Hufnagel E. 1972. Cats (Felidae). In: Libyan mammals. The Oleander Press; p 41-44.

Keywords: 1LY/Acinonyx jubatus/African wild cat/Caracal caracal/cheetah/distribution/Felidae/ Felis margarita/Felis silvestris/Felis silvestris lybica/observation/sand cat/skull/status

Abstract: The cheetah is very rare in Libya and the number of individuals is declining. 30 years of observational data (from 1932 to 1969) are resumed in this document. A map shows the localities of the observations. The cheetah was already so rare at that time that every sighting was an event and got a lot of attention. Some skull measurements of three skulls from Libya are presented. The skulls were given to the Museum of Natural History in Vienna.

No Af + SW As

409

car
sillyb
jub
mar

taxonomy
distribution
Status
Libya

LIBYAN MAMMALS

ERNST HUFNAGL

with the collaboration
of

A. Craig-Bennett

Contributions by

Olwen Brogan and R. J. G. Savage

Illustrations and Keys by

Ed. van Weerd

THE OLEANDER PRESS

1972

dogs rarely harbour the tapeworm, *Taenia echinococcus*, which can so easily cause the very serious hydatid cyst in man, although this parasite is prevalent among canids in Egypt, Tunisia and Algeria.

Distribution: Hyaenas seem to have developed in Africa where there are three species. At one time there were hyaenas in Europe but today only the Striped Hyaena is found outside Africa, in South Asia.

In Libya Striped Hyaenas are getting rare but in the past they have been reported from many different parts of the country. The fine group in the Tripoli Museum were obtained from Jefren in the Jebel Nefusa. A large male was shot near Ghadames in 1964; the writer obtained the skin and skull of a small female from near Gharian in 1966 and in February 1970 a large, fully grown specimen, which was said to have killed a donkey, was poisoned with strychnine by farmers of Tarhuna and taken by E. van Weerd near Tarhuna waterfall: the skull is preserved in the University Museum, Tripoli.

One of the best places to see hyaenas, sometimes even in daylight, is 65 km. north of Gialo and Augila, east of the road to Agedabia (29°54'N, 21°13'E) on Concession 31. This is about 60 km. west of the Oasis of Gikherra, on the border of a saltmarsh, with plenty of halophytic shrubs. The hyaenas have dug numerous burrows in the walls of the Wadi Mara. In particular there is a conspicuous black hill which in places is honeycombed with their dens. Here hyaenas can be found all the year around in groups of up to seven. Elsewhere in Libya hyaenas are seldom seen except solitary individuals or in couples, and then nearly always after dusk.

Libyans distinguish two forms of Hyaena—the 'Dabbah el Hamar' or 'Iena argentata' of the Italians, which is striped with black and silvery grey, and is a larger hyaena said to attack donkeys: the other form is called 'Dabbah ghanem' or 'Iena marrone' in Italian. In this small form, the stripes are black or brown and it is said to attack lambs only. The colony of hyaenas west of Gikherra are of the larger form, but elsewhere, the two forms are said to live side by side. It is possible that these two forms correspond to the *Hyaena hyaena vulgaris* and *Hyaena hyaena barbara* mentioned by Setzer in 1957.

One curious fact about hyaenas is that it is unusually difficult to determine their sex by external inspection. In the male, the testes descend into the scrotum only during the rutting season. In the female, the clitoris can hardly be distinguished from a penis. There is often a scrotum-like structure filled with fat or connective tissue and the vulva, outside the periods of sexual activity is tightly closed or even overgrown by mucous membranes. All this has given rise to the opinions frequently expressed that hyaenas are hermaphrodite, which is of course quite untrue.

CATS Felidae

Cats, Caracal, Cheetah

The cats are perfectly developed carnivorous nocturnal hunters with large eyes which have contractile pupils, short high rounded skulls and retractile claws: tracks (Figs. 77*, 78*). Despite considerable differences in body size they all have somewhat the same shape except the cheetah. Although superficially the cheetah may be thought to be rather like a dog; nevertheless there is no doubt that it is a cat. All cats have extremely well developed carnassial teeth, the flesh-cutting last premolar in the upper jaw and first molar in the lower jaw. The other molar teeth however are generally insignificant. The cats can bite off flesh effectively but do not crush or chew their food. They usually lie in wait for their prey or creep up to it, finally securing it with a mighty spring, the cheetah is however an exception. It lives in the open where there is little cover for a stealthy approach to its prey which it usually catches by running it down at great speed.

The various cats, unlike dogs are individualists in their hunting. Grouping into packs or prides is exceptional and in general only one of a kind is found over a large area.

CARACAL

Felis caracal Schreber

Identification: Key 4 - 1b Fig. 25 Photo Frontispiece

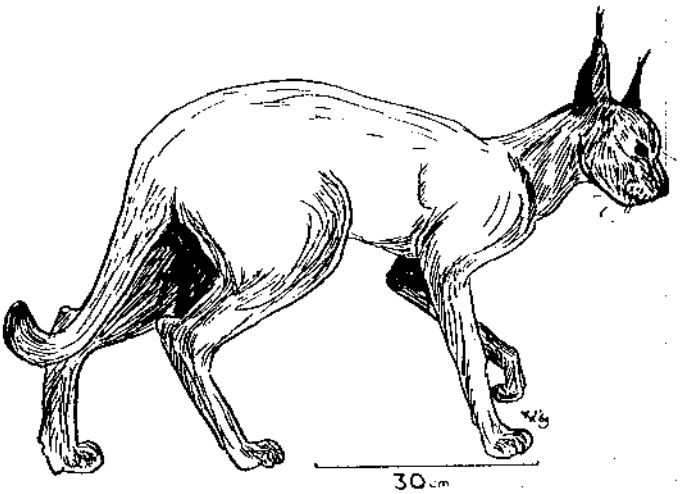


Fig. 25. Caracal Lynx *(Felis caracal)*

The Caracal is the lynx of Africa, closely resembling the body form of the lynx of Europe, North America and North Asia. In particular they have the characteristic lynx-like tufted ears and short tail. The fur is sleek and the body colour of the Caracal is a uniform reddish brown similar to that of a lion although occasionally a few brown spots may be seen along the abdomen.

There is a dark spot over each of the eyes which are brilliant green or yellow in colour. Chin, throat and upper lips are white, the lips often being bordered with black. The backs of the ears are black and the strong tufts which may be 80 mm. long look like black brushes. Approximate measurements of an adult are: total length 1000 mm., tail 300 mm., hind foot 190 mm., height at shoulder 460 mm., weight about 18 kg.

Habitat: Open savannah type of country or the coastal plain and rocky wadis.

Behaviour: Wild Caracals are very wary and have the reputation of being the most powerful and fiercest of the small cats. When pursued by dogs they fight or take refuge in a tree.

In fact little is known of its biology. In the national parks in South Africa and Rhodesia, Caracals feed extensively on large birds, which they take before dawn, and only occasionally on rodents, hares and small antelopes. There they may be seen on overcast days or just about dawn returning from their hunting to rest under boulders or dense thornbrush. In South Africa the 'Rooicats' are known to make excellent pets if taken very young.

In India, Caracals are kept to hunt Blackbuck and in Iran and Afghanistan they are sometimes released amongst a flock of house pigeons in a courtyard and bets are made on the number which the Caracal will catch before they flutter out of reach. The extraordinary jumping ability of this animal is due to its powerful hind legs and associated muscles.

The Zoological Society of London has a very fine specimen presented by King Hussein of Jordan. It was taken in the Jordan Valley near the Dead Sea as a juvenile but it has now bred several times and has become very friendly with its keeper. There is an excellent portrait of this animal in Harrison's 'Mammals of Arabia'.

In this specimen the ear tufts bend in an arch and the same feature has been noted in specimens in South Africa but this has not been seen in a Libyan specimen.

The late Mr. C.E. Cade and Mr. Raymond Hook raised Caracals in Kenya and successfully bred with a second generation captive-born male and a wild female, taken when very young. The period of gestation is 78 days; the kittens develop

rapidly, raising their heads at two days, crawling at three days and having their eyes fully open at six days. Caracals become sexually mature within two years (Cade, 1968).

Food: Small mammals and birds.

Distribution: The Caracal is found in Russian Turkestan, Afghanistan, India, Iran, Iraq, Syria, Saudi Arabia and generally throughout Africa. Nowhere, however, is it common and in Libya where it is confined to open savannah type of country it is extremely rare. The few reports of the Caracal are confined to the coastal plain and rocky wadis.

There are three mounted specimens in the Tripoli Museum, two of these were taken in 1951 and 1953 in the Wadi Etel which runs from the Jebel Nefusa from Jefren towards el Agelat and Sabratha. The third specimen was obtained in 1946 from Sirte. The Caracal does not seem to have been recorded from eastern or southern Libya, but as it is a rare animal which easily escapes detection by man, it does not follow that there are none in these areas. In 1966 a fine specimen was shot by Mr. Mohamed Daw, a senior mechanic of Oasis Oil Company at Bir Dufan, 60 km. south of Zliten, north east of Beni Ulid. This Caracal had been reported as a jackal which could not be caught or driven away by dogs when worrying sheep. Herders in this locality say that a Caracal will sometimes lie motionless in front of sheep or gazelle only moving the tufts of its ears, attracting its prey to come closer to investigate.

However, it is doubtful if sheep or gazelle are the usual food of the Caracal.

AFRICAN WILD CAT

Felis libyca Forster

Identification: Key 4-2a Figs. 26, 66, 87*

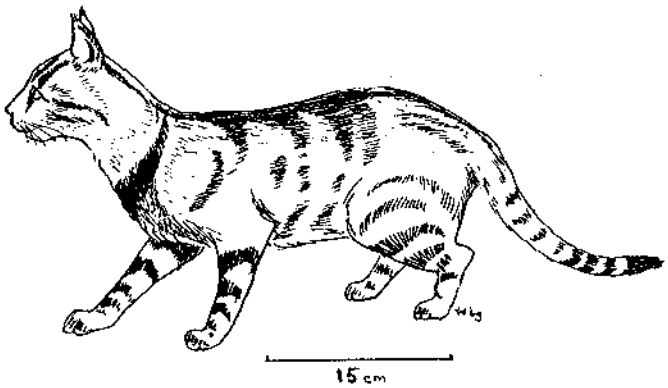


Fig. 26. African Wild Cat *(Felis libyca)*

The African Wild Cat, in the opinion of many specialists, is the ancestor of the domestic cat, it being generally assumed that the wild cat was domesticated by the ancient Egyptians about 4,000 or more years ago.

The African Wild Cat looks at first sight much like a domestic tabby cat but the plan of colouration is different. The ground colour is light sandy grey, at times with a pale yellow or reddish hue. There is a dark stripe along the back, the flanks are lighter and the underparts whitish. Two dark horizontal stripes on the cheeks vary from dark ochre to black and there are four to six stripes of the same colour running across the throat. On the body there are pale washed-out vertical tabby stripes, often dissolving into a row of spots that may be hardly visible. There are always two dark rings on the forelegs, a feature which led to the use of the word *maniculata* in some scientific names, the word meaning handcuffed. The hind legs are also striped. The underside of the feet are dark brown or black. The ears are reddish to grey on their backs and white inside. Animals living near the desert have the entrance to the ears guarded by long light yellow hairs.

Specimens from eastern Libya have been described as a subspecies *Felis libyca cyrenarum* by Ghigi, which is slightly bigger and more robust than the cat of the open plains, darker in colour and with black slightly tufted ears. This bush or macchia form is according to Pocock, identical with the wild cat of Sardinia, Corsica and the wooded mountains of Morocco a subspecies known as *Felis libyca sarda* Lataste.

The taxonomy of wild cats has been and still is the subject of much discussion. Readers who are interested in these matters should consult Pocock, Morrison-Scott, 1952, Haltenorth and Weigel. Haltenorth, after an exhaustive study of the museum specimens of the small Palaearctic wild cats came to the conclusion that both *Felis libyca* and *F. libyca sarda* are subspecies of *Felis silvestris* the European Wild Cat. He even classified the domestic cat, *Felis catus* and thirty-seven other forms of small cats found in Africa, Asia and Europe all as subspecies of *F. silvestris*. Haltenorth maintained that all forty subspecies evolved from a common ancestor which originated in the steppes of central and western Asia. According to this authority only two true species evolved from *F. silvestris*, the Sand Cat, *Felis margarita* mentioned below and *Felis nigripes*, the Black-footed Cat of the Kalahari desert.

Haltenorth's conclusions have not been accepted in full by all authorities. It has been pointed out that there are important physiological differences between many supposedly closely related subspecies which may outwardly look very similar. For example, the period of gestation of the European Wild Cat *Felis silvestris* is 68 days, while that of the African Wild Cat, *F. libyca* is 56 days which is close to that of the domestic cat *F. catus* which carry their young for 55 days.

In Libya much crossing between the African Wild Cat and feral domestic cats has taken place and this is reflected in the exhibits of *F. libyca* in the Tripoli Museum. The three specimens all look different although they all come from the Jebel Nefusa and the Jefara, only one appears to be a pure bred *F. libyca*.

Habitat: Coastal zone, pre-desert; never in the true desert.

Behaviour: Oilmen who have found kittens of the African Wild Cat under bushes on the southern slopes of the Jebel el Akhdar and tried to tame them have given up when their captives refused food for several days after their capture and released the little 'spitting devils' on the advice of the writer. There seems to be a considerable variation between different populations of *F. libyca* in the ease with which young specimens can be tamed. There are abundant records of the tribes of northern Congo easily taming even half grown African Wild Cats. The writer has seen an adult female in the Vienna Zoo which was caught near Timbuctu which, according to Dr. Weidholz who brought her was extremely shy during the first three or four weeks after its capture but became as tame as any purring cat at the Zoo.

Food: Small mammals, birds, reptiles and even insects.

Distribution: The African Wild Cat is still found in small numbers in Egypt but the Nile Delta also harbours the much bigger Jungle Cat, *Felis chaus*, a species which is distributed all over southern Asia and the Middle East. It has rather large slightly tufted black ears, a tail that is less than half the length of the head and body and reddish feet. This species has been reported from the Qattara depression. It seems possible that a 'large dark wild cat' reported by Beduin near the salt marsh country south of Agedabia in eastern Libya may be a specimen of the Jungle Cat.

In Libya the African Wild Cat is found all along the coastal zone and pre-desert; while never common it is up to the present not rare. It is never found in the true desert. It is most common in the wooded plateau of the Jebel el Akhdar of eastern Libya.

SAND CAT

Felis margarita Loche

Identification: Key 4-2b Fig. 27

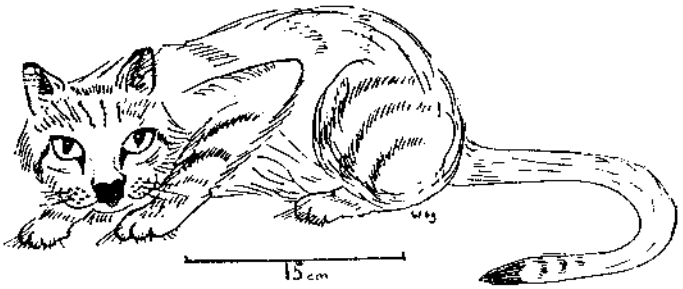


Fig. 27. Sand Cat *(Felis margarita)*

The Sand Cat was discovered a little over a hundred years ago by General Marguerite in the sand dune country near Négonça in Algeria, right on the border of Libya. It is one of the rarest mammals in the world and few have been found since it was first discovered, some in the western desert of Egypt, others in Air, in Niger and in the Adrar mountains of Mauretania. Harrison (1968) records that this species is known from a few occurrences in and near the Rub' al Khali in Arabia. It has not yet been recorded from Libya but as it has been found so close to its borders and its preferred habitat is the remote sand regions of the Sahara, it is very probable that it will be found within the borders of Libya.

The Sand Cat is a small sand-coloured cat with long and silky hair. The total length is under 600 mm., and the legs are noticeably short. The soles of the feet are completely covered by a mat of hairs that hide the pads completely, no doubt this feature is a great help when walking over fine loose sand. There is a somewhat grey area over the back, the flanks are light yellow-grey with very faint light rusty stripes on the sides. The flank colouration is so light that from a distance the animal looks almost white. There are five horizontal dark brown bands on the outer side of the fore-limbs and six on the thighs of the hind limbs. Four pale yellow longitudinal stripes are on the neck and a reddish 'tear stripe' runs down from the inner angle of the eyes which are themselves greenish-yellow. The hairs of the cheek form a conspicuous white moustache. Long white hairs cover the inside of the ears and the tip of the ears are black. The tail is faintly ringed and its tip is black or dark brown. The skull is notably broad with zygomatic arches and enormously inflated tympanic bullae.

CHEETAH

Acinonyx jubatus Schreber

Identification: Key 4-1d Figs. 28, 70

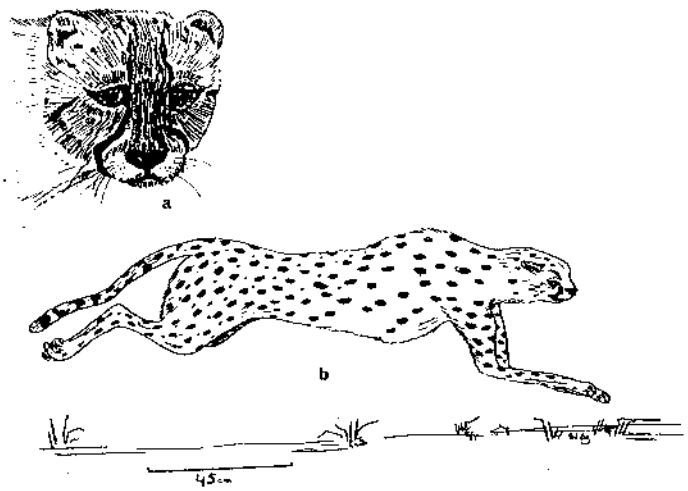


Fig. 28. Cheetah *(Acinonyx jubatus)*

The cheetah is the largest carnivore found in Libya. It is a long-legged spotted cat with a long tail. It bears some resemblance to a leopard, a resemblance which is greater in illustrations than in the living animals. Compared with a leopard the head is smaller, more rounded with rounder ears and is usually carried low, the cheetah is longer in the leg, its coat is wiry and there is a short mane along the back of the shoulders. The dark markings on the face, the so-called 'tear lines' which run from the inner angle of the eyes to the mouth impart a sad gentle expression to its features and are very characteristic of the animal. The general colour of the coat varies from a near white to a rusty yellow. Cheetah taken in the south of Libya are whiter than those taken further north. Small solid round spots of black are dotted densely all over the body except on the face. The tail is long and towards its white tip it is ringed with black. On the body the spots are not grouped as they are in a leopard and the large yellow-brown eyes reveal its essentially gentle nature and have none of the ferocity of the eyes of the leopard.

The claws which in the adult are only partially retractile are rather dog-like but there is an extremely sharp dew-claw on the inner side of the fore-legs with which it can inflict quite deep cuts and which it uses to hold down its prey.

The largest cheetah taken in Libya known to the writer had a total length of 2010 mm., tail 760 mm., height at shoulder 760 mm. but it was unusually large. Specimens from northern Libya have a maximum weight of 30 kg., those from the south may reach 45 kg. but cheetah from Sudan and East Africa commonly reach 65 kg. There is little obvious external difference between the males and females although the males are generally larger and have a more pronounced mane on the neck.

Habitat: The natural habitat of the cheetah is open savannah where it can find gazelle and hares.

Behaviour: The cheetah generally hunts during the day and no doubt this habit has contributed to its extermination by day-hunting man. However, in Libya during the hottest months of the year cheetahs have occasionally been seen hunting in the night. It hunts by sight and has a unique capacity for running very fast for a short time. The cheetah is the swiftest land animal known and tame cheetahs have been timed to travel at 90 km. an hour over a distance of 350 metres. In Libya police and oilmen who have chased cheetah, although the animal is protected, say that a cheetah can keep up a speed of nearly 90 km. per hour over a distance of 6 to 7 kilometers but then lies down, rolling over on its back completely exhausted and in this position of surrender can easily be captured. In western Libya and in Tunisia Beduin maintain that any persevering hunter on foot can tire out a cheetah in a day's march if he can follow its spoor over sand and that he can finally capture it with his bare hands.

Cheetahs usually hunt in pairs or threes following their prey by sight and overtaking it they bring it to the ground by attacking its hind legs. They then kill it by attacking the throat and after that tear open the belly. The details of how a cheetah eats its prey are of interest because they enable a tracker to decide whether an animal has been killed by a cheetah or for example a leopard. In the summer of 1966 a rather large horse was killed near Beni Ulid, and it is thought that this may have been killed by a leopard rather than a cheetah although the leopard has not been recorded in Libya. Leopards are still found, and are protected in Morocco and in 1932 one was reported by Flower at the Siwa Oasis in Egypt. They are still found in Arabia.

Cheetahs have been bred in captivity, although not as easily as some of the other cats, and it is hoped that those who want a cheetah in captivity will get one bred in captivity and not still further reduce the few wild specimens left. Details of breeding cheetahs in captivity are given in the *International Zoo Yearbook*, 1968, volume 8.

The cubs, which are born a smoky-grey with hardly any markings on their woolly coat, have retractile claws which they use in climbing trees.

Food: Mammals, from hare to gazelle.

Distribution: Until quite recently cheetahs were found in all savannah country in Africa but today it is rare except possibly in some parts of East Africa and Russian Transcaspia. It is practically extinct in India where nowadays cheetah are imported for hunting from Kenya. It is extremely rare in Western Pakistan, Afghanistan and Iran. Concerning Arabia, Harrison wrote in 1968 'Asiatic Cheetah *Acinonyx jubatus venaticus*: this is one of the most urgent conservation problems, perhaps already too late. An inhabitant of the open desert and steppe, it was last definitely reported in north Saudi Arabia and may yet exist in the remote desert tracts where the frontiers of Jordan, Iraq and Saudi Arabia meet'. The situation of the cheetah in Libya is very similar, indeed Ellerman and Morrison-Scott have questioned the continuing existence of the cheetah in Libya. The following record has been compiled of all known observations during the past thirty-six years.

1932. According to Scortecci, a female cheetah with three cubs was taken at Wau el Kibir in Fezzan at 25°15N, 16°45'E. The three cheetahs exhibited in the Tripoli Museum were also taken during the thirties. The large male was raised by Marshall Balbo and used to hunt hares and gazelle between 1937 and 1940. Records of cheetah being used for hunting, outside the Indian peninsula, are very rare; another is contained in Doughty's *Travels in Arabia Deserta*.

1955. An adult female was taken by Mr. J. P. Sainato of the transportation department of the Oasis Oil Company of Libya on the Egypt-Libyan border at 30°30'N, 25°E. The total length of this specimen was 1400 mm., tail 420 mm., and height at shoulder 630 mm. The specimen was shot from a helicopter.

1961. On 16th February, the police shot an adult cheetah at Khor el Gifa (El Khorgia) which is about 10 km. south of Misurata. It was reported to have attacked sheep and goats. On 21 June another adult was taken at Hamada el Homra, 40 km east of Sinauen. The head and skins of both these specimens were given to the Tripoli Museum.

1962 An adult male was shot by Mr. Daw Ibrahim of Oasis Oil of Libya at Gikherra in eastern Libya when it attacked and killed a camel foal.

1964. The writer was shown the skin of a very young cheetah cub in Tripoli and was told that it had been shot in 1964 near the coast at El Ftaia on a disused ex-Italian air strip, 25 km. east of Derna.

1965. A single adult was observed in the Wadi Agial in Fezzan, hunting gazelle among sparse 'talha' trees (*Acacia* sp.).

1967 Mr. J. Sainato reported sighting two cheetah close to the Egyptian frontier approximately 100 km. south of the coast. In the same year three adults hunting together were shot from a car by the brothers Mohamed Salah Maharugh and Belaid Maharugh of the Gaswassem tribe of Zintan in the Hamada el Homra. In February a cub was picked up alive by a professional transport driver at Attalieh in the Hamada el Homra and sold to an employee of Wheelus Air Base, Tripoli.

1968. On 1 January the police shot and killed an adult female near the Dahra Field of Oasis Company south of the Syrtic coast at 30°N, 17°30'E. In March the brothers Maharugh caught two live cubs near the old hunting reserve of Marshal Balbo at Bir Ghazal in the Hamada el Homra and presented them to the animal collection at Sidi Mesri Tripoli, where they died after a few days. In June at Gasra Buhadi 50 km. south of the town of Sirte two rather small females were shot by 'sportsmen' from Tripoli.

1969. In spring a not-fully grown male was caught near Mizda and taken to Sidi Mesri Agricultural Station at Tripoli where it was kept alive.

Mr. Mohamed Nga, has for some years kept a cheetah from southern Libya on his farm near Tripoli.

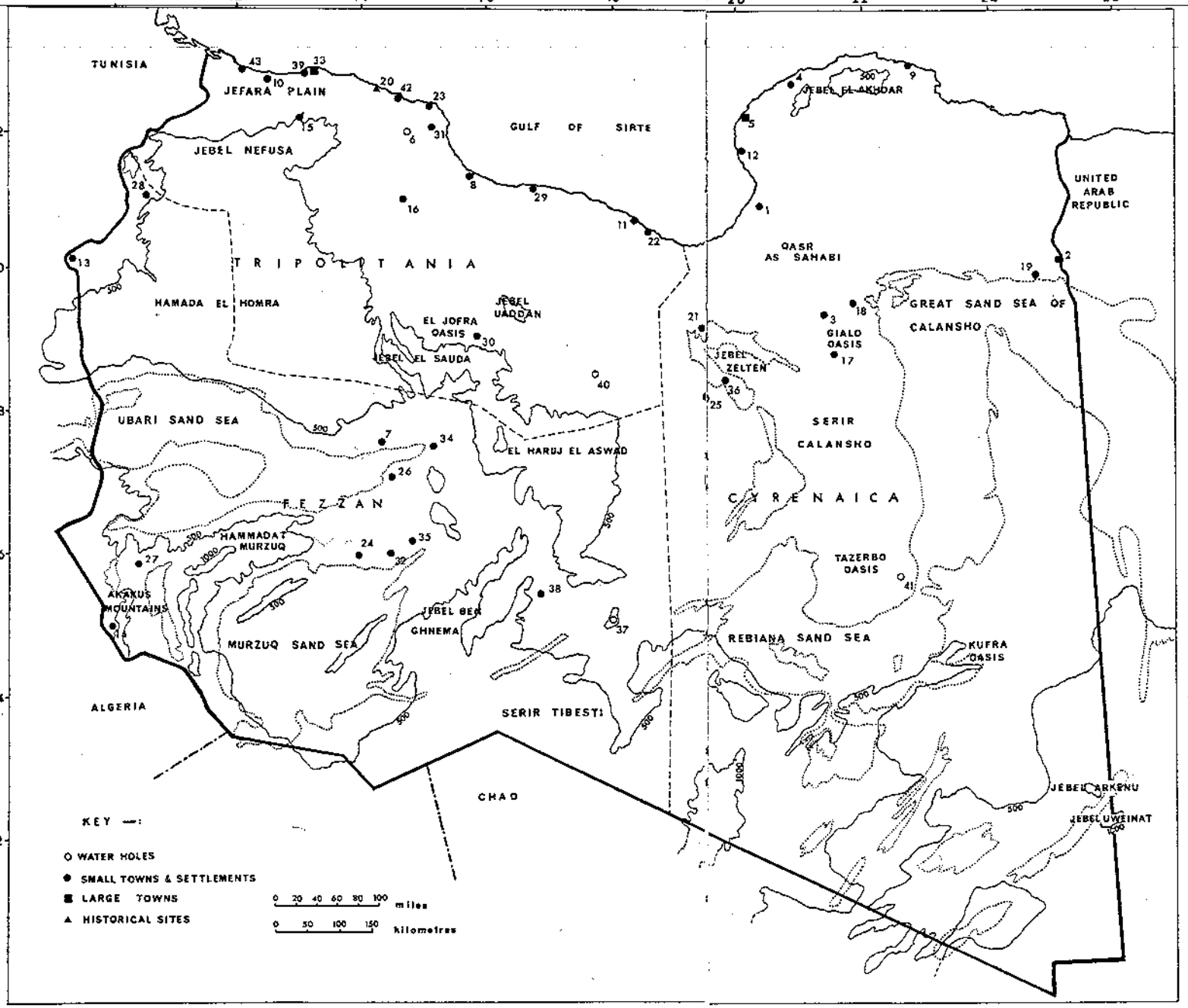
Skins of cheetah reach the market in Tripoli in small numbers, never exceeding five in a year. They are sold for around £30 each. These skins are reputed to come from Fezzan but may well come from much further south.

From the above record it might appear that the cheetah is still not very rare in Libya. However, the inquiries have been very intensive and probably comprise all recent sightings and captures of cheetah in northern Libya. The animal is so very rare that any sighting is an event and there is a strong suspicion that each of the animals killed may have been the last of its kind in the area. Unfortunately the rapidly declining number of gazelles forces cheetahs to prey on domestic animals and this has hastened their extermination. Only a strictly controlled nature reserve can save the cheetah in Libya from total extermination.

TABLE II The author donated the skulls of three cheetahs from Libya to the Vienna Natural History Museum (Naturhistorisches Museum, Zoologische Abteilung) where the following measurements, in millimetres, were recorded by Frau Dr. Friederike Spitzenberger:

Skull measurements of *Acinonyx jubatus*, all adult females	Egypto-Libyan border: NE Libya*	Dahra, Sirtica: N-central Libya	Bir Ghazal, Hamada el Homra: NW Libya
Condylo-incisive length of skull	Not taken; occiput damaged.	133.8	135.0
Zygomatic breadth	100.6	102.3	103.3
Upper tooth row, measured from the canine	47.8	47.3	46.0
Length of mandible	104.2	100.8	104.3

*The skin of this specimen is preserved by Mr. Joseph P. Sainato, of Oasis Oil Company of Libya Inc., Tripoli, Libya.



LOCALITIES mentioned in the text and shown on the accompanying map of the Libyan Arab Republic

Agelat see El Agelat
1 Ajedabaya = Agedabia
2 Ain Melfa
Akakus Mountains
3 Aujila
4 Barce
5 Benghazi
6 Bir Dufan
7 Brak
8 Buerat el Hsun
Cyrenaica
9 Derna
10 El Agelat
El Haruj el Aswad
El Jofra Oasis
11 Es Sidra
Gefara see Jefara
12 Gemines
13 Ghadames
14 Ghat
15 Gharian
Ghemines see Gemines
16 Ghirza
17 Gialo
Gialo Oasis
Giarabub see Jaghbub
18 Gikherra
Great Sand Sea of Calansho
Gulf of Sirte
Hamada el Homra
Hammadat Murzuq
19 Jaghbub
Jebel Arkenu
Jebel Ben Ghnema
Jebel el Akhdar
Jebel el Sauda = Jebel es Soda
Jebel Nefusa
Jebel Tarabulus see Jebel Nefusa
Jebel Uaddan
Jebel Uweinat
Jefara Plain
Kufra Oasis
20 Leptis Magna
21 Marada
22 Marble Arch
23 Misurata
24 Murzuq
Murzuq Sand Sea
Qasr as Sahabi
Rebiana Sand Sea
25 Samah
26 Sebha
27 Serdeles
Serir Calansho
Serir Tibesti
28 Sinauen
29 Sirte
30 Socna
31 Tawargha
Tazerbo Oasis
32 Traghen
33 Tripoli
Tripolitania
Ubari Sand Sea
34 Umm el Abid
35 Umm el Araneb
36 Waha
37 Wau An-Namus
38 Wau el Kebir
39 Zanzur
40 Zella
Zemzem Ghirza see Ghirza
41 Zighen
42 Zliten
43 Zuara