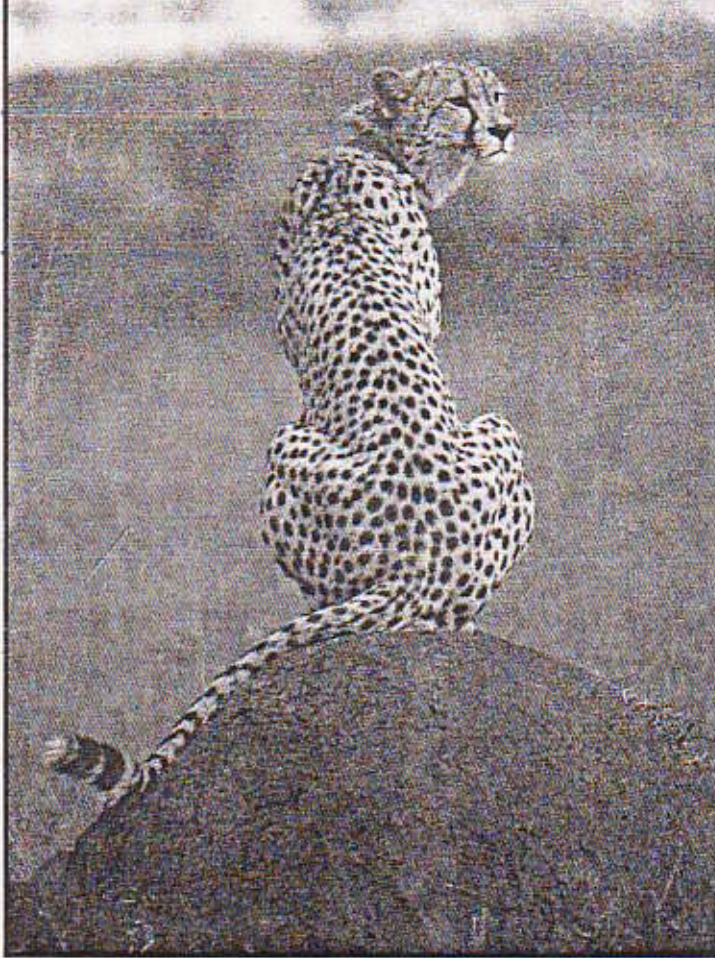
The diet of the cheetah in the Kruger National Park consists mainly of impala, but they do kill a variety of other prey as well. Females tend to kill smaller prey more often than the males do. Two-thirds of the kills made by females we have observed have been smaller than an adult impala, compared to 41 percent of the kills made by males. The males sometimes kill large prey such as adult waterbuck.

By continuously following the radio-collared animals for periods of up to two weeks we found that both the Three Musketeers and the adult females and cubs kill about the equivalent of one adult impala per week, with the males occasionally taking something a bit bigger.

After we had been radio-tracking the Three Musketeers for 18 months, two young adult males arrived in the area. We were lucky and soon managed to get a radio collar on to one of them. The two males soon moved down to the Crocodile River south of the Three Musketeers' territory. There, although impala are plentiful, the bush is thick, making it difficult for cheetah to hunt. They were obviously struggling in this marginal habitat, as most of the times we tracked them they looked hungry. After six weeks both animals developed mange. They also started moving over a big area, right across to Afsaal, 40 kilometres from where we had originally found them. Nine months after fitting the radio collar, the collared male died and, as we never saw his partner again, it is assumed that he did too.

I believe the reason for the contraction of mange and the death of these animals was that they were under nutritional stress as there was no suitable habitat available for them. They were unable to settle in prime habitat such as that occupied by the Three Musketeers, as this had already been taken up by three strong males. They were forced into marginal habitat where they were unable to survive, let alone reproduce.

The relatively thick bush found over most of the Kruger National Park does not offer good hunting opportunities for cheetahs. I have noticed that when cheetahs encounter impala in relatively open areas, they take great care over the stalk, sometimes an hour or more, and usually succeed with the hunt. On the other hand, when they encounter prey in the denser bush which is preferred by impala, they merely



catch a single animal. The other main problem that cheetahs have to cope with is the presence of larger and stronger competitors, particularly lions and spotted hyaenas. Both are plentiful in the Kruger National Park, and will easily steal a cheetah's kill, a practice known in scientific jargon as cleptoparasitism. Cheetahs are low on the predator hierarchy — they have sacrificed strength and robustness for speed. I have even seen the rather timid and shy brown hyaena chase a cheetah off its kill. This is probably the main reason for hunting during the day, as at this time they are less likely to attract the more nocturnal lions and hyaenas.

Is there anything that can be done in the Kruger National Park to increase the number of cheetahs? An obvious option is to increase numbers by bringing in cheetahs that have been bred in captivity. There are several reasons why this option is not feasible. Firstly, all the indications are that the area is saturated with cheetah, and that the population is in balance with the environment. Females seem to produce lots of young, but most of them do not survive. Those cubs that make it through to sub-adulthood must then compete with others for a territory in which to live and produce young.

Secondly, even if there was a case for reintroduction, I believe that it is far better to use wild-bred animals when they are available. It has been shown that captive-bred carnivores do not adapt well to being released into the wild. They have difficulty in learning to hunt and it is extremely difficult to break their dependence on man. Because of the fact that even low density populations of wild animals produce surplus animals, there is no reason why animals should not be taken from these populations to restock areas of suitable habitat.

Probably the only way in which cheetah numbers could be increased in Kruger is if the habitat changed and became more open. This could happen naturally, or through management strategies such as burning. However, we are not managing Kruger solely for cheetahs, but to ensure the greatest amount of species diversity. Any management decisions must take into consideration the principle of maintaining diversity.

In the meantime there is still much we need to know about the cheetahs in Kruger. We do not have an accurate assessment of their numbers. We have recently launched a study in collaboration with the Endangered Wildlife Trust and the University of Natal and hope to use photographs of cheetah as a means of counting them, as each cheetah has a unique coat pattern. We are asking visitors to the Kruger National Park to send us their cheetah photographs. In this way Dr Tony Bowland, who will be spending the next year in Kruger, will be able to build up a photographic reference collection of the cheetahs, as Dr Anthony Maddock so successfully did with wild dogs. Please look out for the advertising posters and entry forms for the cheetah project when you visit the park.

I am also continuing with a long term project on the reproductive success of female cheetahs to establish just how successful they are at raising young and to find out what happens to the young once they become independent.

As the years go by we are slowly accumulating more information about the Kruger National Park ecosystem. Each piece of information helps us to understand the nature of this fascinating and complex system better. The better we understand it, the wiser we will be able to manage it.

Cheetahs in the Kruger Park often make use of vantage points to search for prey. Top: A female on an anthill. Page 15: Three adult males on a dead tree. Middle: Two young males that were unable to establish a territory and developed mange due to nutritional stress. Bottom: In contrast, two territorial males in superb condition groom each other. • Jagluiperds in die Wildtuin gebruik dikwels uitkykpunte om prooi te soek. Bo: 'n Wyfie op 'n miershoop. Bladsy 15: Drie volwasse mannetjies in 'n dooie boom. Middel: Twee mannetjies wat nie 'n territorium kon vestig nie en brandsiekte opgedoen het weens 'n voedingstekort. Onder: In teenstelling, twee territoriale mannetjies in 'n uitstekende toestand.