

## The Indian Cheetah – From Ubiquitous to Extinction

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**Abstract:** *The Asiatic cheetah to which group the Indian cheetah belongs, once had a wide distribution and was present in the Arabian Peninsula, Iran, the Caucasus, Central Asia, Afghanistan, Pakistan and India. Currently, mainly due to unrestrained hunting, conversion of grasslands for agriculture and human-wildlife conflict, merely a few of them survive that too only in the central plateau of Iran. The Indian cheetah has a long and interesting history passing through the Mughal and British period before it become extinct in 1952. Efforts are being made by Government of India to reintroduce the southern African cheetahs into India to create a stable population of them.*

**Keywords:** *Genetic homogeneity, Endangered species, Coursing, King Akbar, Trophy hunting.*

**Received :** 03 November 2025

**Revised :** 28 November 2025

**Accepted :** 06 December 2025

**Published :** 30 December 2025

### TO CITE THIS ARTICLE:

T.S. Suryanarayanan (2025). The Indian cheetah – From Ubiquitous to Extinction. *South Asian History, Culture and Archaeology*, 5: 2, pp. 295-303.

## Introduction

Along with lions, tigers and leopards, the cheetahs were once prevalent in the Indian subcontinent until their extinction in the mid-1940s (Ceballos *et al.*, 2015). Historically, the cheetah (*Acinonyx jubatus*, Mammalia: Carnivora: Felidae) had a wide distribution from Africa to southern Asia including India (Welch *et al.*, 2015). Despite this wide geographical distribution, in the past 50 years cheetahs have become extinct in 13 countries including India. Currently, they are present only in Kenya and Tanzania in eastern Africa and Namibia and Botswana in southern Africa. With its current global population being 7,500, the IUCN has listed *A. jubatus* under the ‘endangered’ category (Jdeidi *et al.*, 2010; Durant *et al.*, 2017). The term ‘cheetah’ derives from the Sanskrit *citraka*, which implies its ‘speckled’ or ‘spotted’ (*chitra-arty*) fur (<https://www.dictionary.com/e/words-from-sanskrit/>; Kolachalam, 2019).

The spots are present all over a cheetah's body and serve as camouflage by offsetting shadows in the grasses. Camouflage is not only essential for stalking prey but also for protecting cheetah cubs from predators. The spots on the body and ring patterns on the tail of the cheetah differ with individuals (Caro, 1994). *A. jабutus* is taxonomically divided into five subspecies, viz. *A. j. soemmeringii* (Northeast African cheetah), *A. j. raineyi* (Southeast African cheetah), *A. j. hecki* (Northwest African cheetah), *A. j. jабutus* (South African cheetah) (Fig. 1) and *A. j. venaticus* (Asiatic cheetah) (Kitchener *et al.*, 2017).

### Adaptations for Speed

Although related to lions, tigers, and leopards (the Felidae), cheetah's hunting method differs from the other large cats. The cheetahs live in wide open spaces (savannahs and grasslands) and hunt their prey by chasing them at high speed. Cheetah is the fastest land mammal (80 - 130 km/h). Its spotted fur enables it to remain effectively camouflaged in the sunshining savannahs. A cheetah creeps stealthily towards its prey and after nearing the prey, it swiftly breaks into a chase of high speed at the rate of 110 km/h (nearly 70 mi/h), attacks the prey, and suffocates it to death. It can maintain such a remarkable speed only for a short while and over a short distance (c. 300 m), which explains its initial slow and stealthy stalking while approaching the prey. A cheetah accelerates from zero to 100 km/h (60 m/h) in just 3 sec. To achieve such a burst of speed, the cheetah has evolved several adaptations (Goto *et al.*, 2013). Its long and slender legs and elongate spine help in enhancing the stride length and high speed; it has large nostrils and lungs enabling it to breathe effortlessly while running. A cheetah has a long stride length and high 'stride frequency' and swings its limbs rapidly such that it can push off the ground more times for a given period thus reaching high speed (Hudson *et al.*, 2012). Its unretractable claws and hard paw pads with ridges provide for extra traction (Cheetah Conservation Fund - CCF, 2025). Cheetah's aerodynamically shaped body is supported by light bones, long, slim, and sturdy but slender legs, and a hip that can rotate on a supple spine. Its tail functions as a rudder and counterbalances its body mass helping it to turn swiftly while chasing antelopes which run in a zig zag manner while escaping (protean behavior). The ear of cheetah has larger volume of the vestibular system and longer anterior and posterior semicircular canals when compared to other cats which helps it to keep its vision stable on prey and maintain balance during the high-speed hunting (Grohé *et al.*, 2018). These adaptations facilitate its stunning rate of acceleration and astonishing speed. Further its relatively small and domed skull is so structured that it brings its eyes closer to its nose, enhancing its binocular vision. The characteristic dark 'tear' marks below each eye minimize sunglare by absorbing the light and also serve like a rifle scope for focusing on the prey (CCF). To meet the extra demand for energy during a burst of chase, the cheetah's rate of respiration increases from 60 to 150 breaths/min during chase (O'Brien & Wildt, 1986) and the reduced viscosity of its blood at higher temperatures in the external atmosphere eases the blood to flow more readily through the heart and blood vessels enabling quick and efficient oxygen supply transport to various body parts (Hedrick *et al.*, 2019). Large carnivores such as tigers and leopards pounce and fell their prey and bite its neck thus breaking its spinal cord, piercing the windpipe, severing the jugular vein or carotid artery and killing it instantaneously. Because cheetah has evolved larger nasal cavity needed for rapid and large volume of air intake for speed, its skull can accommodate only a smaller jaw with smaller canine

teeth. Hence, its method of killing the prey is not as fast as tigers or lions, and it can take between five and 25 minutes for killing its prey.

### Reasons for Current Low Population

In earlier times, cheetahs were widespread across Africa and southwestern Asia. Currently their world population is merely ~7,100 individuals confined to 9% of its historical distributional range (Durant *et al.*, 2017). Cheetahs worldwide experienced two population bottlenecks, one about 100,000 years ago and another about 12,000 years ago, both of which reduced its population drastically; furthermore, poaching, habitat loss, and prey loss have contributed to the sharp decline of its population. This limited number of existing individuals has led to reduced genetic difference between them. The genetic diversity of male cheetahs of Namibia, the largest free-ranging cheetah population today has declined since the late 1970s (Terrell *et al.*, 2016). Indeed, reciprocal skin grafts between different individuals did not show immunological rejection and there was no difference between allografts and autografts confirming the high genetic homogeneity among cheetahs (O'Brien *et al.*, 1985). Mating between such genetically close individuals increases the propagation of undesirable genes leading to inbreeding depression. DNA sample analysis showed that the genetic diversity of Southern African cheetah is very low and that this could affect negatively its various reproductive traits including testis volume, sperm quantity and quality, and offspring production (Terrell *et al.*, 2016). About 60% sperms of male cheetah are abnormal (teratospermia) which are unable to fertilize the egg (Terrell *et al.*, 2010). Compared to other felines, cheetahs have more genes (65) with premature termination codons (PTC) which end up producing incomplete proteins resulting in increased susceptibility to infectious diseases (Peers *et al.*, 2025). This cascading effect on reproduction and survival due to genetic homogeneity could affect efforts to revive cheetah population.

### The Indian Cheetah

Cheetahs had a long existence in the Indian subcontinent and they are portrayed as early as c.2500 BCE in the cave paintings of Upper Chambal valley. The Indian cheetah finds a reference as early as 200 years before the Common Era in the Greek records of Strabo (ancient Greek geographer and historian during the reign of Augustus (27 bce-14 ce) of India (Divyabhanusinh, 2021). According to Moghul historians, based on their distribution, there were three types of cheetahs in India; the cheetah of the Deccan, the cheetah in the northern mountains, and that of Gujarat (Divyabhanusinh, 2008). The Indian subspecies of cheetah (Asiatic cheetah - *Acinonyx jubatusvenaticus*) once had a wide geographical distribution spreading from India to the Arabian Peninsula and Syria, Pakistan, Afghanistan, and Iran. It has become extinct in all these regions and currently around 50 individuals exist in Iran; the IUCN has classified the Asiatic cheetah as Critically Endangered (Duran *et al.*, 2017).

### Cheetahs in the Mughals Period

The use of cheetahs for hunting mainly the blackbucks (*Antelope cervicapra*, Artiodactyla: Bovidae: Antilopinae) in a sport called 'coursing' was popular during the Mughal regime. It involved trapping cheetahs from the wild, training them, and releasing them to chase and kill the antelope. Coursing (*vyaghrajamrigya*) using cheetahs (*chitraka*) to hunt blackbucks (*krishnasara*) finds mention as one of

the methods of hunting by the kings in *Abhilashitarthachintamani* (*Manasollasa*-1129-1130) composed by Chalukya king Someshvara III (Divyabhanusinh, 2008). Of the Mughals, King Akbar developed an increasing interest in using cheetahs for hunting (Akhtar, 1996). He had 1,000 cheetahs in his care. Cheetahs were caught by digging pits on the ground and covering them with grass. When cheetahs walked over them, they fell into the pit and got trapped. This method of trapping was inefficient since the animals either often broke their bones when they fell into pits or they jumped out and escaped. The 16<sup>th</sup> century Persian document *Ain-i-Akbari* by Abul Fazl ('The Administration of Akbar'), mentions that Akbar modified this trapping method by digging shallow pit and covering it with a trap door such that the trapped animal was not hurt and could not escape as the door latched when the cheetah dropped inside. It is said that this method even captured more than one cheetah per trap (Akhtar, 1996). The captured cheetahs were trained by experts for hunting. Abu'l Fazl states that, with Akbar's skill, this training period was reduced from 90 days to 18 days – although this could be an exaggeration (Akhtar, 1996). According to Abu'l Fazl, Akbar's cheetahs were divided into 8 types and they were fed accordingly- the first type getting 4.665 kg and the 8<sup>th</sup> category 2.566 kg meat every day (Akhtar, 1996). Akbar's fascination for cheetahs is illustrated by the fact that his favorite cheetah 'Samand Manik' was carried in a palanquin accompanied with drum beating, a rare honour even for *mansabdars* (high-ranking officials in Mughal administration holding both military and civil positions) (Akhtar, 1996; Mukhia, 2004). When Mirza Sulaiman, the king of Badakhshan (currently located in northeastern Afghanistan), escaped his grandson's plan to execute him fled to India in 1575 CE, Akbar received him with great pomp. Five hundred elephants draped with embroidered cloth from Constantinople were lined up for 10 miles from his palace in Fatehpur; between every two elephants was a cart with a cheetah adorned with a collar of gold around its neck (Mukhia, 2004). Jahangir (Akbar's son, 1569 - 1627) in his memoirs notes that he was in the womb of his mother, suddenly he stopped kicking in the womb. When this was informed to his father Akbar who was hunting cheetahs at that time, he swore that if the baby resumes kicking, he would not hunt cheetahs on Fridays throughout his life; Jahangir respecting his father's vow, and he also never hunted cheetahs on Friday. (Wikipedia <https://en.wikipedia.org/wiki/Jahangir#CITEREFRogersBeveridge1909>).

According to Akhtar (1996), Abu'l Fazl mentions three methods of hunting using trained cheetahs; (1) *Uparghati* - the cheetah is released in the spot where a deer/antelope is sighted, (2) *Righni* - the cheetah's eyes are closed with an eye mask, and it is unmasked and shown the prey an anthropomorphic term when sighted and then released to hunt it down, (3) *Muhari* - the cheetah is hidden in a place which is downwind and the cart which carried it is driven in the opposite direction fully in view of the prey to confuse it; this gave enough time for the cheetah to creep close to the prey to make the final dash and kill it. The cheetahs of Gujarat were the best of the Indian cheetahs for coursing antelope (Divyabhanusinh, 2008). Coursing continued to be a royal sport of Indian princes during the 19<sup>th</sup> century (Fig. 2).

### Cheetahs in the British Raj

The population of cheetah was already reduced considerably in India when the British arrived (Sirur, 2022). Killing wildlife including tigers, bears, and cheetahs in the name of game continued and was a great past-time among the British during their regime in India (Mandala, 2015). This act of trophy

hunting reduced further the population of cheetahs (Rai *et al.*, 2020). Indeed, the British declared cheetahs as ‘vermin to be killed’ because they were not big in size like the tigers or the lions and were not a potential threat to humans (Sirur, 2022). Their fascination of using cheetah for coursing is exemplified by that three hunting cheetahs of Tipu Sultan were sent to royal family along with his other treasures after his defeat in the war of Seringapatam in 1799 (Brown, 2012). In 1764, Sir George Pigot, Governor of Madras (1755-1763; 1775-1777), sent a cheetah as a gift from Madras to George III, the King of United Kingdom (George William Frederick; 1738-1820). The cheetah was accompanied by two attendants. George Stubbs (1724-1806), an English painter of high reputation, has painted its portrait captioned ‘Cheetah with two attendants and a stag’. This oil painting is on display at the Manchester City Art Gallery. The cheetah is depicted wearing a collar, a red hood and a red belt harness tied around its stomach. Kneeling on one side of the cheetah is one of the attendants holding the cheetah by its belt. The second attendant point is pointing to the cheetah with both hands the deer it is supposed to hunt (Fig.3). By the end of 19<sup>th</sup> century the cheetah population in India was decimated under the British rule (Rashkow, 2023). The Indian cheetah became extinct by the mid-20<sup>th</sup> century mainly due to hunting, prey depletion and the conversion of its habitat viz. grasslands for agriculture ([https://ntca.gov.in/assets/uploads/Reports/AITM/Cheetah\\_narrow\\_booklet-6x11-lowre.pdf](https://ntca.gov.in/assets/uploads/Reports/AITM/Cheetah_narrow_booklet-6x11-lowre.pdf)). In 1948, the last Indian cheetahs were shot dead by Maharajah Ramanuj Pratap Singh Deo of Surguja district (a small princely state - now in Chhattisgarh) (Van Ingen, 1948) (Fig. 4).

### Reintroduction of Cheetah into India

Presently, the Government of India is making an effort to establish a viable, self-sustaining population of cheetahs by reintroducing the southern African cheetahs into India (Jhala *et al.*, 2021). Opinions differ among conservationists about the success of this project due to various reasons including the genetic variation between Asian and African cheetah (Prost *et al.*, 2022) and ecological factors (Wachter *et al.*, 2023; Chellam, 2024; Qureshi *et al.*, 2024). Analysis of mitochondrial DNA and microsatellite data show that Asiatic cheetahs are distinct from African subspecies and that this divergence must have taken place about 32,000-67,000 ya (Charruau *et al.*, 2011). It is also suggested that they could be highly sensitive to change of habitat when translocated (Broekhuis *et al.*, 2021). Although a laudable effort, it would take more time to realise the result of this reintroduction of African cheetah in to India since it involves drastic change in habitat, prey type and density, and human-animal conflict.

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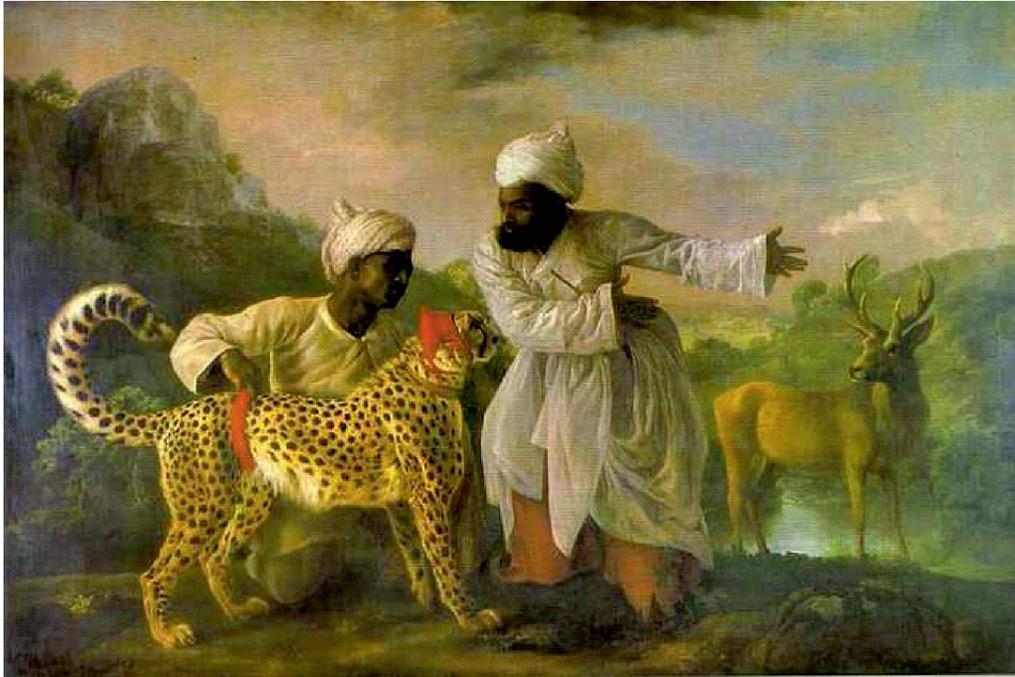


**Fig. 1:** African cheetah. Nairobi National Park, Kenya (Photo by the author)



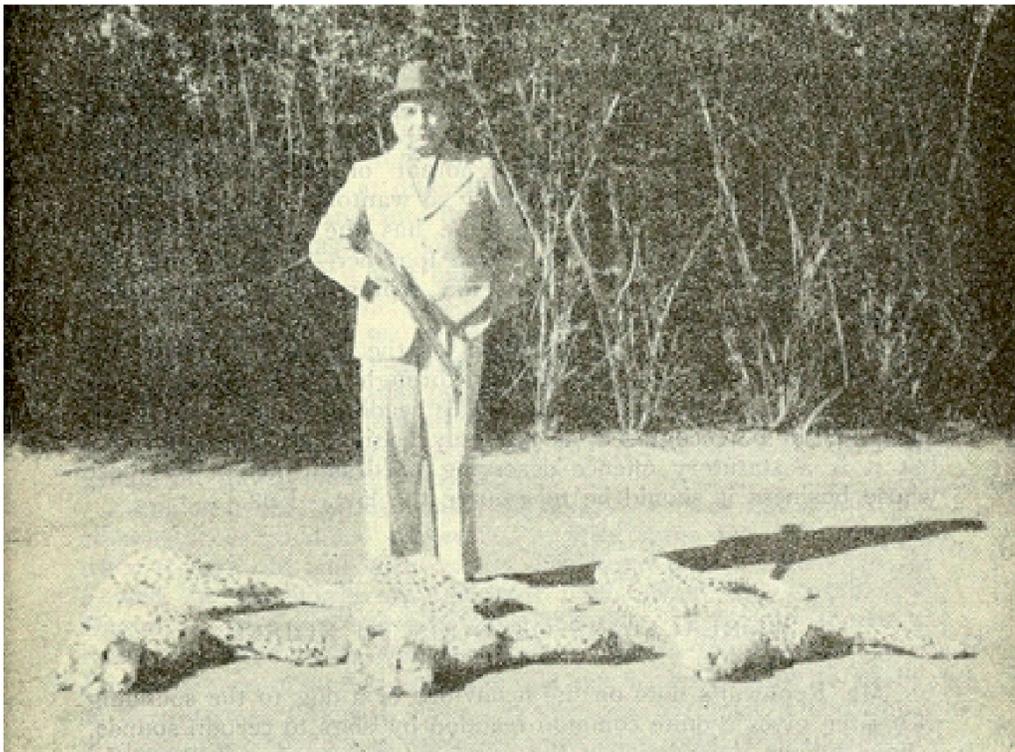
**Fig. 2.** Cheetahs of Gaekwar Sayaji Rao III (1875-1939), 12th Maharaja of Baroda.

(Source: Picryl- Public Domain Media <https://picryl.com/media/three-cheetahs-with-handlers-in-baroda-in-the-1890s-2733dd> - accessed on 12.04.25)



**Fig. 3. Painting by George Stubbs (1724-1806) depicting a cheetah with two Indian attendants and a stag.**

(Source: Wikimedia Commons- <https://picryl.com/media/george-stubbs-cheetah-with-two-indian-attendants-and-a-stag-c5934c>)



**Fig. 4. Photo credit- The journal of the Bombay Natural History Society (accessed on 12.04.25) <https://www.biodiversitylibrary.org/page/48201876#page/965/mode/1up>**