

Struggle for

The Auob Riverbed is arguably the best place on earth to watch cheetahs hunting. Cheetah expert Gus Mills explains how the fastest mammal on earth has adapted to life in the arid Kalahari.

KGALAGADI CHEETAHS ■

SURVIVAL



PAUL & PAVEENA MCKENZIE

XX WILD SUMMER 2011/2012

BY GUS AND MARGIE MILLS,
THE TONY AND LISETTE LEWIS FOUNDATION

Ad tie modigna feuisi. Is nullam dolore eu-
guerci eniat in hent
exeraesse deliquiscil
utpat deliqui sciliquam,
con eugait wisl ulla
feumsan veniam ad

Perhaps the most important finding of our study is that female cheetahs are able to raise as many as four cubs on a predominantly steenbok diet.

KALAHARI CHEETAH STUDY

The wide and open vista of the Kalahari dunes allows monitoring of both predator and prey without disturbing either - a feature that makes the area one of the best places in the world to study carnivores. It is for this reason and because of Gus and Margie's deep love for this pristine ecosystem, sparked nearly 40 years ago when they spent 12 years studying hyaenas here, that they found themselves back in the Kalahari. In 2006 they started a study on Kalahari cheetahs funded by the Lewis Foundation and the Howard G. Buffet Foundation, and latterly by National Geographic, the Kanabo Conservation Link and the Comanis Foundation, supported by SANParks and the Department of Wildlife and National Parks, Botswana, with a view to gaining a better understanding of how the fastest mammal on earth is adapted to this arid region. Previous studies on cheetahs had been conducted in more lush areas such as the Serengeti.

DDARWIN, WALLACE AND HUXLEY, THREE LARGE MALE CHEETAHS WE WERE FOLLOWING, sat on top of a high dune gazing intently at a group of gemsbok 300 m away over the next dune. After a few minutes they moved off with purpose in the direction of the gemsbok. As they came to the crest of the next dune they slowed down keeping low, careful not to be seen by the gemsbok now less than 100 m away.

The trio acted as a gang. The most likely reason for cheetah males forming coalitions is to improve reproductive success. By maintaining their territory, they increase their chances of acquiring food. We continued to follow them in the Land Cruiser, several hundred metres to their left, equally careful not to disturb the gemsbok.

Apart from our observations on 19 radio collared cheetahs that we can find regularly and follow for several days at a time, we have made use of the unique skills of Bushman trackers and photographs of cheetahs taken by visitors to the Kgalagadi Transfrontier Park. These have been particularly helpful in gaining an estimate of the density and number of cheetahs in the park; preliminary analyses suggest about one adult cheetah per 100 square kilometres which equates to about 350 for the park.

There were eight gemsbok in the herd, including two six-month old calves. It was the latter that attracted the cheetahs' attention. The predators moved forward slowly until at about 50 m they were seen by the gemsbok. Immediately the gemsbok reacted and the cheetahs charged. After a chase of about 200 m one of them caught up with a calf and pulled it down. The other two came running

up to help him, while the gemsbok herd stood and watched. The kill was messy, as cheetahs in their evolutionary quest for speed have sacrificed robustness and strength. Their small heads and wide nasal passages, essential for taking in adequate amounts of oxygen when sprinting, means that they do not have space for deep rooted and large canines. They kill smaller prey such as steenbok and springbok comparatively easily by strangulation, but are unable to get their jaws around the throat of even a young gemsbok. So while one holds the prey down, the others attack the chest region eating it alive until it finally succumbs. Of course this is not malicious, survival in nature, while sometimes cruel, is honest.

Surprisingly, we have found that gemsbok calves, not the seemingly relatively abundant springbok, are the most important prey for Kalahari cheetah male coalitions, although they are off limits to single males and females. Not being swift and lacking stamina, gemsbok are easy to catch, but difficult to kill. On the few occasions we have observed single animals trying to catch even small red calves, they have easily been repulsed by the adults. Strangely, gemsbok don't usually try to defend their calves against male coalitions.

A visitor to the South African side of Kgalagadi Transfrontier Park might be forgiven for thinking that most of the action takes place along the riverbeds. It is true that the Auob Riverbed is arguably the best place on earth to watch cheetahs hunting, as several times a week a springbok is killed in the Auob by a cheetah. Most of the springbok are killed by female cheetahs with cubs. Over the last few years two sisters, Lisette and Elena, have thrilled us and many visitors with spectacular sightings of tension filled stalks, explosive chases and dust clouded kills. Our observations have shown that these two females



Ad tie modigna feuisi. Is nullam dolore euguerci eniat in hent exeraesse deliquiscil utpat deliqui sciliquam

GUS MILLS

JOHAN BARNARD

Ad tie modigna feuisi. Is nullam dolore euguerci eniat in hent exeraesse deliquiscil utpat deliqui sciliquam, con eugait wisl ulla feumsan veniam ad

Cheetahs in their evolutionary quest for speed have sacrificed robustness and strength.

Ad tie modigna feuisi. Is nullam dolore eugerci eniat in hent exeraesse deliquiscil utpat deliqui sciliquam, con eugait wisl ulla feumsan veniam ad



GUS MILLS

GAME ON Ad tie modigna feuisi. Is nullam dolore eugerci eniat in hent exeraesse deliquiscil utpat deliqui scii eniat in hent exeraesse deliquiscil utpat deliqui sciliquam, con eugait.



GUS MILLS

READY, STEADY Ad tie modigna feuisi. Is nullam dolore eugerci eniat in hent exeraesse deliquiscil utpat deliqui scii eniat in hent



GUS MILLS

FACE TIME Ad tie modigna feuisi. Is nullam dolore eugerci eniat in hent exeraesse deliquiscil utpat deliqui scii eniat in hent exeraesse



GUS MILLS

DRINKS ON ME Ad tie modigna feuisi. Is nullam dolore eugerci eniat in hent exeraesse deliquiscil utpat deliqui scii eniat in hent exeraesse deliquiscil utpat deliqui sciliquam, con eugait.

cruise up and down the Auob Riverbed between Samevloeing and Mata Mata, a distance of 130 km, seeking out any vulnerable springbok to feed them and their cubs. Most hunts, about 75%, are unsuccessful, as prime aged springbok are usually too alert and swift to be caught. Lambs and old adults, especially males, make up the majority of cheetah-killed springbok, with less than 10% being prime aged animals and most of these are females with a large foetus. We know this because we examine the teeth of the victims when the cheetahs have finished eating and in this way can age them.

Notwithstanding our observations along the riverbeds, most of the Kalahari is covered by sand dunes and it is here that the majority of cheetahs are to be found. Springbok are all but absent from the dunes, but the diminutive (10-12kg) and cryptic steenbok are widespread and the keystone prey species for female cheetahs. Over the last six years we have spent many days in the dunes following these cats from dawn to dusk, over-nighting in our roof tent. It is an unforgettable privilege to be so intimately acquainted with these wonderful animals and to be caught up with their struggle for survival. We have followed females and their cubs from birth to independence and recorded their successes and failures. Perhaps the most important finding of our study is that female cheetahs are able to raise as many as four cubs on a predominantly steenbok diet.

Unlike the springbok in the riverbeds that are unevenly distributed in herds, steenbok are evenly spread singly or in pairs at a density of about 1.5 per square kilometre. Mother cheetahs spend hours atop dunes scanning the surroundings for steenbok. Their ability to find them is impressive; most times they pick one out before we can, even with the aid of binoculars. Once a steenbok has been spotted the cheetah must endeavour to get within striking distance, ideally 20 m or less, without being seen. Even if they manage to do this, their success rate after charging is only 28%. The distance of a chase varies from 70 – 400 m, with the average distance chased in a successful hunt being just less than 200 m. As with springbok less than 10% of steenbok kills are prime aged animals; lambs, subadults and old adults are the ones that are usually caught.

Single cheetahs, both male and female, catch mainly steenbok, hares and spring-

■ KGALAGADI CHEETAHS



hares. The latter, being strictly nocturnal, can only be caught at night. The notion that cheetahs only hunt during the day is false. While females with cubs usually avoid moving during darkness, adults certainly do not. We have recorded nocturnal cheetah kills as large as adult ostriches and gemsbok calves, even on nights with little moonlight.

It is well known that cheetahs are susceptible to losing their kills and their cubs to other large carnivores. In the Serengeti 15% of kills are lost and only 5% of cubs born reach maturity, the majority of them being killed by lions when they are small. In the arid Kalahari large predator densities are low. Consequently, kleptoparasitism [the loss of kills to other predators – Ed.] and cub predation are far lower. We have found that less than 4% of kills are lost and 27% of cubs born reach independence.

Although Kalahari cheetahs are not heavily impacted by the presence of lions, leopards and hyaenas, the issue of finding enough to eat, especially for a mother with cubs, is always present. Whereas a Serengeti female can quite easily kill again after losing a kill and more importantly quickly reproduce again after losing or raising cubs, Kalahari cheetahs need longer to recover condition before breeding again, so the production of cubs is a lot slower. One of our collared females, Charlize, drained herself in the effort of raising four cubs and eventually died of starvation as they became independent. As sad as this was to watch, we realised that this is part of the circle of life. Nature is beautiful, but unforgiving. It has to be in order to achieve harmony and balance. Charlize had contributed to maintaining the population and had passed on her genes. It is only we humans that upset this balance.

Cheetahs, therefore, are well adapted to arid regions. They can survive on small and cryptic prey, are minimally disturbed by other large carnivores and even lactating females are independent of water. Ironically, where climate change may cause certain areas to become more arid, cheetahs may be a beneficiary. 🐾

Except for the lion and some cheetah males, all 37 species of cat are solitary.

