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Abstract: History suggests that although cheetah inhabited a wide range of areas, they never have been abundant. Today their numbers are declining with even greater rapidity owing in part to the disappearance of suitable habitat and as a consequence of a lack of genetic diversity. In Asia, the wild cheetah is nearly extinct. A small number of Asian cheetahs (*Acinonyx jubatus venaticus*), maybe 200, still survive in Iran, and perhaps Turkmenistan and north-west Afghanistan. There has not been a comprehensive survey of African cheetah since the early 1970s when Norman Myers calculated the African population of cheetah to be 14000 animals in 22 countries. On the basis of his research, he estimated that there would be fewer than 10000 cheetah by 1980. Few regional studies of the 1980s are briefly presented.

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by Schreber in 1776, the species was classified under the cat family, Felis. Joshua Brooks accorded the cheetah its own genus, Acinonyx in 1828 because of its many distinguishing anatomical differences (3). The cheetah (Acinonyx jubatus) is the single surviving species of the genus Acinonyx and is markedly divergent in both anatomy and behavior from the other genera in the Felidae.

A number of subspecies have been given to the species over the years, five of which are generally recognized: jubatus jubatus from southern Africa; jubatus hecki from West Africa; jubatus raineyi from Kenya, Uganda, Tanzania and Somalia; jubatus soemmeringii from Sudan, Ethiopia, Chad, Central Africa and Nigeria; and jubatus venaticus in North Africa, southern Egypt and Asia (4). The validity of the existence of subspecies, however, is questionable (5).

STATUS OF THE CHEETAH IN THE WILD

History suggests that although cheetah inhabited a wide range of territory, they were never abundant in number. Today their number is declining with even greater rapidity owing in part to the disappearance of suitable habitat and as a consequence of a lack of genetic diversity (5,6,7). The species has been classified as endangered by the U.S. Fish and Wildlife Service and is listed as Appendix I of the Convention on International Trade on Endangered Species (8).

ASIA

The wild cheetah is nearly extinct in Asia; an estimated few hundred remain in Iran, Pakistan, the U.S.S.R. and Afghanistan. Once widely distributed throughout Asia (9), the cheetah has suffered a devastating decline of available habitat. A small number of Asian cheetah (Acinonyx jubatus venaticus), maybe 200, still survives in Iran, and perhaps Turkmenistan and north-west Afghanistan (10). Most animals though are in Iran, where their population is reported to be stable and possibly even increasing. The Khosh Yeilagh Protected Area in northeastern Iran supports the largest population. Sightings also have been reported in Kavir National Park in Varamin and the Touran Protected Area (11).

To obtain current estimates of numbers of wild cheetah in Asia, the studbook keeper has tried to establish and maintain contact with appropriate researchers. Mohamond Kamir, Assistant Professor of Tehran University has begun a survey of cheetah in Iran but a progress report was not available at the time of this publication. Results of a recent survey conducted in the southern regions of the U.S.S.R. where cheetah sightings had been reported were not available either.

AFRICA

There has not been a comprehensive survey of African cheetah since the early 1970s when Norman Myers calculated the African population of cheetah to be 14,000 animals in 22 countries (12). On the basis of his research, he estimated that there would be fewer than 10,000 cheetah by 1980. No new information is available to validate or refute this prediction, although there is a consensus that the cheetah population is declining throughout Africa. In 1989, Paula Gross with Tim Caro, began a pan-African survey of cheetah, so within the next couple of years a clearer picture of cheetah distribution in Africa should emerge.

Free-ranging cheetah inhabit all of Africa in a broad section of the sahal, eastern, and southern Africa, particularly in their two remaining strong-holds, Kenya and Tanzania in East Africa and Namibia/South West Africa.

Although a current pan-African survey is not available, a few regional studies exist: David Burney reported on cheetah in Kenya in 1980; P. H. Hamilton did a survey on the status of cheetah and leopard in Kenya, 1981; Norman Myers reported on the status of cheetah in Africa, 1981; Dieter Morsbach on cheetah in Namibia/South West Africa, 1986; Vivian Wilson on the status of cheetah in Zimbabwe, 1985; and Christopher Stuart and Vivian Wilson on the status of cats in southern Africa, 1988.

Burney found cheetah thriving in the Mara region, particularly outside the National Reserve. There they were coexisting well with the Narok Masai, whose stock they left alone. Burney found that cheetah exhibited considerable flexibility and variability in behavior patterns and daily activities (13).

In his 1981 survey, Hamilton also found that cheetah were adapting well in the agricultural land in the Masai Mara region outside the National Reserve. There was an abundance of prey and they were not raiding the Masai stock. Hamilton described the cheetah as "largely diurnal, widely roaming and not easy to census." He explained the scarcity by pointing out the very high cub mortality which he believed resulted from "predation and disease" (14).

Hamilton concluded that cheetah prospects in Kenya in the 1981-2000 period looked reasonable in the vast arid and semi-arid rangelands (primarily in the north) which would be the last areas to be developed. "Elsewhere the spread of commercial and group ranching is likely to bring it (the cheetah) into greater conflicts with man. The spread of illegal and legal firearms is also likely to pose a threat so long as the cheetah's skin has any value." Hamilton's premise seems to be that the cheetah is a

"remarkably successful predator...supremely adapted to surviving at low densities over large expanses of often waterless arid and semi-arid lands" (14).

Myers, on the other hand, believes the cheetah is less adaptable. He says that "if its ecological circumstances start to experience persistent perturbation, the specialized nature of the species ecology and behavior, and its genetic make-up, could leave it little able to adapt to the disruptive conditions imposed by human communities in emergent Africa" (15).

In fact, the ability of the cheetah to adapt to a changing ecological system brought about principally by conversion of its preferred habitat to farmland is perhaps the critical question in estimating the population's survivability in East Africa. In several studies over the last decade, the cheetah was reported to suffer declining numbers as land was developed and suitable habitat converted to farmland (1,14,15,16,17,18).

The number of cheetah in Zimbabwe has declined to less than 500, and they are located in three regions. Eighty percent of the animals live on private ranchlands. About 400 animals are equally distributed between the southern and north-western regions. On the ranches in the southern region cheetah are viewed as a threat to livestock and are killed illegally and in large numbers by the ranchers. The mainly protected north-western region which includes the Hwange National Park, Matetsi Safari area/Kazuma National Park and the Zambezi National Park is home to the second population of cheetah. There are about 100 cheetah in the third region, which includes the Middle Zambezi Valley, Midlands and Gonarezhou. Like the southern region this area is unprotected; here too, the cheetah are viewed as an economic threat and killed by ranchers (17,19,20, V.Wilson pers. comm, 1989).

The cheetah was recently taken off the endangered species list in South Africa (21). There are about 60 animals in the Kalahari Gemsbok National Park living along the Botswana boarder. There is a resident population of approximately 400 animals in the Kruger National Park and the adjacent, privately-owned game parks. Small populations are present in the Suikerbosrand Nature Reserve and Pilanesberg National Park. There is also a small population of animals which crosses back and forth from Zimbabwe and Botswana (20,21).

There is an estimated population of less than 100 animals reported in Mozambique (20).

Namibia/South West Africa has one of the largest and healthiest population of cheetah in all of Africa. More than 95 percent of the animals live on private ranchland in the north and central districts of the country. The ranchers view the cheetah

as an economic threat, believing that they are responsible for killing stock and the increasingly valuable wildgame. As a result cheetah are being killed by the ranchers in ever-increasing numbers. A 1975 estimate of 6,000 cheetah in Namibia has been reduced to a current estimate of 2,000 to 3,000 animals, largely because of rancher presecution (22; D. Morsbach pers. comm. 1989).

Cheetah are not doing well in protected wildlife reserves because of strong competition from other, larger predators such as lions and hyenas. Only 30-50 animals are thought to be living in Namibia's Etosha Pan National Park. In Tanzania's Serengeti ecosystem, the number of cheetah have declined substantially in the past decade; a recent census put the number at 63 compared to 251 animals in 1977 (16).

Wild cheetah in Africa face a crisis. Suitable prey is becoming scarce and habitat is disappearing. They are suffering from the consequences of human encroachment, from competition with other large predators in game reserves, and not least, from the complications of their very limited genetic make-up (5,6,7). The wild population continues to sustain the captive population.

HISTORY OF THE CAPTIVE CHEETAH POPULATION

Cheetah have been kept in captivity for over 4,000 years. The best early records, dating from the 14th, 15th and 16th centuries, were kept by emperors who used cheetah as hunting leopards. At any one time, many emperors were keeping as many as 1000 cheetah, thus removing a large number from the wild breeding populations. Even with so great a number of cheetah kept in captivity, however, the birth of only one litter was recorded and that was by the mogul Emperor Akbar, the Great in the 15th century (23). From the 15th century onwards, the number of wild cheetah in Asia began to decline until by the early 1900's, India and Iran were importing them from Africa for hunting purposes.

Until the 1960s, cheetah were exported from East Africa, Kenya and Somalia, but by then they had become very scarce. Beginning in the 1960's cheetah have been captured and exported from Namibia/South West Africa.

The first cheetah exhibited in a zoological setting was at the Zoological Society of London in 1829. While most other major European zoos began exhibiting cheetah in the 1850's, it was never a commonly exhibited species. New York's Central Park Zoo first exhibited cheetah in 1871, but cheetah were rarely seen in North American zoos until the 1950s. From 1871 to 1955, only 85 cheetah were kept in 17 facilities in North America (24).

After World War II the cheetah became one of the major animal exhibits in both Europe and North America (25). The