

= Lesser kudu =

The lesser kudu ( *Tragelaphus imberbis* ) is a forest antelope found in East Africa . It is placed in the genus *Tragelaphus* and family Bovidae . It was first described by the English zoologist Edward Blyth in 1869 . The head @-@ and @-@ body length is typically 110 ? 140 cm ( 43 ? 55 in ) . Males reach about 95 ? 105 cm ( 37 ? 41 in ) at the shoulder , while females reach 90 ? 100 cm ( 35 ? 39 in ) . Males typically weigh 92 ? 108 kg ( 203 ? 238 lb ) and females 56 ? 70 kg ( 123 ? 154 lb ) . The females and juveniles have a reddish @-@ brown coat , while the males become yellowish grey or darker after the age of two years . Horns are present only on males . The spiral horns are 50 ? 70 cm ( 20 ? 28 in ) long , and have two to two @-@ and @-@ a @-@ half twists .

A pure browser , the lesser kudu feeds on foliage from bushes and trees , shoots , twigs , and herbs . Despite seasonal and local variations , foliage from trees and shrubs constitute 60 ? 80 % of the diet throughout the year . The lesser kudu is mainly active at night and during the dawn , and seeks shelter in dense thickets just after the sunrise . The lesser kudu exhibits no territorial behaviour , and fights are rare . While females are gregarious , adult males prefer being solitary . No fixed breeding season is seen ; births may occur at any time of the year . The lesser kudu inhabits dry , flat , and heavily forested regions .

The lesser kudu is native to Ethiopia , Kenya , Somalia , South Sudan , Tanzania , and Uganda , but it is extinct in Djibouti . The total population of the lesser kudu has been estimated to be nearly 118 @,@ 000 , with a decreasing trend in populations . One @-@ third of the populations survive in protected areas . Presently , the International Union for Conservation of Nature ( IUCN ) rates the lesser kudu as " Near Threatened " .

= = Taxonomy and genetics = =

The scientific name of the lesser kudu is *Tragelaphus imberbis* . The animal is classified under the genus *Tragelaphus* in family Bovidae . It was first described by the English zoologist Edward Blyth in 1869 . The generic name , *Tragelaphus* , derives from Greek word *tragos* , meaning a male goat , and *elaphos* , which means a deer , while the specific name *imberbis* comes from the Latin term meaning unbearded , referring to this kudu 's lack of mane . The vernacular name kudu ( or koodoo ) could have originated either from the Afrikaans *koedoe* or the Khoikhoi kudu . The term " lesser " denotes the smaller size of this antelope as compared to the greater kudu .

In 1912 , the genus *Ammelaphus* was established for just the lesser kudu by American zoologist Edmund Heller , the type species being *A. strepsiceros* . However , today the lesser kudu is placed in *Tragelaphus* instead of *Ammelaphus* .

In 2005 , Sandi Willows @-@ Munro ( of the University of KwaZulu @-@ Natal ) and colleagues carried out a mitochondrial analysis of the nine *Tragelaphus* species. mtDNA and nDNA data were compared . The results showed that the tribe Tragelaphini is monophyletic with the lesser kudu basal in the phylogeny , followed by the nyala ( *T. angasii* ) . On the basis of mitochondrial data , studies have estimated that the lesser kudu separated from its sister clade around 13 @.@ 7 million years ago . On the other hand , the nuclear data shows that lesser kudu and nyala form a clade , and collectively separated from the sister clade 13 @.@ 8 million years ago .

The lesser kudu has 38 diploid chromosomes . However , unlike others in the subfamily Tragelaphinae , the X chromosome and Y chromosome are compound and each is fused with one of two identical autosomes .

= = Physical description = =

The lesser kudu is a spiral @-@ horned antelope . The head @-@ and @-@ body length is typically between 110 and 140 cm ( 43 and 55 in ) . Males reach about 95 ? 105 cm ( 37 ? 41 in ) at the shoulder , while females reach 90 ? 100 cm ( 35 ? 39 in ) . Males typically weigh 92 ? 108 kg ( 203 ? 238 lb ) and females 56 ? 70 kg ( 123 ? 154 lb ) . The bushy tail is 25 ? 40 cm ( 9 @.@ 8 ? 15 @.@ 7 in ) long , white underneath and with a black tip at the end .

Distinct signs of sexual dimorphism are seen in the antelope . The male is considerably larger than the female . The females , as well as juveniles , have a rufous coat , whereas the males become yellowish grey or darker after the age of two years . The male has a prominent black crest of hair on the neck , but this feature is not well @-@ developed in the female . One long white stripe runs along the back , with 11 ? 14 white stripes branching towards the sides . The chest has a central black stripe , and there is no throat beard . A black stripe runs from each eye to the nose and a white one from each eye to the centre of the dark face . A chevron is present between the eyes . The area around the lips is white , the throat has white patches , and two white spots appear on each side of the lower jaw . The underparts are completely white , while the slender legs are tawny and have black and white patches . The lesser kudu is characterised by large , rounded ears . Its tracks are similar to the greater kudu 's . Females have four teats . The average lifespan is 10 years in the wild , and 15 years in captivity .

Horns are present only on males . The spiral horns are 50 ? 70 cm ( 20 ? 28 in ) long , and have two to two @-@ and @-@ a @-@ half twists . The base circumference is 156 ? 171 cm ( 61 ? 67 in ) . The slender horns are dark brown and tipped with white . Male young begin developing horns after six to eight months , which reach full length after three years .

= = Ecology and behaviour = =

The lesser kudu is mainly active at night and during the dawn , and seeks shelter in dense thickets just after the sunrise . It can camouflage so well in such dense vegetation that only its ears and tail can indicate its presence . The midday is spent in rest and rumination in shaded areas . The animal spends about 35 % of daytime foraging , 36 % standing and lying , and 29 % in roaming . As the thinnest tragelaphine , the lesser kudu can move through dense vegetation with ease . The lesser kudu is a shy and wary animal . When alarmed , the animal will stand motionless , confirming any danger . If it senses any approaching predator , it will give out a short sharp bark , similar to the bushbuck 's . The lesser kudu would then make multiple leaps of up to 2 m ( 6 @.@ 6 ft ) height with an upraised tail . If captured by the predator , the victim gives a loud bleat .

The lesser kudu is gregarious in nature . No distinct leader or any hierarchy is noted in the social structure ; with no territorial behavior , fights are uncommon . While fighting , the lesser kudus interlock horns and try pushing one another . Mutual grooming is hardly observed . Unlike most tragelaphines , females can be closely associated for several years . One to three females , along with their offspring , may form a group . Juvenile males leave their mothers when aged a year @-@ and @-@ a @-@ half , and may form pairs . However , at the age of four to five years , males prefer a solitary lifestyle and avoiding one another , though four or five bulls may share the same home range . Lesser kudu do not usually associate with other animals , except when they feed in the same area .

= = = Diet = = =

A pure browser , the lesser kudu feeds on foliage from bushes and trees , shoots , twigs and herbs . It also eats flowers and fruits if available , and takes small proportions of grasses , usually in the wet season . Despite seasonal and local variations , foliage from trees and shrubs constitutes 60 @-@ 80 % of the diet throughout the year . Foliage from creepers and vines ( such as *Thunbergia guerkeana* and some species of *Cucurbitaceae* and *Convolvulaceae* ) forms 15 @-@ 25 % of the diet in the wet season . Fruits are consumed mainly in the dry season . Olfactory searching , much in the same posture as grazing , is used to find fallen fruits ( such as *Melia volkensii* and *Acacia tortilis* ) , while small fruits ( such as *Commiphora* species ) are directly plucked from trees . The size and structure of its stomach also suggests its primary dependence on browse .

The lesser kudu browses primarily at dusk or at dawn , and is associated with the gerenuk and the impala . The lesser kudu and the gerenuk might compete for evergreen species in the dry season . However , unlike the gerenuk , the lesser kudu rarely prefers *Acacia* species and does not stand on its hindlegs while feeding . The lesser kudu does not have a great requirement for water , and can

browse in arid environments . It eats succulent plants , such as the wild sisal , Sansevieria , and Euphorbia species in the dry season , and drinks water when sources are available .

#### = = = Reproduction = = =

Both the males and females become sexually mature by the time they are a year @-@ and @-@ a @-@ half old . However , males actually mate after the age of four to five years . Males and females are most reproductive till the age of 14 and 14 ? 18 years , respectively , with the maximum age of successful lactation in females being 13 ? 14 years . With no fixed breeding season ; births may occur at any time of the year . A study at Dv?r Králové Zoo ( Czech Republic ) showed that 55 % of the births occurred between September and December . A rutting male tests the urine of any female he encounters , to which the female responds by urinating . Having located a female in estrus , the male follows her closely , trying to rub his cheek on her rump , head , neck , and chest . He performs gasping movements with his lips . Finally , the male mounts the female , resting his head and neck on her back , in a similar way as other tragelaphines .

The gestational period is of seven to eight months , after which a single calf is born . A female about to give birth isolates herself from her group , and remains alone for some days afterward . The newborn calf weighs 4 ? 7 @.@ 5 kg ( 8 @.@ 8 ? 16 @.@ 5 lb ) . Around 50 % of the calves die within the first six months of birth , and only 25 % can survive after three years . In a study at Basle Zoo ( Switzerland ) , where 43 % of the offspring from captive breeding died before reaching the age of six months , the major causes of high juvenile mortality were found to be the spread of white muscle disease and deficiency of vitamin E and selenium in diets . The herd size , sex , interbreeding , and season did not play any role in juvenile mortality . The mother hides her calf while she goes out to feed , and returns mainly in the evening to suckle her young . She checks the calf 's identity by sniffing its rump or neck . In the first month , suckling may occur for eight minutes . The mother and calf communicate with low bleats . She licks her offspring , particularly in the perineal region , and may consume its excreta .

#### = = Habitat and distribution = =

The lesser kudu inhabits dry , flat , and heavily forested regions . It is closely associated with Acacia and Commiphora thornbush in semiarid areas of northeastern Africa . The animal avoids open areas and long grass , preferring shaded areas with short grasses , instead . Found in woodlands and hilly areas , as well , the lesser kudu is generally found at altitudes below 1 @,@ 200 m ( 3 @,@ 900 ft ) ; though they have been recorded at heights about 1 @,@ 740 m ( 5 @,@ 710 ft ) near Mount Kilimanjaro . While individual home ranges of these animals are 0 @.@ 4 ? 6 @.@ 7 km<sup>2</sup> ( 4 @,@ 300 @,@ 000 ? 72 @,@ 000 @,@ 000 sq ft ) in size , those of males have an average size of 2 @.@ 2 km<sup>2</sup> ( 24 @,@ 000 @,@ 000 sq ft ) and those of females 1 @.@ 8 km<sup>2</sup> ( 19 @,@ 000 @,@ 000 sq ft ) .

The lesser kudu is native to Ethiopia , Kenya , Somalia , South Sudan , Tanzania , and Uganda , but it is extinct in Djibouti . Largely confined to the Horn of Africa today , the species historically ranged from Awash ( Ethiopia ) southward through southern and eastern Ethiopia , and most parts of Somalia ( except the north and the northeast ) and Kenya ( except the southwest ) . It also occurred in southeastern Sudan and northeastern and eastern parts of Uganda and Tanzania . The only evidence for its existence in the Arabian peninsula is a single set of horns obtained in 1967 from an individual shot in South Yemen and another in Saudi Arabia .

#### = = Threats and conservation = =

The lesser kudu 's shyness and its ability to camouflage itself in dense cover has protected it from the risks of poaching . For instance , the lesser kudu is widespread in the Ogaden region , which is rich in dense bush , despite reckless hunting by local people . However , rinderpest outbreaks , to which the lesser kudu is highly susceptible , have resulted in a steep decline of 60 % in the animal 's

population in Tsavo National Park in Kenya . Overgrazing , human settlement , and loss of habitat are some other threats to the survival of the lesser kudu .

The total population of the lesser kudu has been estimated to be nearly 118 @, @ 000 , with a decreasing trend in populations . The rate of decline has increased to 20 % over two decades . Presently , the IUCN rates the lesser kudu as " Near Threatened " . Around a third of the population of the lesser kudu occurs in protected areas such as Awash , Omo and Mago National Parks ( Ethiopia ) ; Lag Badana National Park ( Somalia ) ; Tsavo National Park ( Kenya ) ; Ruaha National Park and game reserves ( Tanzania ) , though it occurs in larger numbers outside these areas . Population density rarely exceeds 1 / km<sup>2</sup> . , and is generally much lower .