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Abstract: Despite man's long association with the cheetah - considered by naturalists to be a cat-dog hybrid - relatively little has been known of the ecology and behaviour of the elegant feline. Eaton's observations in Kenya during 1966 and 1967, based on groups in the Nairobi National Park and the Masai-Amboseli Game Reserve, give us first hand information on the social orders, territorial assertions and breeding of the cheetah.

Despite man's long association with the cheetah - considered by naturalists to be a cat-dog hybrid - relatively little has been known of the ecology and behaviour of this elegant feline. **Randall Eaton's** observations in Kenya during 1966 and 1967, based on groups in the Nairobi National Park and the Masai-Amboseli Game Reserve, give us first hand information on the social orders, territorial assertions, and breeding of the cheetah

THE SOCIAL LIFE OF THE CHEETAH



H. PATEL

The cheetah has another name - hunting leopard - and this gives a clue to its long association with man. The Egyptians hunted with cheetah; Marco Polo described those kept by Kubla Khan; the rulers of mediaeval Europe imported them; and even today they are smuggled from Africa into India (where they once abounded) to perpetuate the age-old tradition of hunting with cheetah. One reason for this hunting association is that they are easily tamed; I know of no record of cheetah - wild or captive - attacking a man.

Although the animal is so docile it is extremely difficult to breed in captivity, and the hunting cheetahs were always taken from the wild and trained. It was not until 1967, in Rome, that a captive

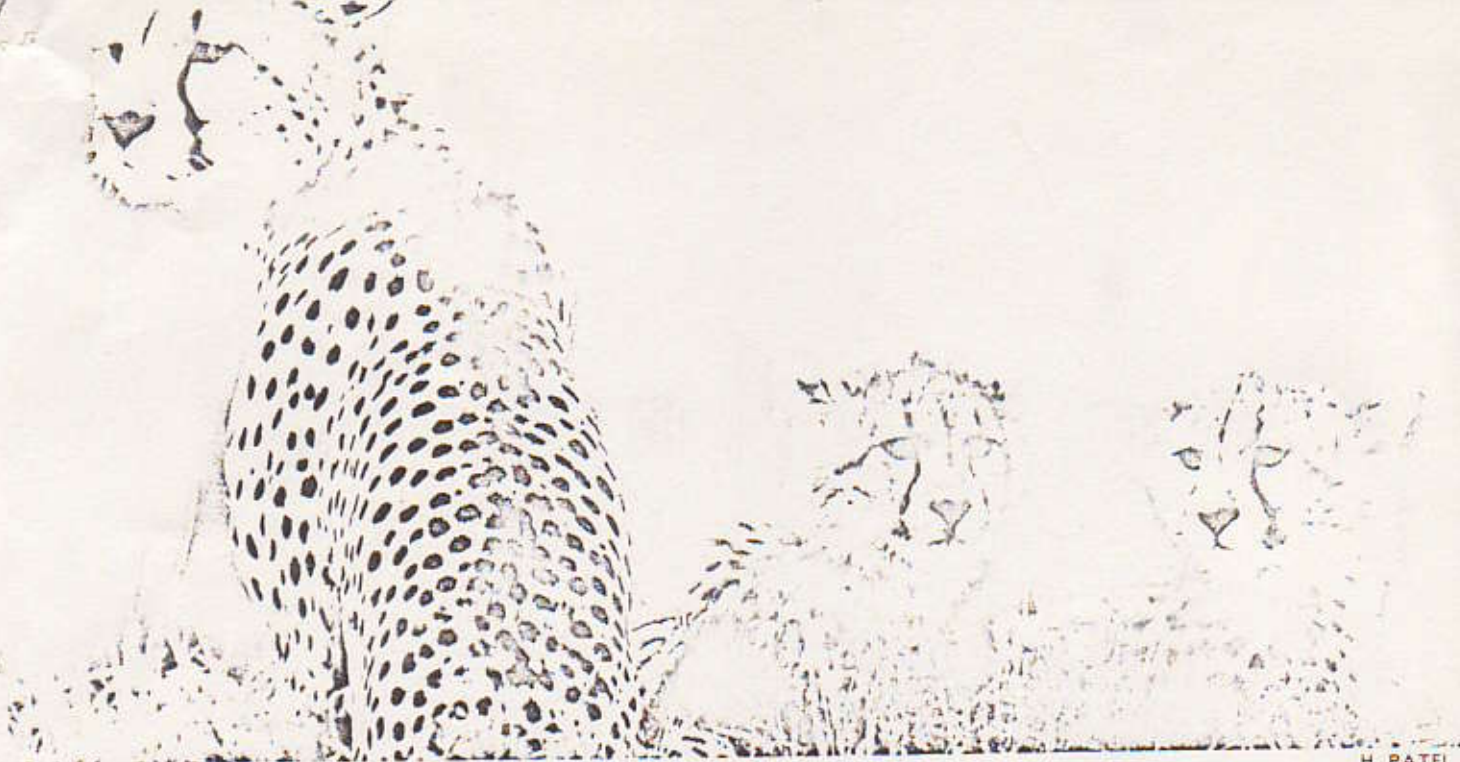
cheetah gave birth to cubs and raised them successfully.

My study was made in the Nairobi National Park and at Amboseli, where family groups, adult groups, and single adult cheetahs were observed. Adult groups consist of adults of both sexes, family groups of a female and her cubs, not, as in a pride of lions of cubs with adults of both sexes. In its degree of sociality the cheetah is intermediate between the lion and the leopard, in which the adults only associate during the mating period, and then only in pairs. The adult groups of cheetah which I saw were either all males or of both sexes; I never saw a group consisting only of females. The fact that I never saw movements between groups supports the idea that

adult groups represent families that have grown up.

I was able to observe two litters of cubs and obtained details of three from park records. Of this total of 25 cubs, 12 were lost - all through predation and all before the age of 8 months. Lion, leopard, and hyena are the greatest danger to cheetah cubs, and even the adults are sometimes killed by lions.

As might be expected, larger groups are formed where cheetah are most common, as in the Nairobi National Park where they are at a density of one per 2 square miles - the highest known anywhere at present. Hyenas are scarce in the Nairobi Park but abundant in Amboseli and Serengeti where cheetahs are at a far lower density and the adults are



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generally seen singly. Predation of the cubs, mainly by hyenas, is therefore probably a major factor determining the numbers of cheetah.

Cheetahs exhibit territorial behaviour, but do not establish geographic territories as lions do. Cheetahs demand more freedom of movement than lions, and groups of them move through the same areas, maintaining separation by marking - that is urinating frequently. By this means one group keeps another from stumbling onto them, an encounter which could lead to fighting and consequent injury or death. Only males are adapted anatomically for efficient marking, and this is probably the reason why adult groups always include males. Females with cubs are treated with respect by

adult groups, which avoid encounters with them. When the female's cubs are half grown she comes on heat and drops scent that enables males to locate her for mating.

The cheetah is less noisy than the other big cats. During play and mock fighting they make a high-pitched yelp, most often heard in the early morning. The yelp is also used as part of a complex of threat behaviours when males of different groups see each other. The female calls to her cubs to follow her with a bird-like chirping and warns them to remain still and alert with a low-pitched call best rendered as 'ughh'. Adults will also chirp to one another.

In the case of lions there is a good deal of intra-specific aggression. Cubs in a

Left: A group of cheetahs looks towards the snow-capped peak of Mount Kilimanjaro. Top: A female cheetah with two cubs. A family consists of the female parent and her offspring.

Above: A fine specimen of this elegant feline (Acinonyx jubatus) which reaches about 7½ feet in length, 2½ feet at shoulder height, and weighs about 100 pounds. A notable characteristic is the cheetah's blunt, non-retractable claws. Inhabitant of open plains and dry bush, the cheetah with its rounded spots dotted over its body (not grouped in rosettes like a leopard's spots) is often seen because of its diurnal habits

I had lain, watched me intently, and finally walked back towards his family.

It seems doubtful that the leader is socially dominant and no obvious 'pecking order' appears to exist. There is daily social licking and grooming, but no order that indicates a dominance hierarchy, and no one male has priority in mating.

A female gave birth to four cubs in May 1966 in Nairobi Park. The newly born cubs have a mantle of silver-grey fur over their shoulders and back and are black on the belly and lower flanks. When about six weeks old they move with the female through her hunting range. They are left behind when the female actually hunts. At two months the cubs lose the black fur of their undersides. They are more active and play frequently, but respond to the 'settle-down' call of their mother by grouping together, each one sitting while listening and watching. The female calls to them with two or three chirps when she makes a kill. The cubs then dash to her side.

At four months the cubs attempt nursing only occasionally and are discouraged by their mothers. They still have sharp claws that are more retractable than their mother's and they climb trees easily. Play is the rule and the adult female joins in the romping. At night the cubs settle

down very close to the female.

At six months the cubs are one-third to one-half grown. They stalk and attack each other but still do not join their mother in hunting. They do chase jackals that are searching for the remains of a cheetah kill, but cannot catch them.

At seven months of age the cubs begin their lessons in what matters: how to capture and kill prey. The cheetah hunters of India have long realised the importance of trapping adult cheetah, that are easily tamed, rather than wild cubs. If cheetah are taken from the wild as cubs they certainly develop adequate speed but they are not able to bring the fleeing prey down or kill it.

The first lesson the cubs had involved an adult wart hog and her two newly born young. The mother cheetah did not make her cubs remain behind but instead allowed them to stalk along behind her as she approached the wart hogs. Suddenly the mother attacked, followed by the cubs. The hogs were taken by surprise and the adult cheetah chased the adult wart hog away from her young. This enabled the cheetah cubs to chase the wart hogs in big circles, once right under my Land-Rover. While the cubs were in pursuit the adult cheetah kept the old wart hog occupied. The wart hog could

kill the cheetah cubs and once with her own young cut the practice session short. When the adult wart hog had abandoned her attempts to get back to her young the cheetah returned to follow along behind the cubs as if prompting them. The cubs ran alongside and directly behind the wart hogs but lacked knowledge of how to catch them. The adult cheetah could have easily caught them but did not. Finally one young wart hog got away and the other disappeared into an aardvark's den hole.

Lessons continued but when some food had to be provided the female hunted by herself. Not until about 10 months old are the cubs able to contribute to their keep, when they have learned to strike the prey with one of their front paws and then to kill it.

In play the cubs directed their bites to the back of the neck and at a kill they bite indiscriminately on the prey's carcass. Only through experience do they learn that they are ill-equipped with small teeth and jaws that can kill only by a strangulation bite directed at the throat.

At 13 to 16 months the cheetahs are full sized and reach sexual maturity. Shortly after their mother is ready for another litter and the mature cubs strike out for themselves. ●



Cheetah chase prey at top speed of 70 mph and dispatch quarry with a swift bite

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pride may be killed by adult males and territorial intruders are attacked and killed. Lions are very successful in protecting their cubs, and possibly aggression of this kind is useful in limiting their numbers. Cheetahs have evolved no such harsh mechanisms; predator pressure takes their place and makes them unnecessary. In an adult group they are very docile towards each other, but each group has a leader nevertheless, who controls its hunting activities and is the most alert and responsive to danger of all of them.

In one group of two males and a female, lying in the shade at mid-day, the non-leader male saw a family of wart hogs within good hunting range. The female stood up first and started towards the wart hogs, followed by the non-leader male. Both kept pausing to look back at the leader male. The leader male showed no interest in pursuing the other two, and eventually they returned to his side to lie in the shade. A few minutes later the leader stood up and walked off towards the wart hogs, followed by the other two cheetahs. A hunt ensued led by the leader male.

In another group of two males, which were brothers, the same male always walked ahead of the other. Where the first male marked a bush or tree, so did the second male. If the second male started off on his own the first male ignored him and the second male always returned to follow the first.

The importance of 'maleness' to leadership was particularly evident in a third group consisting of a female and her four nearly grown cubs. The four cubs included three males and a female. One male cub continually wandered off by himself and was very active in comparison with the other three. This young male eventually led the whole family, mother included, on the hunts. He often led attacks and would pursue prey long after the others had given up the chase. Whenever this family moved, the young male went first, followed by his mother and the three cubs together.

His curiosity led him to be the only cheetah that observed me. While lying on a small hill I saw the cheetah family resting on a rock pile. The young male was absent. I glanced around to see him stalking me! I found myself thinking 'cheetah don't attack people' but when he was only 20 yards away I decided to stand up. In turn the cheetah simply raised himself up from his stalking stance and stared back at me, showing no fear, just curiosity. I walked off down the hill and the cub walked up. He sniffed where