

= Serval =

The serval / ˈsɜːrvəl / ( *Leptailurus serval* ), also known as the tierboskat , is a wild cat found in Africa . The sole member of the genus *Leptailurus* , it was first described by German naturalist Johann Christian Daniel von Schreber in 1776 . Eighteen subspecies are recognised . The serval is a slender , medium @-@ sized cat that stands 54 ? 62 centimetres ( 21 ? 24 in ) at the shoulder and weighs 8 ? 18 kilograms ( 18 ? 40 lb ) . It is characterised by a small head , large ears , a golden @-@ yellow to buff coat spotted and striped with black , and a short , black @-@ tipped tail . The serval has the longest legs of any cat relative to its body size .

Active in the day as well as at night , servals tend to be solitary with minimal social interaction . Both sexes establish highly overlapping home ranges of 10 to 32 square kilometres ( 3 @.@ 9 to 12 @.@ 4 sq mi ) , and mark them with excrement and saliva . Servals are omnivores ? they prey on rodents ( particularly vleis rats ) , small birds , frogs , insects and reptiles , and are also known to consume grasses . The serval uses its sense of hearing to locate the prey ; to kill small prey , it leaps over 2 metres ( 6 @.@ 6 ft ) above the ground to land on the prey on its forefeet , and finally kills it with a bite on the neck or the head . Mating takes place at different times of the year in different parts of their range , but typically once or twice a year in an area . After a gestational period of two to three months , a litter of one to four is born . Weaning occurs at one month , and kittens begin hunting on their own at six months . The juveniles leave their mother at 12 months .

The serval prefers areas with cover such as reeds and tall grasses and proximity to water bodies , such as wetlands and savannahs . It is rare in northern Africa and the Sahel , but widespread in southern Africa . The International Union for the Conservation of Nature and Natural Resources ( IUCN ) classifies the serval as least concern . It occurs in protected areas across its range , and hunting of servals is either prohibited or regulated in several countries .

= = Taxonomy and etymology = =

The scientific name of the serval is *Leptailurus serval* . It is the sole member of its genus and is placed under the family Felidae . The species was first described by German naturalist Johann Christian Daniel von Schreber as *Felis serval* in the journal *Die Säugetiere in Abbildungen nach der Natur mit Beschreibungen* in 1776 . In 1858 , Russian naturalist Nikolai Severtzov proposed the genus *Leptailurus* for the serval , a name constructed from Greek roots meaning " slender cat " . The name " serval " could have been derived from the Medieval Latin words *Lupus cervicalis* ( " deer @-@ like wolf " ) or from the Portuguese *Lobos cervical* ( referring to the lynx ) . The first recorded use of this name dates back to 1771 . Another name for the serval is " tierboskat " .

In the 19th and 20th centuries , some taxonomists inspected serval skins and identified two species on the basis of coat pattern : *Felis serval* ( serval ) , with large , pronounced spots , and *F. servalina* or *F. ornata* ( servaline cat ) , marked by freckle @-@ sized dots . *F. servalina* was first described in 1839 by Irish naturalist William Ogilby from Sierra Leone ; in 1867 , British zoologist John Edward Gray described *F. herschellii* from an Indian skin , which was probably the same as the servaline cat . In 1907 , British zoologist Reginald Innes Pocock commented that the two forms should be considered independent species , but reverted from this in 1917 . Eventually , the two forms came to be recognised as the same species . Another form , *F. himalayanus* ( Himalayan serval ) , was described from a skin procured from the Himalayan region ; however , Scottish naturalist William Jardine noted in *The Naturalist's Library* ( 1843 ) that no such specimen had been identified by him or his colleagues , and that it differed considerably from the common serval . In 1944 , Pocock identified three races of the serval from northern Africa .

The phylogenetic relationships of the serval have remained in dispute ; in 1997 , palaeontologists M. C. McKenna and S. K. Bell classified *Leptailurus* as a subgenus of *Felis* , while others like O. R. P. Bininda @-@ Edmonds ( of the Technical University of Munich ) have grouped it with *Felis* , *Lynx* and *Caracal* . Studies in the 2000s and the 2010s show that the serval , along with the caracal and the African golden cat , forms one of the eight lineages of Felidae . According to a 2006 genetic study , the *Caracal* lineage came into existence 8 @.@ 5 mya , and the ancestor of this lineage

arrived in Africa 8 @. @ 5 ? 5 @. @ 6 mya .

Up to 18 subspecies are currently recognised , although some authors recognize fewer :

The 2006 study gave the phylogenetic relationships of the serval as follows :

= = Hybrid = =

On 7 April 1986 , a healthy hybrid kitten between a male serval and a female domestic cat was born ; this kitten was larger than a typical domestic kitten and resembled its father in its coat pattern . It appeared to have inherited a few domestic traits , such as tameness , from its mother . The hybrid cat may have a doglike habit of following its owner about , and can be a good swimmer . Over the years , savannah cats have gained popularity as pets .

= = Description = =

The serval is a slender , medium @-@ sized cat ; it stands 54 ? 62 centimetres ( 21 ? 24 in ) at the shoulder and weighs 8 ? 18 kilograms ( 18 ? 40 lb ) , but females tend to be lighter . The head @-@ and @-@ body length is typically between 67 and 100 centimetres ( 26 and 39 in ) . Males tend to be sturdier than females . Prominent characteristics include the small head , large ears , spotted and striped coat , long legs and a black @-@ tipped tail that is around 30 centimetres ( 12 in ) long . In fact , the serval has the longest legs of any cat relative to its body size , likely due to the greatly elongated metatarsal bones in the feet . The toes are elongated as well , and unusually mobile .

The coat is basically golden @-@ yellow to buff , and extensively marked with black spots and stripes . The spots show great variation in size . Melanistic servals are also known . Facial features include the brownish or greenish eyes , white whiskers on the snout and near the ears , ears as large as those of a domestic cat ( but large relative to the size of the head ) and black on the back with a white horizontal band in the middle , whitish chin , and spots and streaks on the cheeks and the forehead . Three to four black stripes run from the back of the head onto the shoulders , and then break into rows of spots . The white underbelly has dense and fluffy basal fur , and the soft guard hairs ( the layer of fur protecting the basal fur ) are 5 ? 10 centimetres ( 2 @. @ 0 ? 3 @. @ 9 in ) long . Guard hairs are up to 3 centimetres ( 1 @. @ 2 in ) long on the neck , back and the flanks , and are merely 1 centimetre ( 0 @. @ 4 in ) long on the face . The closely set ears are black on the back with a horizontal white band ; the ears can rotate up to 180 degrees independently of each other . The serval has a good sense of smell , hearing and vision .

The serval is similar to the sympatric caracal , but has a narrower spoor , a rounder skull , and lacks its prominent ear tufts . The African golden cat is darker , with different cranial features . It resembles the cheetah in its build and coat pattern , though not in size . The serval shares its adaptations to its marshy habitat with the jungle cat ; both cats have large and sharp ears that help in locating the prey efficiently , and their long legs raise them above muddy ground and water .

= = Ecology and behaviour = =

The serval is active in the day as well as at night ; activity might peak in early morning , around twilight and at midnight . Servals might be active for a longer time on cool or rainy days . During the hot midday , they rest or groom themselves in the shade of bushes and grasses . Servals remain cautious of their vicinity , though they may be less alert when no large carnivores or prey animals are around . Serval walk as much as 2 ? 4 kilometres ( 1 @. @ 2 ? 2 @. @ 5 mi ) every night . Servals will often use special trails to reach certain hunting areas . A solitary animal , there is little social interaction among servals except in the mating season , when pairs of opposite sexes may stay together . The only long @-@ lasting bond appears to be of the mother and her cubs , which leave their mother only when they are a year old .

Both males and females establish home ranges , and are most active only in certain regions ( ' core areas ' ) within them . The area of these ranges can vary from 10 to 32 square kilometres ( 3 @. @ 9 to 12 @. @ 4 sq mi ) ; prey density , availability of cover and human interference could be significant

factors in determining their size . Home ranges might overlap extensively , but occupants show minimal interaction . Aggressive encounters are rare , as servals appear to mutually avoid one another rather than fight and defend their ranges . Agonistic behaviour involves vertical movement of the head ( contrary to the horizontal movement observed in other cats ) , raising the hair and the tail , displaying the teeth and the white band on the ears , and yowling . Individuals mark their ranges and preferred paths by spraying urine on nearby vegetation , dropping scats along the way , and rubbing their mouth on grasses or the ground while releasing saliva . Servals tend to be sedentary , shifting only a few kilometres away even if they leave their range .

The serval is vulnerable to hyaenas and wild dogs . It will seek cover to escape their view , and , if the predator is very close , immediately flee in long leaps , changing its direction frequently and with the tail raised . The serval is an efficient , though not frequent , climber ; an individual was observed to have climbed a tree to a height of more than 9 metres ( 30 ft ) to escape dogs . Like many cats , the serval is able to purr ; it also has a high @-@ pitched chirp , and can hiss , cackle , growl , grunt and meow .

### = = = Hunting and diet = = =

The serval is an omnivore that preys on rodents ( particularly vlei rats ) , small birds , frogs , insects and reptiles , and also feeds on grasses ( that can facilitate digestion or act as an emetic ) . Up to 90 percent of the preyed animals weigh less than 200 grams ( 7 @.@ 1 oz ) ; larger prey , such as duikers , hares , flamingoes and young antelopes , may occasionally be hunted . Several studies have estimated the percentage of rodents in the diet at 80 to 97 percent . Apart from vlei rats , other rodents recorded frequently in the diet include the African grass rat , African pygmy mouse and multimammate mice .

Servals locate prey by their strong sense of hearing . To kill small prey , the serval will slowly stalk it , then pounce on it with the forefeet directed toward the chest , and finally land on it with its forelegs outstretched . The prey , receiving a blow from one or both of the serval 's forepaws , is incapacitated , and the serval gives it a bite on the head or the neck and immediately swallows it . Snakes are dealt more blows and even bites , and may be consumed even as they are moving . Larger prey , such as larger birds , are killed by a sprint followed by a leap to catch them as they are trying to flee , and are eaten slowly . Servals have been observed caching large kills to be consumed later by concealing them in dead leaves and grasses . Servals typically get rid of the internal organs of rodents while eating , and pluck feathers from birds before consuming them . During a leap , a serval can reach more than 2 metres ( 6 @.@ 6 ft ) above the ground and cover a horizontal distance of up to 3 @.@ 6 metres ( 12 ft ) ; the cat can even change direction mid @-@ air . Servals appear to be efficient hunters ; a study in Ngorongoro showed that servals were successful in half of their hunting attempts , regardless of the time of hunting , and a mother serval was found to have a success rate of 62 % . The number of kills in a 24 @-@ hour period averaged 15 to 16 . Scavenging has been observed , but very rarely .

### = = = Reproduction = = =

Both sexes become sexually mature when they are one to two years old . Oestrus in females lasts one to four days ; it typically occurs once or twice a year , though it can occur three or four times a year if the mother loses her litters . Observations of captive servals suggest that when a female enters oestrus , the rate of urine @-@ marking increases in her as well as the males in her vicinity . Zoologist Jonathan Kingdon described the behaviour of a female serval in oestrus in his 1997 book *East African Mammals* . He noted that she would roam restlessly , spray urine frequently holding her vibrating tail in a vertical manner , rub her head near the place she has marked , salivate continuously , give out sharp and short " miaow " s that can be heard for quite a distance , and rub her mouth and cheeks against the face of an approaching male . The time when mating takes place varies geographically ; births peak in winter in Botswana , and toward the end of the dry season in the Ngorongoro Crater . A trend generally observed across the range is that births precede the

breeding season of murid rodents .

Gestation lasts for two to three months , following which a litter of one to four kittens is born . Births take place in secluded areas , for example in dense vegetation or burrows abandoned by aardvarks and porcupines . Blind at birth , newborn weigh nearly 250 grams ( 8 @. @ 8 oz ) and have soft , woolly hair ( greyer than in adults ) and unclear markings . The eyes open after nine to thirteen days . Weaning begins after a month of birth ; the mother brings small kills to her kittens and calls out to them as she approaches the " den " . A mother with young kittens rests for a notably lesser time and has to spend almost twice the time and energy for hunting than do other servals . If disturbed , the mother will shift her kittens one by one to a more secure place . Kittens eventually start accompanying their mother to hunts . At around six months , they acquire their permanent canines and begin to hunt themselves ; they leave their mother at about 12 months of age . They may reach sexual maturity from 12 to 25 months of age . Life expectancy is about 10 years in the wild , and up to 20 years in captivity .

= = Habitat and distribution = =

The serval prefers areas with cover , such as reeds and tall grasses , and proximity to water bodies , such as wetlands and savannahs . It typically shuns rainforests and arid areas , though it can occur in semi @- @ arid areas and cork oak forests in northern Africa , close to the Mediterranean Sea . Servals also occur on grasslands , moorlands and bamboo thickets at high altitudes ; they are known to occur up to 3 @, @ 800 metres ( 12 @, @ 500 ft ) above the sea level on Mount Kilimanjaro . In the Luambe National Park ( Zambia ) , the population density was recorded as 0 @. @ 1 individual per square kilometre in 2011 .

The serval is confined to Africa ? it is rare in northern Africa and the Sahel , but widespread in southern Africa , where their range is reportedly expanding . In northern Africa , the serval is known only from Morocco and has been reintroduced in Tunisia , but is feared to be extinct in Algeria .

= = Threats and conservation = =

The IUCN ( International Union for Conservation of Nature and Natural Resources ) lists the serval as least concern ; the animal is also included in CITES Appendix II . A major threat to the survival of the serval include the degradation of wetlands and grasslands . Trade of serval skins , though on the decline , still occurs in countries such as Benin and Senegal . In western Africa , the serval has significance in traditional medicine . Pastoralists often kill servals to protect their animals , though servals generally do not prey upon livestock .

Servals occur in several protected areas across its range . Hunting of servals is prohibited in Algeria , Botswana , Congo , Kenya , Liberia , Morocco , Mozambique , Nigeria , Rwanda , Cape Province ( South Africa ) , and Tunisia ; regulations apply in Angola , Burkina Faso , Central African Republic , the Democratic Republic of the Congo , Ghana , Malawi , Senegal , Sierra Leone , Somalia , Tanzania , Togo and Zambia .

= = Relationship with human beings = =

The association of servals with human beings dates to the time of Ancient Egypt . Servals are depicted as gifts or traded objects from Nubia in Egyptian art . Servals are common pets in Europe , but became popular in the Americas only in the twentieth century .