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Abstract: The demand for wild-caught adult cheetahs is a drain on populations in several ways. For every cheetah trapped, tamed and trained successfully, several die in the process. If cheetahs were good breeders, they would be more abundant today. But cheetahs are not good breeders in captivity. Poachers in Kenya said that live cheetahs are worth great sums of money in Ethiopia, which, according to them, is the center for exporting black-market cheetahs to other countries. Somalia has been equally if not more important in the illegal spotted cat trade. Additionally to the draining of the populations by live captures, a major man-cheetah "agricultural" conflict is brewing. The replacement of livestock, which was at least partially guarded, with game ranches will bring new problems. Immediately needed actions to conserve cheetahs are presented.

9 Conservation

The cheetah, fastest of the world's land animals, is racing toward extinction. One or another of man's desires have harassed many species into oblivion, but the cheetah is getting what seems to be special extermination treatment. It is being trapped for its value alive, shot for the value of its fur, poisoned because it supposedly kills livestock, occasionally hunted for "sport," made homeless through the loss of its habitat, and starved through the loss of its prey's habitat. It would be difficult to think of another reason for persecuting these lithesome spotted cats. Certainly they do not threaten man's safety; they have never been known to attack man unless cornered, a situation in which most animals fight back.

The cheetah once was widely distributed throughout most of Africa except in the arid desert and heavy rain forests. It was also common in the Middle East and southern Asia. It is now nearly extinct in Asia and the Middle East, but one population in Asia is increasing in Iran, due to careful protection and management by the Iranian Game Department. It is rare in much of South and North Africa. There may still be remnant populations in West Africa in the area around Kano, Nigeria; in north-central Africa in the vicinity of Fort Lami; and around the southern borders of Lake Chad. The Sudan probably has a respectable number in Bahr El Ghazel Province. Farther east, cheetahs have disappeared from areas of former abundance in Ethiopia and are believed greatly reduced in Somalia. Tom Foose of the

University of Chicago recently returned from a general reconnaissance of Angola. He spent nearly three months in the wildlife preserves of Angola and other countries in southern Africa without seeing a single cheetah. He told me that one warden in Angola remembered seeing only two cheetahs in a decade whereas at one time they were much more common. The only remaining cheetah stronghold outside of East Africa is South West Africa where population trends are not being monitored.

With the exception of the dog, the cheetah shares the longest association of hunting with man; and, like dogs, cheetahs are easily tamed and handled. The early Egyptians used cheetahs for coursing game. They took each new generation from the wild, as cheetahs did not breed in captivity. The constant removal of potentially reproductive animals from populations, along with natural mortality, probably contributed to an early decline of the cheetah in northern Africa. Thousands of cheetahs in Asia were captured and used by the Mongol rulers on their deer-hunting expeditions, according to Marco Polo. The use of hunting cheetahs became a pastime that proved tasteful to European rulers and those of Asia Minor as well. From the courts of the Turkish sultan to the hunting lodges of the German emperor at Vienna, cheetahs were tamed for hunting everywhere after the sixteenth century. The sport of hunting with cheetahs in India reached such proportions that when cheetahs were near extinction early in this century, the supply was maintained with African-caught cheetahs. A demand in Asia for hunting cheetahs still exists. There are some who believe that the Asian race of the cheetah has interbred in some areas with imported African stock. I have no data on this, but hope it is not true.

The demand for wild-caught adult cheetahs is a drain on populations in several ways. For every cheetah trapped, tamed, and trained successfully, several die in the process. If cheetahs were good breeders in captivity, as are lions, for example, they would be much more abundant today. But cheetahs are *not* good breeders in captivity. Even in the wild, breeding can be difficult. Cheetahs, unlike lions and wolves, lack "baby-sitters." The cheetah female raises her young by herself, not in a group of adults that help care for the cubs. If a female lion is killed or removed, her cubs may survive, but orphaned cheetah cubs are doomed.

All young cheetahs exported abroad come from the wild. South West Africa is the only remaining part of the cheetah's once great range in which a supply is available to animal dealers. Poachers in Kenya told me that live cheetahs are worth great sums of money in Ethiopia, which, according to them, is the center for exporting black-market cheetahs to other countries. Somalia has been equally if not more important in the illegal spotted cat trade, but the government is now taking protective action.

Until just recently a demand has been put on younger cheetahs for pets. One has but to visit southern Florida or California to see or hear of so-and-so's cheetah. While I was in Palm Beach recently, I talked with a local veterinarian who told me of the frequent purchases of cheetahs there. He said that many of them die shortly after arriving in this country. His more wealthy clientele simply had them replaced. Until 1972, cheetahs were available in this country from animal dealers for \$1500-\$2000. In southern California there are many privately owned cheetahs. They are a status symbol, much like owning a leopard or cheetah coat is.

The World Pet Society is made up of many cheetah owners. Though they profess to be striving to breed cheetahs in captivity, most of them are not willing to allow their pets to mate. The group sought my advice on how to increase breeding success, but I found that many of the members were hesitant in placing their cheetahs together in fear that they might injure each other. They seemed to be worried not so much about the health of the cheetahs as about possibly decreased attractiveness due to wounds or scars! For persons who own cheetahs to be more concerned with their individual pet's appearance than with the survival of the species is incredible.

One of the Palm Beach veterinarian's wealthier clients, who had lost two cubs, became interested in supporting research to enable the breeding of cheetahs in captivity. This would help satisfy the demand of zoos and private citizens for live cheetahs and so slow down the trapping of wild cheetahs. More recently the Donner Foundation generously contributed to the cheetah-breeding program of the San Diego Zoo, which is meeting with success.

It was not until 1967 in Rome that a cheetah gave birth to cubs in captivity that did not have to be hand-raised, although cheetahs have given birth in zoos several times. In the unnatural zoo environment mothers often ignore or kill their cubs, but even when they are hand-raised many die. It is desirable to have the mother raise her own cubs. The cubs acquire natural immunities to disease through the mother's milk. Furthermore, the cubs grow up socialized to cheetahs and not to men. Thus when they are sexually mature they are much more likely to mate and properly raise, rather than reject, their own cubs.

I am convinced that the presence of competing males and adequate space for courtship chases is optimal for breeding success. These have been lacking in previous zoo attempts to breed cheetahs. The few isolated successes, for example at Whippsnade Zoo, are best explained as the rare case in which a pair is more tolerant of an unnatural setting. We cannot count on the exceptions, rather we must find formulas which are effective for most cheetahs. Toward this end I have mentioned several males and adequate space—no less than five acres in area. Further, there is reason to

believe that females are behaviorally and physiologically more receptive to males when they have been isolated away from the males until they come into heat. For this reason, and the additional fact that this is the case in the wild, males should be kept away from the female until she is in season.

In some species there are indications that hunting behavior is conducive to overall condition as well as to the production of reproductive hormones which may affect breeding success. Therefore, and in keeping with the general principle of duplicating natural conditions, I should recommend that feeding live prey be carried out regularly as one aspect of any breeding program. Unless the keepers of cheetahs are highly skilled in nutrition, it is desirable in any event to feed whole fresh carcasses since this provides proper nutrition and enhances health in captivity. It is heartening that in 1972 the United States Office of Endangered Species (U.S.D.I.) and the professional zoo association (A.A.Z.P.A.) have joined forces in arriving at a set of minimum standards, which will determine whether or not a zoo or park is suited to accept cheetahs for breeding and study.

The breeding programs should naturally be a part of restocking efforts; however, assuming that the restocked habitat is suitable, cheetahs born in captivity must be allowed to acquire the education from their mothers that they would have received in the wild. Even if cheetah cubs are removed from the wild to be restocked later, or for some reason the cubs are removed from their mother, they will in time acquire a normal predatory sequence, as Stevenson-Hamilton discovered years ago in South Africa. Under any circumstances a restocking program should implement live feeding, preferably with the prey species that are abundant in the area to be restocked.

Humane and preservation groups will attempt to prevent this practice in the United States and certainly there could be some opposition in South Africa. My personal belief is that we must place the conservation status of the cheetah and whatever is necessary to achieve it above our displeasure with otherwise inhumane practices in our system of priorities.

There are many well-meaning lay groups, "cat fanciers," etc., which keep cheetahs as pets, and are concerned over their status. However, they are unable to sacrifice the personal, emotionally rewarding contact with their pets (Fig. 9-1), and therefore have little chance to breed them. Their attempts are further complicated by a lack of proper nutrition, space, and understanding of the animals' social needs. I have always wanted to own a pet cheetah, but cannot rationalize private ownership of endangered pets unless captive breeding is successful.

Although there is still a large demand for live cheetahs in zoos and wildlife parks, the picture looks ever brighter in this regard. Lion Country



Figure 9-1 L. Von Heczey, president of the Cheetah Rescue Club, with his pet, Genie.

Safari, World Wildlife Safari, and San Diego Zoo are attempting to breed cheetahs on a large scale. All projects are relatively new, but already San Diego has had success with the births of two litters. In time such efforts as these should prove successful. Similar projects aimed at restocking have been started in South Africa.

The advent of more intensive agriculture in Africa not only has prevented normal animal migrations and movements necessary for maintaining habitat conditions, but also has cost predators their prey. The cheetah in India might have survived had it not been for the loss of grazing land for the blackbuck, the cheetah's major prey.

In South Africa, the decrease of prey with the advent of European development and farming techniques probably contributed as much to the decline of predatory species as did killing the predators themselves. As cheetahs are highly specialized for certain species of prey, a decrease in these species is leading to a decline in cheetahs. The cheetah's status is comparable to that of the wolf in North America, which not only was shot, poisoned, and trapped, but whose prey populations also were decimated.

The cheetah is considered vermin in many areas of Africa for its supposed great threat to sheep, goats, and small calves. However, I observed several cheetahs that regularly hunted on Somali sheep lands,

and they showed not the slightest interest in the sheep. The herdsmen told me that they never had trouble with *enduma* though they saw cheetahs daily on their ground. An occasional cheetah may damage livestock, as sometimes occurs with an unusual wolf or coyote; but it was certainly not a common occurrence in Kenya.

Kenya's laws allow, however, that if a cheetah is killed for damaging livestock, it can be sold for its fur. A visitor to Nairobi will notice that the tourist shops are full of cheetah furs—whole, or on wristwatch bands, hatbands, handbags, and so on. These furs come from cheetahs that supposedly attack domestic animals. No steps are taken to establish whether stock losses actually occurred, but the amount seems greatly exaggerated.

One animal dealer catches cheetahs in South West Africa and has supplied a great number to individuals and zoos in this country. His operation is successful because of a loophole clause in the laws protecting the cheetah. This clause states that any cheetah deprecating stock can be killed or live-trapped. The dealer in question has a broad network of connections with local farmers. When they enter a complaint, he live-traps the animal then sells it abroad. The farmer prefers having the cats taken alive because the dealer pays him more than he could get for shooting the cheetah and selling its skin. The sad thing is, of course, that most of the cheetahs are *not* damaging livestock. On the other hand, were it not for a commercial interest these cheetahs would simply be killed outright. The situation and concern for conservation in South West Africa is dreadful, and in the long run, the future of all wildlife there is dubious. Perhaps it is a good thing that the would-be doomed cheetahs are transported to places such as San Diego Zoo and Lion Country where valuable research can be conducted which hopefully will lead to large-scale breeding programs. Current field work indicates that there are probably as many as 3000 cheetahs in South West Africa, apparently the largest extant population in any country (N. Myers, pers. comm.). These new data imply that the few hundred live exports per year may not even drastically affect the population. The great danger is eventual loss of habitat and prey.

A major man-cheetah "agricultural" conflict is brewing. Equatorial Africa has the richest mammalian fauna in the world. In order to preserve the wildlife of Africa in the face of rapid population growth, many biologists have advocated the use of surpluses of natural animal populations for food rather than attempting to replace the wild animals with domestic livestock. It is claimed that more protein may be obtained per acre by cropping the wild fauna than by attempting to raise domesticated cattle.

How will the predators conflict with this so-called "game ranching"? This question is vital to the continued survival of the large predators. The

use of wild protein sources may result in a demand for killing large predators. Man will be cropping the wild herds, thereby replacing the natural role of large predators in the community. When men take a predominantly economic concern for meat-producing wildlife, they will regard predators as vermin. Game ranching, if it becomes widespread, may do wonders for preserving the hoofed game, but may be devastating to the predators. Tourists may be the predators' saviors. Visits by tourists will provide additional income to large game ranchers. The ranchers would do a much greater business if predators were present for observation and photography. The special fascination of the carnivores would offset loss of income from predation on hoofed game. Additionally, some game ranchers have found that by charging sport-hunters to kill predators, they more than make up for the losses of game to the predators. On Rhodesian game farms the harvest of carnivores is carefully regulated and managed to produce a sustained yield. This is an excellent innovation since an economic incentive will prevent extermination.

The cheetah survey recorded a mere eight cheetahs known to be poached in East Africa, but certainly poaching has taken a far greater toll. Though it is illegal anywhere in East Africa to kill cheetahs for fur, the demand in the United States and elsewhere for women's garments led to the illegal killing of cheetahs for the black-market fur industry. The U.S. Endangered Species Protection Act does protect the cheetah as of 1972, and the recent moratorium on spotted cat furs by the International Fur Traders Federation is encouraged and long overdue. This should help considerably to ease poacher pressure on cheetahs.

Poachers told me that cheetah furs brought them 50 American dollars in Kenya and that they killed from one to six animals each time they went into northern Kenya after them. The most damaging poachers are European or Asian, as they use firearms and vehicles to run down and kill cheetahs. Because the cheetah inhabits the more open areas, poaching by natives using traps, snares, or primitive weapons is probably not as substantial. Wide-scale poaching for meat, rampant on the edges of many national parks, does result in snaring and killing cheetahs. How many are taken in this way is unknown.

Cheetahs once were hunted in India as game animals. In Africa they have been shot for sport; for example, Teddy Roosevelt related that Kermit killed seven cheetahs in one day—a record. Several safari hunting firms included cheetahs in their bag, and they were taken by most game hunters in South Africa in the latter part of the nineteenth century. The cheetah survey reported only 16 cheetahs shot in East Africa. However, this figure is much too low. It does not, for instance, include those shot by farmers.

Cheetahs are outlawed as game in most African countries today. Furthermore, they are not now considered desirable trophies by most

hunters. Therefore, it is doubtful that sport hunting remains an important mortality factor. However, I was appalled on several occasions when speaking with big-game hunters in Africa and America to hear these sportsmen say that they had shot cheetahs illegally while on safari. This is the exception, however, and not the rule.

Man's only hope for holding onto an aesthetically precious part of his environment is to stress the value of *all* wildlife. As in North America, South Africa's once great wildlife legacy now exists only in a few national parks and preserves. The same condition seems likely for East Africa. However, in an unstable political and economic environment, the continuation and wise management of wildlife even in national parks is tenuous (Myers, 1972). Parks such as Serengeti in Tanzania that require small area extensions to make them closed ecosystems, areas that can support wildlife the year round, are not winning any battles. This is so even though tourist visitation continues to increase annually.

An encouraging contribution to the long-term survival of *all* wildlife is the increasing tourism by Europeans and Americans, for example in East Africa. The largest income in Kenya is in the Ministry of Tourism and Wildlife. Although dollar signs cannot be placed on aesthetic values, the economic importance of wildlife in Africa, hopefully, will ensure its survival there. A growing trend in black Africa's recognition of the vital tourism industry is witnessed today in Zambia's international advertising for safari tourism.

Several underdeveloped African countries have failed to recognize the value of their wildlife. Though temporarily experiencing short-term success through overexploitation, they are headed for long-term failure. Somalia, Mozambique, and Angola, to mention a few, have witnessed serious declines in populations of many wildlife species that are attractive to tourists. Though a few game preserves and national parks exist on paper, they are poorly funded and inadequately managed. Walking along a road in the Angolan sanctuary for the greater sable antelope—a magnificent but endangered species—Tom Foose found eight leopard traps within a distance of only five miles! Preserves and national parks can be managed properly and more than pay their own operational expenses.

The International Union for the Conservation of Nature and Natural Resources (IUCN) recently has established a Cat Specialist Group in their Survival Service Commission. The group held its first meeting at the International Symposium on Ecology, Behavior, and Conservation of the World's Cats in March 1971 (Eaton, 1973b). Lion Country Safari, National Parks and Conservation Association, and the World Wildlife Fund sponsored the symposium. The meeting was the first worldwide step toward conserving the cheetah and other felines. The unanimous resolution of the attending scientists and 40 conservation groups was to urge the federal

government to "back up the efforts of state governments in banning the importation and sales of skins and products from the wild cats of any country of the world." Early in 1972, the United States Department of Interior placed the cheetah and seven other wild cats on the list of endangered species. The scientific community had considerable influence in this unprecedented legislation, which hopefully will lead other countries into banning importation of cheetah hides.

The IUCN has given top priority to the cheetah and leopard in Africa, and field studies to determine the status and population trends of cheetahs in several areas are under way. The IUCN and the World Wildlife Fund, both in Morges, Switzerland, depend on donations from private individuals and organizations to carry out these and other needed surveys of endangered wildlife species. The sooner the funds required to conduct field surveys materialize, the sooner steps can be instituted to preserve threatened cats. Oddly enough the cheetah and leopard studies are being sponsored by the International Fur Traders Federation. A second international conference on the world's cats met in March, 1973, sponsored by World Wildlife Safari and the Institute for the Study and Conservation of Endangered Species (ISCES). Emphasis was on reproductive biology and management for captive breeding. These and other meetings will collect and disseminate new information valuable to breeding programs for the cheetah and other problem breeders.

Several things need to be done immediately if we are to stop the decline of cheetahs, to ensure their continued survival, and hopefully, to see them reintroduced in their former ranges;

- (1) Encourage the practice of successful breeding of the many presently captive cheetahs. This would provide a source of cats for zoos and private individuals. Eventually it would permit the restocking of cheetahs where they are now extinct or may become so.
- (2) Discourage illegal killing and sale of cheetah fur under the guise of stock damage by encouraging the African nations to employ government trappers on a complaint basis for removing and relocating any cheetahs that are really causing damage. Or an effective system of compensating farmers and graziers losing livestock might be established.
- (3) Encourage African governments to extend national parks to make them closed ecosystems so as to prevent prey and their predators from leaving the parks and becoming susceptible to poaching.
- (4) Encourage women all over the world to stop buying products made from cheetah and spotted cat skins.
- (5) Encourage other nations to declare a moratorium on spotted cat furs.

The largest single threat to all wildlife, not only cheetah, is the expanding human population. As people require more land for living space and food, less land will remain to support wildlife. Even if man can survive under more densely populated conditions, the quality of his life will deteriorate as wild animals disappear. Wild places and creatures are important to man. They show us that there is more to life and the universe than our own selfish concerns.