

Acinonyx jubatus. By Paul R. Krausman and Susana M. Morales

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Acinonyx Brookes, 1828

Felis Schreber, 1775, plate 105, 1777:392. Type species *Felis jubata*.

Acinonyx Brookes, 1828:33. Type species [*Acinonyx*] *venator*.
Cynailurus Wagler, 1830:30. Based on *Felis jubatus* Schreber.
Guepardus Duvernoy, 1834:10. Based on *Felis jubatus* Schreber.
Guepar Boitard, 1842:234. Incorrect subsequent spelling.
Cynofelis Lesson, 1842:48. Based on *Felis jubatus* Schreber.
Gueparda Gray, 1843:46. Incorrect subsequent spelling.
Cynaelurus Heuglin, 1861:14. Incorrect subsequent spelling.
Cynaelurus Blanford, 1888:90. Incorrect subsequent spelling.
Gueparda Roberts, 1951:181. Incorrect subsequent spelling. Roberts attributed spelling to Layard, 1861, without further citation information.

CONTEXT AND CONTENT. Order Carnivora, family Felidae, subfamily Acinonychinae, genus *Acinonyx*. *Acinonyx* is monotypic.

***Acinonyx jubatus* (Schreber, 1775)**

Cheetah

Felis jubatus Schreber, 1775, plate 105, 1777:392–393. Type locality “südliche Afrika; man bekommt die Felle vom Vorgebirge der guten Hofnung.”

[*Felis*] *iubata* Erxleben, 1777:510. Incorrect subsequent spelling.

Felis guttata Hermann, 1804:38. Type locality not specified.

Felis venatica Griffith, 1821:93. Type locality not specified.

[*Acinonyx*] *venator* Brookes, 1828:33. Type locality not specified.

Cynailurus jubatus: Wagler, 1830:30. Name combination.

Felis fearonii Smith, 1834:245. Type locality not specified: “inhabits Southern Africa, . . . North-east of Natal.”

Guepardus jubatus: Duvernoy, 1834:10. Name combination.

Guepardus guttatus: Duvernoy, 1834:10. Name combination.

Guepar jubatus: Boitard, 1842:234. Name combination.

Cynofelis jubata: Lesson, 1842:49. Name combination.

Cynofelis guttata: Lesson, 1842:49. Name combination.

Gueparda jubata: Gray, 1843:46. Name combination.

Felis jubata senegalensis Blainville, 1843, plate 9 [indexed as plate 10]. Type locality “Senegal,” preoccupied by *Felis leo senegalensis* Meyer, 1826:6.

Cynailurus soemmeringii Fitzinger, 1855:245. Type locality “Steppen der Kababish im Süden der Bajuda-Wüste.”

Cynaelurus guttatus: Heuglin, 1861:14. Name combination.

Felis megabalica Heuglin, 1863:23. Type locality not specified.

Gueparda guttata: Gray, 1867:277. Name combination.

Felis megaballa Heuglin, 1868:53. Incorrect subsequent spelling.

Felis fearonis Fitzinger, 1869:664. Incorrect subsequent spelling of *F. fearonii* A. Smith.

Felis lanea P. L. Sclater, 1877:532. Type locality “Beaufort West in the Cape Colony.”

[*Cynaelurus*] *jubatus*: Blanford, 1888:90. Name combination.

[*Cynaelurus*] *laneus*: Blanford, 1888:90. Name combination.

Cynaelurus jubata Mivart, 1900:429. Incorrect subsequent spelling.

Cynaelurus lanea Mivart, 1900:430. Incorrect subsequent spelling.

[*Cynailurus*] *guttatus*: Hollister, 1911:225. Name combination.

Acinonyx guepard Hilzheimer, 1913:283. Unjustified replacement name for *Acinonyx venator* Brookes.

Acinonyx guttatus ngorongorensis Hilzheimer, 1913:290. Type locality “Ngorongoro.”

Acinonyx guttatus obergi Hilzheimer, 1913:288–289. Type locality “Keetmanshoop.”

Acinonyx raddei Hilzheimer, 1913:291. Type locality unclear.

Acinonyx wagneri Hilzheimer, 1913:285. Nomen nudem (Rosevear 1974).

Acinonyx hecki Hilzheimer, 1913, figure 1, 287–288. Type locality “Senegal.”

Acinonyx jubatus velox Heller, 1913:7. Type locality “Loita Plains, British East Africa.”

Acinonyx jubatus raineyi Heller, 1913:9. Type locality “Ulu, Kapiti Plains, British East Africa.”

Acinonyx obergi: Zukowsky, 1924:45. Elevation to species rank.

Acinonyx rex Pocock, 1927:245, 250. Type locality “Umvukwe Range, northwest of Salisbury, Rhodesia.”

CONTEXT AND CONTENT. As above. Fitzinger (1869) lists other synonyms that could not be validated. Hilzheimer's (1913) taxa derive from specimens in zoos. *A. jubatus* (Fig. 1) has 5 subspecies (Meester 1971).

A. j. hecki Hilzheimer, 1913, figure 1, 287–288, see above; *senegalensis* (Blainville) is a synonym.

A. j. jubatus (Schreber, 1775, plate 105, 1777:392), see above; *fearonii* (Smith), *fearonis* (Fitzinger), *guttata* (Hermann), *iubata* (Erxleben), *lanea* (Sclater), *obergi* Hilzheimer, and *rex* Pocock are synonyms.

A. j. raineyi Heller, 1913:9, see above; *ngorongorensis* Hilzheimer and *velox* Heller are synonyms.

A. j. soemmeringii (Fitzinger, 1855:245), see above.

A. j. venaticus (Griffith, 1821:93), see above; *guepard* Hilzheimer, *raddei* Hilzheimer, and *venator* Brookes are synonyms.

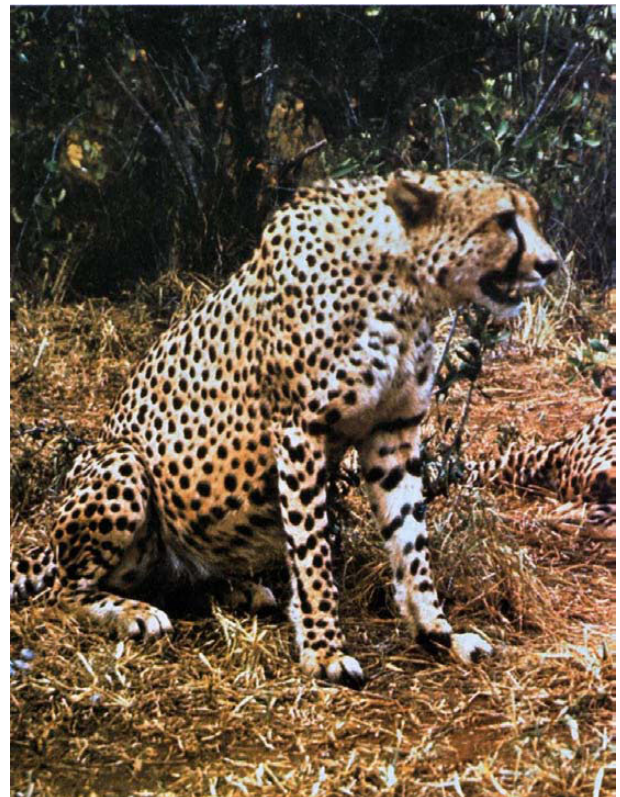


FIG. 1. Adult *Acinonyx jubatus*. Used with permission of the photographer Duncan MacFadyen.

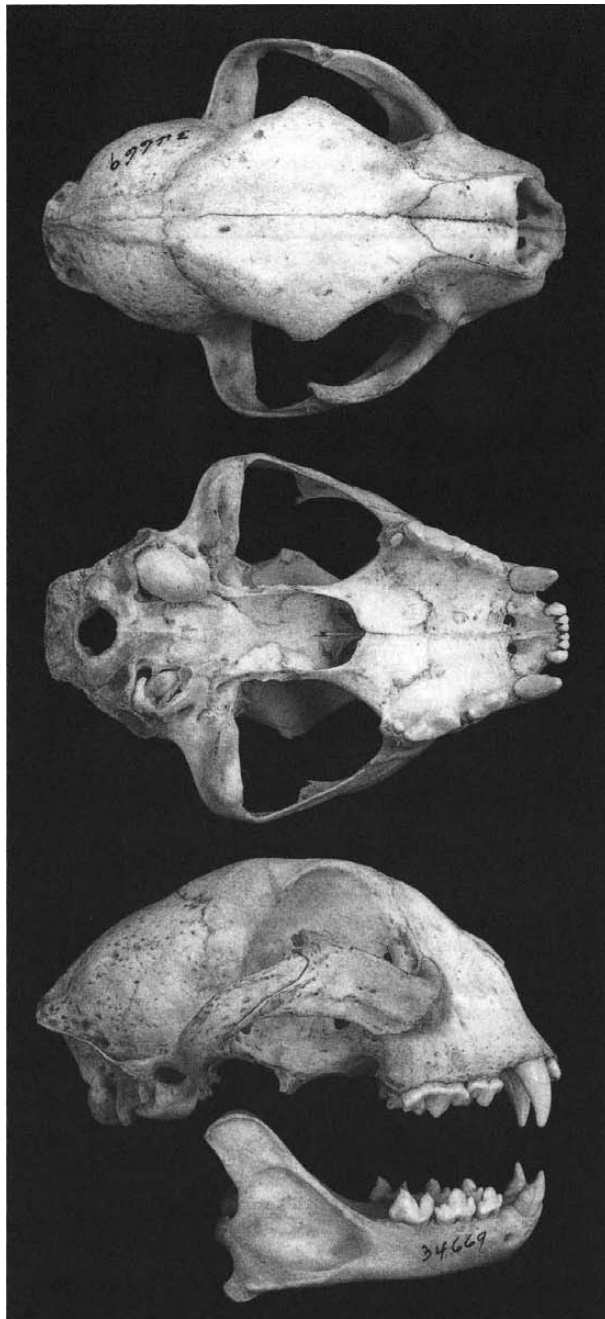


FIG. 2. Dorsal, ventral, and lateral views of cranium and lateral view of mandible of *Acinonyx jubatus* (Chicago Field Museum 34669). Greatest length of cranium is 180 mm.

DIAGNOSIS. *Acinonyx jubatus* is similar in size (60 captive males, \bar{X} mass = 40.2 kg; 68 captive females, \bar{X} mass = 35.0 kg—Caro 1994) to leopards (*Panthera pardus*) and cougars (*Puma concolor*—Caro 1994). However, cheetahs cannot be confused with other cats. Each cheetah has a unique arrangement of spots on face and body and a tear streak extending from the corner of the eye to the upper lip behind canines (Caro 1994; Mivart 1900). Leopards do not have the tear streak and cougars do not have spots or the tear streak.

GENERAL CHARACTERS. Pelage is pale yellow, gray, or fawn on upper parts (Kitchener 1991) and is covered with small round black spots set closely together and not arranged in rosettes (Nowak 1999). Underparts are paler, often white. A pronounced lachrymal or tear stripe runs from anterior corner of eye down beside muzzle (Kitchener 1991). Ears are small and round with a black patch on back side (Eaton 1982) but tawny at base and edges.

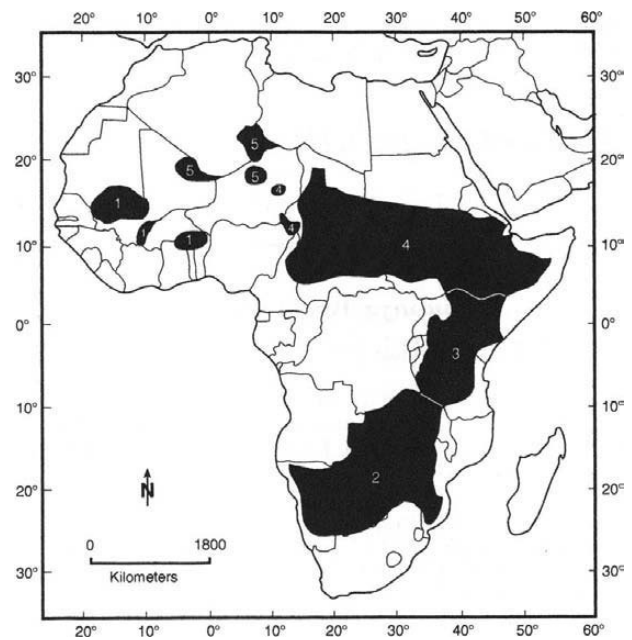


FIG. 3. Distributions of the 5 subspecies of *Acinonyx jubatus*: 1, *A. j. hecki*; 2, *A. j. jubatus*; 3, *A. j. raineyi*; 4, *A. j. soemmeringii*; and 5, *A. j. venaticus*.

Tail is spotted above and pale below with a white tip. Last one-third of tail has a series of black rings (Nowak 1999). Coat is coarse and hair is somewhat longer on nape than elsewhere, forming a short mane (Nowak 1999). In young cubs, mane is much more pronounced and extends over head, neck, and back (Nowak 1999). Cubs are covered in a long, woolly, bluish-gray mane that makes them less conspicuous to predators on open savanna (Kitchener 1991). Cubs have uniform, gray, long hair with spots visible on underfur.

Acinonyx jubatus has a slim body; very long legs; and a small, rounded head with short ears. Pupil of eye is circular when contracted (Lydekker 1895). Paws are narrow compared with those of other cats (Nowak 1999). Claws are blunt and slightly curved. *A. jubatus* has weakly retractile claws that have no skin folds to protect them.

Skull is vaulted and raised high above muzzle and cranium (Fig. 2). Skull is short and broad with enlarged nasal openings. Nasals are short and broad dorsally, and bony palate extends well behind molars. Unlike most other members of the Felidae, *A. jubatus* has very large nasal passages. Bullae are relatively small with strong paroccipital process that jut ventrally (Roberts 1951).

Average external measurements (in mm) of 10 free-living male (mean \pm SD) and 7 female *A. jubatus* from Serengeti National Park, Tanzania, respectively, are: length of nose to anus, 123.3 \pm 60, 135.3 \pm 28.2; length of tail, 68.3 \pm 2.3, 63.6 \pm 4.9; length of hind foot, 28.0 \pm 1.4, 27.1 \pm 0.7; body mass (kg), 42.3 \pm 5.6, 37.9 \pm 4.8 (Caro et al. 1987). Shoulder height ranges from 700 to 900 mm (Nowak 1999). Average cranial measurements with parenthetical sample sizes (in mm) for males and females, respectively, are: width of incisors, 9.9 (6), 9.6 (5); width of incisors plus canines, 26.4 (11), 25.2 (8); width of nasals, 15.8 (11), 15.9 (8); width of maxilla, 41.2 (11), 39.4 (7); width of zygomatic arch, 60.0 (11), 56.5 (6); bullar length, 2.71 (10), 2.59 (8); bullar width, 1.71 (10), 1.62 (8); depth of skull, 6.86 (10), 6.48 (8); length of upper tooth-row, 5.08 (11), 5.03 (7); length of mandible, 12.21 (10), 11.35 (8); and length of lower tooth-row, 6.11 (9), 5.98 (8). Depth of skull and length of mandible are significantly larger in males (Wayne et al. 1986).

DISTRIBUTION. *Acinonyx jubatus* had a very wide distribution from the open grasslands of central India through southwestern Asia, Arabia, and throughout Africa (Fig. 3) where suitable, open habitats were available (Kitchener 1991; Turner 1997) and may have included the arid and semiarid regions of south, east, and north Africa and less arid areas in India, Russian Turkistan, Syria, Palestine, and Arabia (Eaton 1982). By the 1970s the dis-

tribution of cheetah was greatly reduced, and surveys indicate that cheetah survive in 25 African countries (Caro 1994; Myers 1975). Only Botswana, Namibia, and Kenya had populations of >2,000 individuals.

FOSSIL RECORD. Early fossil records of *A. jubatus* are from the Olduvai 1 bed, east Africa (northern Tanzania) in the lower Pleistocene fauna fossils (Hopwood 1951). The oldest cheetah fossils are from eastern and southern Africa from $3.5\text{--}3.0 \times 10^6$ years ago (Turner 1997).

Paleoecological records show that cheetahlike cats ranged across Asia, Africa, and North America as recently as 10,000 years ago (Kurtén 1968). At least 2 other species of Old World cheetahs might have existed at the same time (Caro 1994). *Acinonyx pardinensis* (ca. 95 kg) occurred in Eurasia and east and south Africa during the Villafranchian period, $1.9\text{--}3.8 \times 10^6$ years ago, earlier than suggested by the molecular phylogeny, and a smaller form, *A. intermedius*, found in the mid-Pleistocene, extended from Europe eastward to China (Caro 1994). *A. pardinensis* was larger and less cursorial than modern cheetahs and spread throughout the Old World.

American cheetahlike cats have been assigned to *Acinonyx*, *Felis*, and *Puma*, but a recent cladistic study (Van Valkenburg et al. 1990) places these large, long-limbed cats in the genus *Miracinonyx*. Two species are recognized: *M. inexpectata* and *M. trumani*. *M. inexpectata* includes a nearly complete skeleton from Hamilton Cave, West Virginia. The proportions were intermediate between extant cheetah and puma but larger with fully retractile claws. *M. trumani* was described from hundreds of bones from Natural Trap Cave, Wyoming (Adams 1979). The bones were larger but otherwise similar to *A. jubatus*. Thus, cheetah may have originated in North America and dispersed to Eurasia and Africa (Turner 1997).

FORM AND FUNCTION. The pelage of *A. jubatus* insulates the body from temperature changes, whereas the color and pattern of spots conceal cheetahs from prey in the open habitats where it hunts.

Cheetahs have a high concentration of nerve cells leading to the optic nerve. The concentrated band of nerve cells is called the visual streak and increases the visual acuity of cheetahs. This allows them to detect prey moving against the horizon in open habitats (Kitchener 1991).

Skull is high in proportion to its length (Mivart 1900). Cheetahs have a high proportion of temporalis muscle fibers that pull horizontally. This is offset with short canines and thus, smaller opening of the jaws when a killing bite is delivered (Ewer 1973). Infraorbital canal of cheetahs is extremely small (Mazak 1968; Pocock 1951), and nerves from tactile receptors at bases of vibrissae run through it.

Brain is considerably convoluted and corpus albicans is divided into 2 corpora mammillaria (Mivart 1900). Nasals are short. Nasal passages are large with 1 infraorbital foramen on each side (Kitchener 1991; Mivart 1900). Nasal aperture is bounded on either side by roots of upper canines; reduction in the size of the teeth permits the enlarged aperture.

Dental formula is $i\ 3/3, c\ 1/1, p\ 3/2, m\ 1/1$, total 30 (p2 may be absent in some individuals—Nowak 1999). The small upper molar is visible when skull is in profile. Second premolar (p3) is large and projects downward as much as the carnassial or p4 (Mivart 1900). Cheek teeth are narrow and blade-like for slicing flesh. Canines are small and flattened (Ewer 1973).

Whiskers of *A. jubatus* are fewer compared with those of other cats (Ewer 1973). A cheetah's larynx has divided thyroarytenoid folds with a depression between the rostral and caudal folds and a vocal fold with a sharp edge that does not allow the cheetah to roar (Hast 1989).

Respiratory tracts of *A. jubatus* have a wide cross section, particularly the nasal cavities and connecting passages to pharynx and to trachea. This facilitates movement of air during breathing (Grzimek 1990). Enlargement of these connecting tracts is one of the primary reasons for the pronounced bulging of the skull. The cheetah has a relatively small heart that pumps only a small amount of blood. Hunting by cheetahs involves a high speed chase to run down their prey and a throat bite to suffocate the prey. Wide and large nasal passages help increase the concentration of oxygen in the blood during prey suffocation, allowing the cheetah to regain

its breath after capture (Kitchener 1991). The short canines of the cheetah are used to make a throat bite, which occludes the prey's trachea leading to suffocation, essential for dispatching medium-sized prey (Ewer 1973; Kitchener 1991).

Cheetahs are digitigrade. Hind limbs are longer than forelimbs. Radius, ulna, tibia, fibula, metacarpals, and metatarsals of lower leg are elongated for increased stride length (Kitchener 1991). Tibia and fibula are firmly bound together with fibrous tissue that allows very little rotation about lower leg (Ewer 1973). Back tends to hang slightly when standing (Kingdon 1977). While running, flexing and straightening of the vertebrae column increases stride length (Hildebrand 1961). Tail is long and used as a counterbalance when turning at high speeds (Kitchener 1991). Cheetahs have a preponderance of fast-twitch fibers in the locomotor muscles (83% of the vastus lateralis and ca. 61% of the gastrocnemius). Locomotor muscles of cheetahs are capable of anaerobically based exercise (Williams et al. 1997).

Cheetahs use their claws as running spikes to increase their grip while pursuing their prey (Kitchener 1991). Cheetahs have very firm foot pads due to running on firm ground. Ridges, which act like the tread on car tires, run along foot pads (Ewer 1973).

ONTOGENY AND REPRODUCTION. Female *A. jubatus* are polyestrous and cycle ca. every 12 days (range, 3–27 days) in captivity. Females may be receptive from 1 to 14 days (Caro 1994). Cheetahs are induced ovulators and evidence for seasonal breeding is weak (Caro 1994). Females reproduce at 13–16 months of age (Wrogemann 1975) with an average age of sexual maturity between 21 and 22 months (Kitchener 1991). Copulation frequency for cheetahs is 3–5 times per day (Kitchener 1991).

Mean motile sperm per ejaculate (25.3×10^6 —O'Brien et al. 1985) and circulating testosterone levels are generally lower for male *A. jubatus* < 5 years of age, although captive males have sired offspring in their 3rd year of life (Caro 1994). A high proportion of spermatozoa have abnormalities (Caro 1994).

Gestation is 90–95 days (Caro 1994; Kitchener 1991). Births occurred during January–August in east Africa, November–January in Namibia, and November–March in Zambia (Nowak 1999). From 1969 to 1994 in the Serengeti Plains, Tanzania, females gave birth to their 1st litter at ca. 2.4 years, interbirth interval was 20.1 months, and mean litter size was 2.1 cubs (Kelly et al. 1998). Average longevity of females that survived to independence (i.e., remain with mothers) was 6.2 years. Minimum male longevity was 2.8 years for those born in the study area, but 5.3 years for immigrants (Kelly et al. 1998).

Litter size can be up to 8 but 6 young are normally the most that emerge from the lair in the wild (Caro 1994; Caro et al. 1987). Females produced an average of 1.7 young to independence and mean reproductive rates were 0.36 young per year, or 0.17 litters per year at independence in Tanzania (Kelley et al. 1998). At birth, young weigh 250–300 g (Kitchener 1991), but can average 463 g in captivity (Wack et al. 1991). Young remain in a lair (usually in a marsh, tall vegetation, or a rocky outcrop) for ca. 8 weeks and may be carried to new lairs during this period (Laurenson 1993). Young open their eyes after 4–11 days and begin walking after 12–13 days (Kitchener 1991).

Young have a thick covering of long, bluish-gray or smoky-gray hair that appears on nape, shoulders, and back soon after birth. The function of this seems to be camouflage from predators. Infant hair disappears after ca. 3 months of age but a short mane is retained into adolescence and for longer in some individuals (Caro 1994). Milk or deciduous teeth erupt between 3 and 6 weeks (Broom 1949) and are replaced by permanent teeth at ca. 8 months of age (Caro 1994). Young are weaned at 3–6 months. Young may not separate from their mother until they are 15–17 months old (Caro 1994; Eaton 1974).

ECOLOGY. In India, cheetahs occur in dense, forest regions and in South Africa in open or lightly forested, grassy country (Eaton 1982). In southwest Africa, cheetahs occur on stony ridges; stony ridges in the sand veld; and less frequently in dense bush country or thick, dry forest, montane moorlands, or swamps (Eaton 1982). Ca. 6,000–15,000 cheetahs occur worldwide (Caro 1994).

Diet of cheetahs consists mainly of gazelles (*Gazella*), impalas (*Aepyceros melampus*), other small and medium-sized ungulates, and calves of large ungulates (Myers 1975). A female with cubs may kill such an animal every day, whereas lone adults hunt every

2–5 days (Myers 1975). Hares, other small mammals, and birds are sometimes taken. Cheetahs generally eat their prey where killed, prefer the blood and the entrails, and often do not touch the rest of the carcass (Denis 1964). Cheetahs rarely return to a previous day's kill (Denis 1964).

Cheetahs are mainly diurnal, hunting principally at dawn and dusk (Denis 1964). They do not conceal their food or scavenge (Myers 1974).

Animals in 3 separate age–sex classes may live either alone or in groups, including females and mothers with young, independent adolescents, and males (Caro 1994). Groups tend to be composed of females with young or 2–4 related adult males (Nowak 1999). Male coalitions commonly defend a territory against other males, perhaps facilitating access to prey and mates (Caro and Collins 1987). Although increased coalition size results in greater per capita foraging returns, group size has far greater impact on reproductive success through its effect on intraspecific competition between males (Caro 1994). Groups avoid each other and mark the area they are using. Marking is accomplished by regular urination on prominent objects (Nowak 1999). Fighting among males is not common and deaths due to fighting are rare (Eaton 1982).

Cheetahs in groups are less likely to be harassed by spotted hyenas (*Crocuta crocuta*) and by male cheetahs than are single cheetahs, lowering the chances of group members being injured by these predators (Caro 1994). Cheetah may be preyed upon by lions (*Panthera leo*) and leopards (Eaton 1982).

Cheetahs have the highest juvenile mortality (71%) yet recorded for nonhunted populations of cats in the wild (Caro 1994). Predation on cheetah young is the most important natural limiting factor on cheetahs. Disease in captive cheetahs includes cirrhosis of the liver and other liver diseases, feline distemper, pneumonia and other bronchial diseases, ricketts, and tuberculosis (Eaton 1982).

Since the 1600s, humans tamed some cheetahs to run down game (Nowak 1999) in ancient Assyria, Egypt, and Sumeria, and more recently this was done by the royalty of Europe and India. If the hunt was successful, the cheetah was rewarded with a portion of the kill. Tame individuals are usually playful and affectionate (Nowak 1999).

The principal threats to free-living cheetahs in the wild come from habitat destruction, loss of prey, and direct persecution. Cheetahs are hunted where cattle are raised and are shot as vermin in Namibia and Zimbabwe. The fur fashions of past years almost led to their extinction (Grzimek 1990). In Kenya, scattered evidence suggests cheetah numbers are stable rather than declining in the last decade (Gros 1998). The cheetah has disappeared in Asia, except for Iran and possibly adjacent parts of Afghanistan, Pakistan, and Russian Turkistan. The cheetah is now strictly protected throughout its remaining range, but those animals outside protected areas are experiencing progressive habitat loss.

Cheetahs breed in captivity, but the number of animals producing offspring is low and infant mortality is high (Caro 1994). Reintroductions are extremely successful in protected areas within their former range that do not have lions or spotted hyenas and result in rapid population growth. For example, 6 introduced cheetahs increased to 17 within 1 year, and 8 introduced cheetahs increased to 24 within 2 years in Pilansberg National Park, Bophuthatswana, South Africa, and Suikerbosrand Nature Reserve, respectively. Cheetahs possess traits associated with the successful reintroductions of other species: they are amenable to behavioral manipulation, have a broad diet, exploit new areas, and are euryceous (Stanley Price 1989).

Cheetahs can be located by radiocollars and direct sighting, such as searching in the vicinity of alert prey or carcass remains. Details of capture, censusing, recording, sampling techniques, and tracking are available (Caro 1994; Eaton 1982).

BEHAVIOR. *Acinonyx jubatus* is normally amicable toward conspecifics, but several males sometimes gather near and fight over an estrous female (Nowak 1999). Vocalizations include antagonistic vocalizations, purrs of contentment, a chirping sound made by a female to its young, and an explosive yelp that can be heard from 2 km away.

Density of female cheetahs is high where cover is abundant and where high concentrations of Thomson's gazelles aggregate during the course of their migration. Females also can be found feeding on small clusters of gazelles in areas of localized rainfall. Idiosyn-

cratic movements of females within their home ranges make female concentrations somewhat unpredictable (Caro 1994). Depending on the movement patterns of females, males may hold territories or roam in search of females (Caro 1994). Adult nonresidents occur inside and outside of territories, but adolescent males and single floating males tend to stay outside of territorial boundaries (Caro 1994).

Hunting typically involves stalking of prey and an open, high-speed pursuit from 100–300 m away, but is seldom successful if >200 m. Once prey is overtaken it is usually knocked down by the force of the cheetah's charge and then seized by the throat and strangled. Cheetahs use an enlarged dew claw to facilitate the take-down of prey. Young learn hunting techniques from the mother. At independence, their abilities to chase prey at high speed and knock it over are poorly developed (Caro 1994). Factors related to hunting success include prey characteristics (species, sex, age, and condition), herd size, cover type, prey responses before attack, prey responses during attack, number of hunting cheetahs, length of cheetah's attack, cheetah–prey distance when prey begin running, and cheetah–prey distance when cheetah attacked (Eaton 1970, 1982). Adult cheetah have the highest running speed recorded reliably for any animal (29 m/s or 64 miles/h—Sharp 1997). Cheetah can only maintain these speeds for ca. 500 m (Schaller 1972).

Offspring generally accompany their mother on most hunts but with increasing frequency as they grow older (Caro 1994). The adult female cheetah is necessary for young to learn to catch and kill prey (Eaton 1982). Cheetah females encourage their young of 5 months to capture prey by releasing live prey for them to kill (Caro 1994). When cheetah cubs play, the distance they chased each other and their success in catching each other increased with age but their ability to remain concealed during play stalks and crouches did not improve with age (Caro 1995).

GENETICS. The 2N = 38. Fifty-five cheetahs from Transvaal and in Namibia had no genetic variation at each of 47 allozyme loci (O'Brien et al. 1983a, 1983b). Electrophoretic studies, reproductive surveys, experiments using reciprocal skin grafts, and analyses of the major histocompatibility complex also show extreme lack of genetic variability (Caro 1994; Yuhki and O'Brien 1990). Genetic monomorphism results in spermatozoal abnormalities and difficulty with captive breeding (O'Brien et al. 1985, 1987). DNA analyses date the genetic monomorphism to ca. 10,000 years ago (Menotti-Raymond and O'Brien 1993) because of population bottlenecks in the Pleistocene (O'Brien et al. 1987) or to interchange between subpopulations equivalent to panmictic breeding (Caro 1994; O'Brien et al. 1987). Consequences of reduced genetic variability may be increased juvenile mortality and susceptibility to disease. However, increased mortality of young would not be expected in species purged of deleterious recessives (Caro 1994).

CONSERVATION STATUS. The International Union for Conservation of Nature and Natural Resources classifies the cheetah as vulnerable and the Asiatic subspecies (*A. j. venaticus*) as endangered. The entire species is listed as endangered by the United States Department of the Interior, Fish and Wildlife Service, and is on appendix 1 of the Convention of International Trade in Endangered Species (CITES 1982).

REMARKS. The derivation of cheetah is from the Hindu chita (Skinner and Smithers 1990). The etymology of *Acinonyx jubatus* is Latin and Greek. *Acin* is Latin, meaning a berry; and *onyx* is Greek, meaning a claw. *Acinonyx* could have been derived from the Greek prefix *a* and *kineo* (to move) in reference to the cheetah's nonretractable claws (Caro 1994). The species name is Latin and refers to a mane or crest that is apparent in young individuals and some adults (Caro 1994). Hunting leopard is also a common name.

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