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Abstract: 1956 at the Philadelphia Zoo's a female cheetah gave first birth in captivity to three babies. She refused the babies and all died. The chances were better for the second litter, when she was most attentive. The big question is: Why did this cheetah breed? Nutrition is probably the important factor.

Cheetahs are Born

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Photo by Frederick A. Ulmer, Jr.

OF ALL THE HANDSOME MEMBERS of the cat family there is one that stands apart. The cheetah differs from all its relatives, not only because of its dog-like claws and greyhound-like build, but especially because of its tractability. The Pharaohs of ancient Egypt employed it to hunt fleet antelopes and this noble sport is still popular in India today. But, despite their long history of keeping and training cheetahs, the Indian princes and maharajahs apparently never succeeded in breeding them. In recent years the Indian cheetah has become virtually extinct and the Indian sportsmen must import their animals from Africa.

In 1888 the English naturalist, W. T. Blanford, stated that the cheetah had not been known to breed in captivity. As late as 1950 Dr. H. Hediger listed it among the non-breeders in zoological gardens. He suggested that the trouble might be physiological or psychological and predicted that the near future would bring new light to the problem.

On March 24, 1956, the Philadelphia Zoo's female cheetah gave birth to three babies—two males and a female. The event had been anticipated and the female had been separated from her mate by a grill door, her cage screened from the public, and a nest box provided. However, she refused to use the box and the cubs were found on the bare floor of the cage. The mother was aggressive toward her offspring and attacked and killed one. Although the other two were rescued and bottle-fed, they died in three days.

Because this female cheetah had been received from Africa comparatively recently, there was speculation among zoo people that she was pregnant upon arrival. This was extremely doubtful, for, since she had been at the Zoo for almost six months, the gestation period would have been at least 180 days — far longer than that of the largest members of the cat family. Subsequent events were to prove that the cubs were indeed bred in the Philadelphia Zoo.

The fact that the mother refused to enter a nest box, like a leopard, led me to conclude that, being a creature of the plains and desert, she preferred a more open situation. When it became obvious this year that she was again pregnant a tray five feet long by three feet wide and with six inch sides was substituted for the box. It was lined with straw and the cheetah took to it at once. On April 25, 1957, she gave birth to two cubs, male and female, in the tray and this time she cared for them.

At first the mother was most attentive, licking her babies carefully and lying on her side to allow them to nurse. But as the days passed she became nervous and apprehensive. It was during the height of the zoo season, and, although she was screened from the visitors, the milling, shouting crowds of school-children apparently upset her. She began to carry her cubs around in her mouth and then drop them, so that at two weeks of age I decided to remove them and rear them by hand. They developed comparatively normally save for some weakness in the carpal region of the forelegs. Dr. R. Bigalke, of the Pretoria Zoo, tells me that this is common in very young wild-caught cheetahs that he has attempted to raise. Unfortunately, the Philadelphia cheetahs died of distemper at three months of age, although they had received vaccine.

In 1933 J. H. Wilhelm, of Southwest Africa, stated that the gestation period in the cheetah was "about ninety days," although he gave no indication of how he had arrived at this figure. Although I did not see the cheetahs actually mate, a note in my diary for January 23, 1957, reads "The male is showing sexual interest in the female again." The fact that ninety-two days elapsed between this notation and the birth of the cheetahs gives strong support to Wilhelm's figure, and it seems logical that gestation in the cheetah should approximate that of similar-sized cats like the leopard and puma.

The big question is: Why did our cheetahs breed? Some have suggested compatibility. It is true that they are very affectionate and constantly together, but the male was just as compatible with his first mate with whom he lived for four years. They were even observed to mate on several occasions. Nor can these cats' environment be called especially conducive to reproduction, for they are confined in conventional barred cages 8 feet by 10 feet, indoors and out. Under these conditions the cheetahs are comparatively sedentary, but they are not allowed to become obese.

I think the psychological factors can be ruled out in favor of physiological ones. Nutrition is probably the important factor. To vary their horse-meat diet, the cheetahs for years received chickens complete with heads and viscera. They relished this but finally developed a sensitivity so that they could not retain the fowl. I tried whole pigeons because many people insist that cheetahs need natural food with fur and feathers on it, but it is doubtful if this helped, for, in India, their owners have been feeding them natural food for centuries without any breeding taking place.

Diet C, developed by the Philadelphia Zoo's Penrose Research Laboratory, is a ration for carnivores containing raw ground horse meat, oystershell flour, powdered skim milk, Ledinac (a protein, mineral, and vitamin B supplement), salt, and A and D feeding oil. Although this was fed to the cheetahs, they apparently did not find it very palatable. Shortly after the arrival of the new female a substitute ration was devised, consisting essentially of the items in Diet C, but the mineral mixture (Oystershell flour, Ledinac, etc.) was mixed in by hand and two teaspoons of Vi-magna multi-vitamins were substituted for the A-D feeding oil. This they ate, and it is possible that the increased palatability and the multi-vitamins contributed to their breeding.