

Notes and Records

predator-prey relationship

Anti-predator behaviour of baboons and impalas toward a cheetah

On 17 February 1975 in Tarangire National Park, Tanzania, about ten members of an Academy of Natural Sciences tour observed an encounter involving baboons (*Papio anubis*), a cheetah (*Acinonyx*) and impalas (*Aepyceros melampus*). We had arisen at dawn to watch a troop of over thirty baboons that had been seen the night before going to roost in trees below the ridge on which Tarangire Lodge is situated.

At about 07.30 hours, after most of the troop had descended and were seated on the ground in groups sunning and grooming, some baboons began barking. This alerting signal and the direction in which troop members were facing attracted our attention to a cheetah drinking in the Tarangire River approximately 500 m from the baboon troop.

When the cheetah crossed the river and followed the course shown in Fig. 1, through the acacia trees and short grass in the valley below our vantage point, the baboons became noisier. An adult male, followed by a large juvenile, or subadult, left the troop and moved, with tail raised high, toward the cheetah. When the distance between adult baboon and cheetah was about 50 m the cheetah altered course toward its right. It alternately walked quickly and trotted ahead of the two escorting baboons and away from the rest of the troop, which remained on the ground in small groups and singles throughout the interaction.

This deliberate 'chase' continued for over 1/2 km, with the adult baboon positioned about 20 m behind the cheetah, and the juvenile 5-20 m behind the adult male. The cheetah stopped several times and sat down, whereupon the two baboons did likewise. Twice the adult baboon approached within 10 m of the seated cheetah, who was by now nearly 1 km from the troop. The cheetah rose and advanced rapidly toward the baboons who immediately ran in the direction of the troop. This brief reversal stopped after about 10 m, but it indicated that the adult baboon, despite the success of his chase, was not anxious to encounter the cheetah in combat. As for the juvenile, he ran considerably further away during the cheetah's threat. The procession then resumed in the direction away from the troop, wherein no baboons seemed to be paying any further attention to the action. The two baboons returned after the cheetah had sat still for about 10 min facing away from them at a good kilometre from the troop.

Soon after the adult and juvenile male baboons ceased their harassment, the cheetah continued southward along a gradually ascending hillside (Fig. 1), stopping and sitting occasionally for some minutes, while apparently scanning its surroundings. At about 07.50 hours it began moving in a stalking crouch. By then it was over 2 km from our observation point, but still visible most of the time between scattered bushes and trees through binoculars and spotting scope. Its intended quarry, though, was invisible beyond a screen of trees higher up the slope.

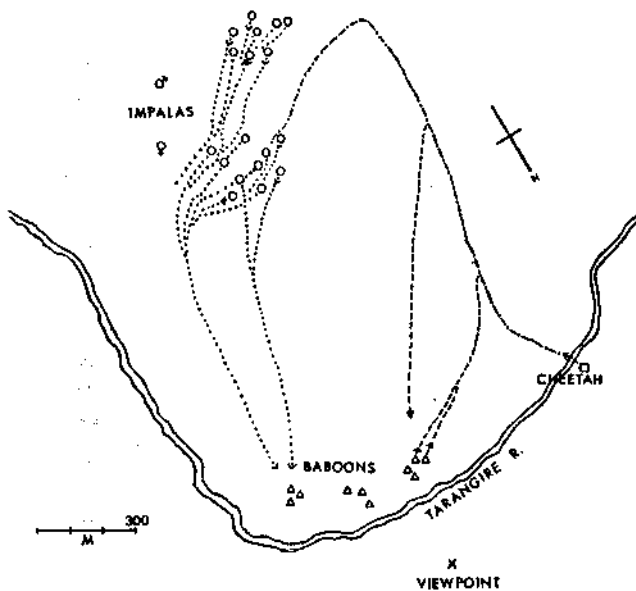


Fig. 1. Sketch to illustrate the relative positions and movements of the baboons, cheetah, and impalas during the period of their interactions, as described in the text.

Several hundred metres to the cheetah's left a scattered herd of impala could be seen feeding and moving among the clumps of vegetation. There were about a dozen females and young, and one adult male. Presumably the impalas spotted the cheetah, for suddenly the herd ran down the hillside, at the same time drawing together. Instead of stopping and looking back, as many antelopes do after being startled, these animals headed for the nearest baboons, a group that was relaxing around the base of a termite mound a good 500 m from where the impalas had started running. Two females went in a direct line; the others were forced by the territorial male's efforts to herd them to take a roundabout route. When they got within 100 m of the baboons the antelopes stopped retreating. The baboons paid no attention, nor did the impalas appear disturbed any longer; with heads lowered in the normal (unaltered) position, they spread out and resumed feeding.

Meanwhile the cheetah had continued to gaze in a different direction. At about 08.00 hours it began another stealthy advance across an open space. It made several stops and starts, then began to run. A second, all-male, herd of impala abruptly broke into view, running down the slope and through the area abandoned by the nursery herd some minutes earlier. The cheetah coursed in an arc as it changed direction to follow them, but never made an all-out sprint. It stopped in a clearing, where it proceeded to lie down and relax on an expanse of bare earth. The bachelor males stopped running much sooner than had the females, and went back to feeding. Although some moved into proximity with the nursery herd, there was no obvious orientation on their part towards the baboons.

Discussion

Although DeVore & Washburn (1963) stated that baboon troops are actively defended

against predators by adult males, there are few accepted records of such behaviour. Doubts as to the reality of baboon defensive behaviour have been expressed by some anthropologists (notably Rowell, 1972). It is interesting, therefore, to note the similarity of the above incident to one described by DeVore & Washburn (1963), in which a single adult male baboon advanced from its troop toward three approaching cheetahs, 'gave a loud, defiant bark and displayed his canine teeth.' The cheetahs then trotted away. This is the only report we have found of successful defence by a single baboon.

It may well be that baboons perceive cheetahs as a potential threat but not a serious danger—a foe that a single male can intimidate without much risk. Baboons have been reported to become much more excited at sight of a leopard, and it remains unproven that even a group of males would stand up to one. Altmann & Altmann (1970) cite two instances, however, in which troop members converged upon and put to flight a large cat (cheetah or leopard) that startled a troop in dense undergrowth. Yet in another case baboons failed to rally and counter-attack when a leopard chased them for 10 m, then stopped.

The coincidence between the baboon-cheetah interactions witnessed by DeVore and by us is still more remarkable in that impalas were also involved in the other encounter and behaved in a manner consistent with what we observed. When the three cheetahs came into view, impalas feeding with the troop became 'very alert but made no attempt to flee' (DeVore & Hall, 1965).

It definitely appeared to us that the female impalas deliberately headed for the baboon troop after being alarmed, as if to gain a sanctuary. The bold, aggressive treatment of cheetahs illustrated in these two incidents is evidence that a prey species such as the impala could well derive a measure of protection from some of its predators by keeping close to baboons. The frequent association between these two species, which one might suspect to be based mainly on a foraging relationship (impala feeding on food dropped by baboons), may thus turn out to have a stronger selective advantage for the impala. Although adult male baboons are themselves potential predators on newborn impalas (Harding, 1973; Strum, 1975) the protection impalas may receive against other predators could well outweigh occasional losses to baboons.

References

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