
Keywords: 7RU/7SW/Acinonyx jubatus/Acinonyx jubatus venaticus/Asiatic cheetah/behavior/cheetah/dental formula/distribution/ecology/habitat/morphology/skull/taxonomy

Abstract: This book chapter describes the morphology and the distribution of the cheetah in the former URRS and adjacent countries. A description of the Transcaspian cheetah is given. In 1934, Flerov compared the skull structure of the Transcaspian cheetah with the African one and described the differences. Some reports from the Turkestan region, between 1852 and 1932, are also listed.
MAMMALS of U.S.S.R.
and
ADJACENT COUNTRIES

Vol. III
CARNIVORA
(Fissipedia and Pinnipedia)

Translated from Russian

Published for the National Science Foundation, Washington D.C., by the Israel Program for Scientific Translations, Jerusalem 1962
The tiger is also hunted by means of enclosure traps containing bait (horse or cow). The narrow entrance door of such traps closes automatically when the tiger enters. Interestingly enough, the tiger never touches the animal tethered as bait when trapped in this manner.

The price of live Siberian tigers rose greatly in recent years. Hagenbeck, the proprietor of the famous menagerie near Hamburg, paid 1,000 pounds starting for an adult male, 500 for a tigress, and 100 for a yearling cub. The quest for profits spurred a number of hunters to apply extremely unusual methods to capture the beast. "The entire hunt" writes Baikov "consisted in loose a pack of fierce dogs on the trail of the tiger, which they finally hold at bay. The hunters approach and one of them offers himself to the tiger by falling face downward on the snow. Simultaneously two helpers throw a satchel net over the head and shoulders of the tiger, and now the end fast. The animal then abandons the hunter and tries to escape from the net, but only succeeds in entangling itself further, and is finally trussed up like a calf with ropes and transported to the destination. Such hunting, of course, requires an extreme degree of stamina, health, patience, daring, and knowledge of the beast's nature. The slightest inattentiveness or carelessness, the smallest slip, threatens the hunter with death. But the high price tempts many to place their lives in the balance. Only young tigers less than 2 years of age and weighing less than 160 kg may be caught in this manner; animals older or heavier than this are hard or even impossible to capture, as their great strength combined with their agility and weight may nullify all attempts not only of three but even of 10 hunters."

The number of tigers taken may be seen from data by M.I. Teleshchev (Economic Survey of the Far East, 1929); 5,500 skins were captured in the Amur territory in 1912-1914 period. The economic significance of the tiger in the USSR for industry is slight, despite high price of pelts, since the number of skins prepared does not exceed 20 per year. The world tiger catch does not exceed 500 animals yearly (B.A. Kunstofe, 1932).

**SUBFAMILY ACINOCHINAE. CHEETAHS**

Cats with very long, thin, and well built limbs. General structure resembles that of dog due to length of legs. Large nonretractile claws. Body covered with round solid black spots, lacking pale center, as distinguished from snow leopards and Siberian snow leopards, which have larger rosette-like spots with centers 100 to 150 yards.

The vitality of the tiger, like that of all cats, is astounding. Cases are known of severely wounded beasts being shot to death and later found alive. The tiger sometimes ambushes the hunter in order to launch a sudden attack.

GEOGRAPHICAL DISTRIBUTION OF GENUS: Inhabits all of Africa, and southwest Asia, where it lives in Iran, Turkmenia, and most of India, from Punjab through Rupatama east to boundary of Bengal and south
Deccan. Southern range of Indian cheetah not yet precisely determined. Definitely absent on shores of Malabar and in Ceylon. Nine forms known today. M. Hilzheimer (1913) believes that six distinct species exist, with two included in the Hilzheimer subspecies of Africa, G. guttatus. The number of species is hardly so large, and many will have to be regarded as subspecies. *Acinonyx rex* was recently named by P. Pocock from Rhodesia (South Africa) and is undoubtedly a distinctly differentiated species.

**Genus *Acinonyx* Brooke.**

1828


Large long-legged cats marked by spotted fur pattern with numerous round dark spots scattered on yellow or yellowish background.

Tail has pattern of dark spots; its predistal portion has one to three quite prominent black rings, followed by light band and broad black tip portion (some 110 mm wide); the very tip of tail whitish.

Relatively short body set on quite long limbs. Ears quite short, broad, rounded. Cheek whiskers absent; small mane present on back of head. Tail somewhat longer than half of trunk. Claws nonretractile, very large, to 40 mm; convexly bent, not as sharp as in common cats. Papil round.

Skull markedly shortened, brain case expanded, somewhat narrowing anteriorly. Frontal area very convex, very markedly rising over rest of skull. Cheetah readily distinguished from all Soviet cats, by extremely elevated frontal area, this feature being much more marked than in Siberian snow leopard.

Longitudinal groove absent in middle of frontal area. Quite distinct depression visible only in very anterior section of this area behind nasals.

Orbits broad and oval, set at oblique angles to frontal plane of skull. Lower anterior edge of orbit lacks distinct antero-lateral edge thickening. Process extends internally from jugal bone, falling far short of lacrimal foramen (in adults) or reaching aperture (in young). Entire lower edge of orbit formed by maxilla, and jugal bone protrudes gently anteriorly without previously mentioned angle at upper external corner of infraorbital foramen. Height of lower edge of orbit measured perpendicularly on line extending through infraorbital foramen approximately 6/7 of width of interorbital distance.

---

* From Greek, e- (negative), che-s (to move), oste (bone), and -as (class). Synonymy in recent literature.

** Each of them solid, dark, and lacking light central areas.

Infraorbital foramen very small, long, obliquely set, with slight internal inclination at tip; diameter half as wide as space between foramen and orbit. Frontal process of maxillaries of moderate width, tapering roundedly in upper portion. Width between anterior edges of nasals markedly greater than half width of brain case behind postorbital process. Maximum length of nasals (measured on anterolateral protrusions) almost equals width of skull before mastoid process.

Palate short, width almost equal to length. Posterior palatal incisure without posterior protrusions, but on contrary has sharp-angled hollow, tip pointing anteriorly. Presphenoid constricted without irregular plate appendages on either side. Distance between external edges of alveoli of canines equal to half width between tips of postorbital processes (in adult animal) or markedly greater than this width (in young individuals).

Ossseous bullae markedly inflated. Anterior chambers relatively small, edge of anterior chamber falls far short of posterior process of jaw articulation. Line separating anterior and posterior auditory chambers begins anteriorly, shifting somewhat internally to stylohyoid and usually terminating posterior to foramen of Eustachian tube.

The ossseous bullae quite close together, minimum distance between them equal to half width of mesotympanoid fossa or somewhat more than this (in young individuals).

Jugular foramen (lacera posticus), small and rounded.

Width of external auditory meatus approximately that of alveolus of upper canine (this feature requires additional verification). Coronoid process directed posteriorly and tapering markedly superiorly. Size of condyle process small. Transverse width of process somewhat more than half of length of all molars and premolars on one side of lower jaw.

---

**Figure 115. Skull of cheetah, *Acinonyx vanosatus*, former Peterburg Zoo, Coll. ZMA, No. 2565. Photograph by S. L. Ogorov.**

**Figure 117. Skull of cheetah, *Acinonyx vanosatus*, former Peterburg Zoo, Coll. ZMA, No. 2595. Photograph by S. L. Ogorov.**
First premolars present in upper jaw. Upper premolars markedly shifted anteriorly. Distance between posterior edge of alveolus of canine and anterior portion of alveolus of p3 approximately one half of longitudinal 309 length of p3. Fifth cusp of anterior external corner of carnassial slightly marked in form of small denticles (at edge of cingulum). Internal lobe of upper carnassial almost undeveloped as in manul.

**DENTAL FORMULA:** i 3/1 c 4/3 p m 4/3 m [30].

**TYPE SPECIES:** Felis jубatus Schreber (1776).*

**GEOGRAPHICAL DISTRIBUTION:** This is given in the review of the subfamily.

**Acrinonyx venaticus raddei Hilsheimer.**

**Transcaspian cheetah**

1913 (Figs. 138-138)


1922. **Acrinonyx jубatus** Schreber, M. Félides Kvasov (Felides of Caspia), Invertebrates of the Transcaucasian Carnivoromorphous Fauna, No. 2, p. 25.

**NAMES:** Hunting leopard, cheetah, cheerta (Eng.); der Gepard oder Jagdleopard (German); Guepard d'Aile (French).

**LOCAL NAMES:** Turkmémian and Uzbek, "uluban"; Uzbek, "mynlike"; Kazakh, "yota, yota-pelyeng."

**TYPE LOCALITY:** Transcaucasian Region. Specimen taken as type purchased in Merv.


**DIAGNOSIS:** Systematic features were reported in the description of the genus. Length of body to 104 cm; height at shoulders approximately 65 cm.

**DESCRIPTION:** K. A. Satunin provides a detailed survey of the coloration of the Transcaspian cheetah from a specimen from Merv. A quotation from this author is presented below:

"Background of upper part of body and external surface of limbs glossy rust-brown; anterior muzzle very light, almost white, with rusty-tan tinge. Bridge of nose light brown. Brown-black stripe extends from internal corner of eyes anterior to nose, then turns at angle directly downward to end near external corner of mouth, where it expands into brown-black spot. Eyes surrounded by white field, which is crossed by above stripe, which extends to halfway down nose. Eye surround above by thick band of very light, coarse, shiny black lashes. Small longitudinal vertical dark-brown spot on forehead over internal corner of eye. Two parallel rows of small indistinctly marked dark-brown spots extend posteriorly somewhat receding from external corner of eye. Upper lip, region of paws, chin, and neck, pure white. Side of neck from white field beyond ear approximately to shoulder almost white with light brown shade. Admixture of pure white hair may be seen on cheeks. Ears of moderate size, broad, bluntly rounded. Externally, from base of skull to distal third, dun-colored; internally covered with long white hair, and on edge with short light rusty hair. Broad forehead darker than rest of head, lighter reddish-rust, and very densely beset with small black spots, sometimes grouped into indistinct irregular longitudinal rows. Spots absent only on anterior muzzle and neck. Rest of body covered with spots more regularly and uniformly than in any other animal. Top of head thickly covered with black spots somewhat larger than on forehead. Longitudinal rows of spots begin here, diverging backward and then passing to sides of neck, descending in shoulder region to flanks. Hair becomes longer posteriorly, forming mane from back of head along upper part of neck to end of inter-shoulder region, and consisting of long somewhat curly hair up to 8 cm long, of same color as rest of trunk, but with thickly set, markedly elongated black spots. Mane of many black, not glossy; rest of body: mane erect, as usually described, but closely pressed to body, and hardly visible when animal is quiet, but stands on end when cheetah is angered. Spots on neck not round, have dull brown color. Spots on entire upper
body from shoulders more or less rounded, glossy black, appear embossed, since black hair forming them longer than light hair of background. Spots so dense on spine in some places they touch, even almost fusing. Common size of spots about that of 1-kopek piece, but larger spots 2-kopek pieces in size present on mid-back and posterior half of body; spots on limbs small and partially elongated longitudinally. Posterior limbs are spotted to calcaneal joint, and anteriorly to toes.

Posterior surface of paws light rust. Claws whitish; beginning from neck entire lower part of limbs, and to some extent internal surface of feet, white. Ventral side of long tail white over entire length; basal third of dorsal side of tail, same intensity of hue as back, becoming gradually paler and with distal third white-banded. Proximal two thirds covered by irregular black spots and distal third has only large longitudinal spots lying in pairs on each side, which are closer together toward the tip and form four broad rings which are separated by very narrow white ring just before tip. Tip of tail white."

Photograph by S. I. Orlov.

TAXONOMIC NOTES: The nomenclature of the cheetah is highly confused. N. Hollister tried to establish a correct specific nomenclature for the Indian cheetah. Most authors call the species Felis (Acinonyx) jubatus Schreber.

From the book Schreber (Säugethiere, vol. III, 1778, S. 369), we learn the following: "Das Vaterland dieses Thieres ist das südliche Afrika; man bezeichnet die Felle vom Vorgebirge der Guten Hoffnung. Nach Herrn Pennant ist es auch in Indien einheimisch."

From the data presented, it would perhaps seem that the terra typica of Felis jubata Schreber is undoubtedly South Africa, i.e., Cape of Good Hope. N. Hollister also came to this conclusion. However, M. Hilzheimer (1913) sharply contradicts this. Comparing the description of Schreber with the colored figures of his book, plate CV, Hilzheimer comes to the conclusion that this figure distinctly depicts the Indian and not African cheetah. This conclusion is risky considering that the figure in Schreber's work is very poor. In general it is difficult to recognize in the short-legged, depressed-looking animal anything even slightly resembling the long-legged, slender beauty we know as the cheetah. In addition we must keep in mind, according to which Felis jubata is the African cheetah.

The most correct name for the Indian species, as indicated by N. Hollister (1911), would be Felis venatica Smith 1828 (Acinonyx venator Brookes, 1828).

With regard to Felis guttata Hermann, in the book of this author, firstly, a completely disparate description is given, totally inapplicable to any cheetah at all; secondly the range is not described, and figures are lacking. G. L. Duvernoy* once showed clearly that the serval and not the cheetah is described in "Observations Zoologiques." Thus, the description of this cat in Hermann's book may be disregarded. To add to the confusion it may be noted that Hermann relies on the work Prosper Alpin, Historia naturalis Aegypti, 1755, tabl. XV, fig. 1, p. 38, where a cat is depicted which, according to Hermann, is identical with his Felis guttata, but actually the book of P. Alpin gives the figure of a young panther living in Cairo in the house of a Greek courtyard.

Despite such unworthy material in the literature, M. Hilzheimer considers it possible to retain the name Acinonyx guttatus Hermann for the African cheetah. This author relies on the fact that Schreber's book (1778, i.e., pl. CV, B) presents a figure of "Felis guttata Herm."

In this figure, Hilzheimer, exercising a degree of perceptivity that is in my opinion to some extent excessive, claims to recognize the cheetah form the Cape of Good Hope.

312 In "Supplementum", vol. II, to the book of Schreber, "Die Säugethiere", I. A. Wagner (1841) says that the figure of the third volume of this book (pl. CV, B) was presented by Hermann. All this, however, does not entitle us to assert, as Hilzheimer does, that although Hermann provides no description he does have a figure (p. 388). This figure occurs in a completely different book and the location from which the animal in the picture was obtained is not given.

Thus the name Felis guttata Herm., having nothing to do with the cheetah, must be discarded.

In conclusion we may dwell on some critical remarks with regard to the Transcaucasian cheetah itself. Hilzheimer (1913) thought it possible to provide a specific name for this animal on the basis of only a single photograph, and a poor one at that, of a mount reproduced in Vol. VI of "Collections of the Caucasian Museum", pl. 10, 1912. Now, description is possible on the basis of such "material". Some color features of the Transcaucasian cheetah were undoubtedly taken by Hilzheimer from the review of this form given by K. A. Satunin in 1909. In addition to some color features, Hilzheimer speaks of a very long hair cover and large spots on the fur pattern of the Transcaucasian cheetah.

I believe it is quite possible that the Transcaucasian Acinonyx is a distinct subspecies, but this requires further careful analysis of good material, which unfortunately is not yet available to anyone in the USSR. I provisionally retain the name given by Hilzheimer.

K. K. Flerov (1934) recently compared the skull structure of the Transcaucasian cheetah with the African one, coming to the following conclusions:

In the Transcaucasia
1. Posterior nasal fossa high, narrow
2. Tympanic bullae convex
3. Infraorbital fossae oval
4. Anterior nasal fossae oval

The call of the cheetah is unique. It purrs like a cat for a long time, but somewhat more deeply and more coarsely. When excited it spits like a horse and snaps its teeth ferociously, giving vent to a characteristic growl. Sometimes peculiar petulant whimpers are heard which Blieck compares with the bleating of a goat. Its diet consists of various desert birds, larks, small mammals, such as the Tibetan hare, Meriones, hare (Lepus tibetanus desertorum), other hares and particularly gazelles.

Due to its natural agility, ability to steal up on prey, extreme sure-footedness, quick motions, and extremely rapid running, the cheetah can overtake the various kinds of prey in the desert which have been provided by beautiful and startling nature.

There is no information regarding the reproduction, nesting, gestation, etc.

In captivity it is readily domesticated.

In India the cheetah is used for hunting antelopes and hares.

---

* Compare below with data by S.I. Bilibinich, 1918.