

= Sitatunga =

The sitatunga or marshbuck (*Tragelaphus spekii*) is a swamp dwelling antelope found throughout central Africa , centering on the Democratic Republic of the Congo , Cameroon , parts of Southern Sudan , Ghana , Botswana , Zambia , Gabon , Tanzania , Uganda and Kenya . The species was first described by the English explorer John Hanning Speke in 1863 . The sitatunga is a medium sized antelope . Males reach approximately 81 ? 116 cm (32 ? 46 in) at the shoulder , while females reach 72 ? 90 cm (28 ? 35 in) . Males typically weigh 76 ? 119 kg (168 ? 262 lb) , while females weigh 24 ? 57 kg (53 ? 126 lb) . The sitatunga has a shaggy , water resistant coat which varies in colour . The body and feet of this antelope are specially adapted to its swampy habitat . Only the males possess horns ; these are spiral in shape , have one or two twists and are 45 ? 92 cm (18 ? 36 in) long .

Sitatunga are active mainly during the early hours after dawn , the last one or two hours before dusk , and night . They are not territorial . Sitatunga are selective in what they eat and feed mainly on new foliage , fresh grasses , aquatic plants , sedges and browse . Females are sexually mature by one year of age , while males take one and a half years to mature . Breeding occurs throughout the year but peaks in the dry season . Gestation lasts for nearly eight months , after which generally a single calf is born . Lifespan recorded in captivity averages 22 to 23 years .

The sitatunga is confined to swampy and marshy habitats . Here they occur in tall and dense vegetation as well as seasonal swamps , marshy clearings in forests , riparian thickets and mangrove swamps . Habitat loss is the most severe threat to the survival of the sitatunga . The species has been classified under the Least Concern category by the International Union for Conservation of Nature and Natural Resources (IUCN) , and under Appendix III (Ghana) of the Washington Convention (CITES) . Though the population is sporadic in some countries , the animal is common in many areas such as the Okavango Delta and Bangweulu Swamp .

= = Taxonomy and genetics = =

The scientific name of the sitatunga is *Tragelaphus spekii* . The species was first described by the English explorer John Hanning Speke in 1863 . Speke first observed the sitatunga at a lake named " Little Windermere " (now Lake Lwelo , located in Kagera , Tanzania) . In his book *Journal of the Discovery of the Source of the Nile* , Speke called the animal " nzoé " (Kiswahili name for the animal) or " water @-@ boc " (due to its resemblance to the waterbuck) . The scientific name has often been misstated as *T. spekei* , and either Speke or Sclater is referred to as the binomial authority . Speke had stated in a footnote in his book that the species had been named *Tragelaphus spekii* by English zoologist Philip Sclater . However , according to the International Code of Zoological Nomenclature (Article 50 @.@ 1 @.@ 1) and the International Commission on Zoological Nomenclature , that acknowledge the person who first described the species , simply declaring Sclater as the authority in a footnote is insufficient to recognise him as the author . Hence , Speke was recognised as the correct authority and *T. spekii* (where *spekii* is the genitive of the Latinised " Spekius ") was considered the correct name for the species .

The sitatunga is placed under the genus *Tragelaphus* and in the family Bovidae . In 2005 , Sandi Willows @-@ Munro of the University of KwaZulu @-@ Natal (Durban) carried out a mitochondrial analysis of the nine *Tragelaphus* species. mtDNA and nDNA data were compared . The results showed that sitatunga plus bongo (*T. eurycerus*) form a monophyletic clade with the mountain nyala (*T. buxtoni*) and kéwel (*T. scriptus*) . The greater kudu (*T. strepsiceros*) split from this clade approximately 8 @.@ 6 million years ago .

Within *Tragelaphus* , the kéwel , bongo , sitatunga and nyala (*T. angasii*) are particularly close relatives . The bushbuck , that includes both imbabala (*T. sylvaticus*) and kéwel , and sitatunga are genetically similar enough to hybridise . Hybrids between bongo and sitatunga have proved to be fertile . The sitatunga is more variable in its general characters than any other member of the tribe Strepsicerotini , that consists of the genera *Taurotragus* (elands) and *Tragelaphus* , probably because of their confinement to swampy and marshy habitats .

On the basis of physical characteristics such as hair texture , coat colour and the coat stripes , up to ten subspecies of the sitatunga have been described . However , these factors may not be reliable since hair texture could vary with the climate , while pelage colour and markings vary greatly among individuals . Moreover , the coat might darken and the stripes and spots on it might fade with age , especially in males . The species might even be monotypic , however , based on different drainage systems , three distinct subspecies are currently recognised :

T. s. spekii (Speke , 1863) : Nile sitatunga or East African sitatunga . Found in the Nile watershed .

T. s. gratus (Sclater , 1880) : Congo sitatunga or forest sitatunga . Found in western and central Africa .

T. s. selousi (W. Rothschild , 1898) : Southern sitatunga or Zambezi sitatunga . Found in southern Africa .

= = Description = =

The sitatunga is a medium sized antelope . It is sexually dimorphic , with males considerably larger than females . The head and body length is typically between 136 ? 177 cm (54 ? 70 in) in males and 104 ? 146 cm (41 ? 57 in) in females . Males reach approximately 81 ? 116 cm (32 ? 46 in) at the shoulder , while females reach 72 ? 90 cm (28 ? 35 in) . Males typically weigh 76 ? 119 kg (168 ? 262 lb) , while females weigh 24 ? 57 kg (53 ? 126 lb) . The tail is 14 ? 37 cm (5 ? 14 in) long . The saucer shaped ears are 11 ? 17 cm (4 ? 6 in) long . The sitatunga is almost indistinguishable from the nyala , except in pelage and spoor . Speke pointed out that , though " closely allied " to the waterbuck , the sitatunga lacks stripes and is spotted instead .

The coat colour varies geographically , but , in general , is a rufous red in juveniles and chestnut in females . There are white facial markings , as well as several stripes and spots all over , though they are only faintly visible . White patches can be seen on the throat , near the head and the chest . A pair of inguinal scent glands are present . The coats of males darken with age , becoming gray to dark brown . Males develop a rough and scraggy mane , usually brown in colour , and a white dorsal stripe . There is a chevron between the eyes of the males .

The body and legs of this antelope are specially adapted to its swampy habitat . The hooves of the male are elongated and widely splayed . The rubbery , shaggy , water repellent coat is minimally affected by slimy and muddy vegetation . The wedge like shape and lowering of the head , coupled with the backward bend of the horns (in males) provides for easy navigation through dense vegetation . The pasterns are flexible , and the hooves , banana like in shape , can reach a length of up to 16 cm (6 in) in the hindlegs and 18 cm (7 in) in the forelegs . The pointed toes allow it to walk slowly and almost noiselessly through the water . Moreover , the colour of the coat provides an excellent camouflage . Hearing is acute , and the ears are so structured that the animal can accurately determine the direction from where a sound has originated . This adaptation is of profound use in habitats where long sight is of very little value due to the density and darkness of the environment .

= = Ecology and behaviour = =

Sitatunga are active mainly during the early hours after dawn , the last one or two hours before dusk , and at night , and spend a large part of this time feeding . Basically sedentary , they rest in flat areas and reed beds , especially during the hotter part of the day . They seldom leave their swamp habitat during the daytime . Though sitatunga commonly form pairs or remain solitary , larger groups have also been observed . A study in Kenya recorded a herd of as many as nine individuals , comprising an adult male , four females and four juveniles . Loose groups may be formed but interaction among individuals is very low . Individuals generally associate only with their own sex .

The sitatunga is not territorial . Males may engage in locking horns with other males and attacking vegetation using their horns . They may perform feinting by raising their forelegs with the hindlegs

rooted in the ground as a threat display . Sitatunga interact with each other by first touching their noses , which may be followed by licking each other and nibbling . Alarmed animals may stand motionless , with the head held high and one leg raised . Sitatunga may occasionally emit a series of coughs or barks , usually at night , which may cause other animals to join in , and these sounds can be heard across the swamp . This barking may be used by females to warn off other females . Males often utter a low bellow on coming across a female or a herd of females in the mating season . A low @-@ pitched squeak may be uttered while feeding . Mothers communicate with their calves by bleats .

Sitatunga can feed or rest close to southern lechwe herds , but do not interact with them . They often attract yellow @-@ billed oxpeckers , African jacanas and great egrets . Sitatunga are good swimmers , but limit themselves to water with profuse vegetation in order to escape crocodiles . In some cases , for instance when troubled by flies or pursued by predators , the sitatunga might fully submerge themselves in the water except for the nose and the eyes , which they keep slightly above the water surface . Due to its close association with water , the sitatunga are often described as " aquatic antelopes " , like the waterbuck . They often dry themselves under the sun after feeding in water . Predators of the sitatunga include lions , wild dogs , crocodiles and leopards .

= = = Diet = = =

Sitatunga are selective and mixed feeders . They feed mainly on new foliage , fresh grasses , sedges and browse . Preferred plants include : bullrushes (Typha) , sedges (Cyperus) , aquatic grasses (Vossia , Echinochloa , Pennisetum , Leersia , Acroceras and Panicum . Species in Umbelliferae and Acanthaceae are preferred in Saiwa Swamp National Park (Kenya) , and Fabaceae species are preferred in Bangweulu and Busanga (in Kafue National Park) . They feed mostly in the wetland fringes . Diet preferences may vary seasonally in swamps where water levels change notably . Like the gerenuk , the sitatunga may stand on its hindlegs to reach higher branches of trees , or even use its horns to pull down the branches .

A study recorded forty major species eaten by the animal , the majority of which were herbs . Sweet potato was the most preferred crop . The study predicted an increase in preference for crops due to seasonal food variations . Another study showed that annual floods affect the seasonal movement and diet of the species . These floods force the animals out of the reed beds onto the flooded grasslands when the water levels are high . At low water levels the cattle take over the flooded plains and send the sitatunga back to their original place .

= = = Reproduction = = =

Females are sexually mature by one year of age , while males take one @-@ and @-@ a @-@ half @-@ year before they mature . Breeding occurs throughout the year . When females gather , the males compete among each other for the right to mate , showing polygyny in males . The rutting male approaches the female in a lower bending posture , sniffing her vulva . The female may move slowly or react nervously . Even if the female flees , the male continues pursuing her steadily , without showing any sign of hurry . A receptive female will raise her head with her mouth wide open , following which the male will begin attempts at mounting . At the time of mounting the female lowers her head , while the male first bends and then straightens his forelegs and rests his head and neck on her back . The two remain together for one or two days , during which time the male ensures that no other male can approach the female .

Gestation lasts for nearly eight months , after which generally a single calf is born . Parturition occurs throughout the year , though a peak may occur in the dry season . Calves are hidden adroitly , and brought out of cover only in the presence of many other sitatunga . The mother gazes and nods at the calf to summon it for nursing . A calf follows its mother about even after she has given birth to another calf . The mother suckles and licks her calf for about six months . The calf takes time to master the specialised gait of the sitatunga , and thus often loses its balance and falls in water . Males , and even some females , have been observed to leave their herds even before reaching

sexual maturity due to intrasexual competition . Lifespan recorded in captivity averages 22 to 23 years .

= = Habitat and distribution = =

The sitatunga is an amphibious antelope (meaning it can live on both land and water) confined to swampy and marshy habitats . They occur in tall and dense vegetation of perennial as well as seasonal swamps , marshy clearings in forests , riparian thickets and mangrove swamps . Sitatunga move along clearly marked tracks in their swampy habitat , often leading to reed beds . These tracks , up to 7 m (23 ft) wide , can lead to feeding grounds and nearby riverine forests . The sitatunga hold small home ranges near water bodies In savannas , they are typically found in stands of papyrus and reeds (*Phragmites* species and *Echinochloa pyramidalis*) . They share their habitat with the Nile lechwe in the Sudd swamps and with the southern lechwe in Angola , Botswana and Zambia .

The sitatunga is native to Angola , Benin , Botswana , Burundi , Cameroon , Central African Republic , Chad , The Democratic Republic of the Congo , Equatorial Guinea , Gabon , Gambia , Ghana , Guinea , Guinea @-@ Bissau , Kenya , Mozambique , Namibia , Nigeria , Rwanda , Senegal , South Sudan , Tanzania , Uganda , Zambia and Zimbabwe . It is extinct in Niger , where it formerly occurred in the Lake Chad region , and is feared to be extinct in Togo , where its habitat has been taken over by dense human settlements . While it is localised and sporadic in western Africa , the sitatunga is still common in the forests of central Africa and certain swampy regions in central , eastern and southern Africa .

= = Threats and conservation = =

Habitat loss is the most severe threat to the survival of the sitatunga . Other threats include the increasing loss of wetlands , that has isolated populations ; and long @-@ term changes in the water level , that affects the nearby vegetation and thus bears upon their diet . Vast areas of Bangweulu and Busanga are burnt every year , placing animals like the sitatunga at grave risk given the inflammability of swamps . The sitatunga has been classified under the Least Concern category by the International Union for Conservation of Nature and Natural Resources (IUCN) , and under Appendix III (Ghana) of the Washington Convention (CITES) .

In Senegal , intensive hunting for meat and habitat degradation have made the sitatunga very rare . Formerly it was common throughout Gambia , but now it is confined to a few inaccessible swamps ; a population has been introduced in the Abuko Nature Reserve . On the other hand , though the animal is hunted by locals primarily for food , Botswana still supports a large portion of the total population . The species is of great economic significance for northern Botswana , that produces some of the world 's biggest sitatunga trophies . Its status is unclear in Chad , Ghana , Guinea , Burundi and Mozambique and Zimbabwe . Significant populations still exist in countries such as Cameroon , Central African Republic , The Democratic Republic of Congo , Equatorial Guinea , Gabon , Tanzania and Zambia . The inaccessibility of its habitat has rendered population estimates very difficult . In 1999 , Rod East of the IUCN SSC Antelope Specialist Group estimated a total population of 170 @,@ 000 , but this is likely to be an overestimate . Its numbers are decreasing in areas of heavy human settlement , but are stable elsewhere .

Around 40 percent of the populations (based on the overestimate of 170 @,@ 000) occurs in protected areas , mainly in Okavango Delta and Linyanti and Chobe swamps (Botswana) ; Dja Faunal Reserve and Lobéké National Park (Cameroon) ; Bangassou (Central African Republic) ; Odzala National Park , Lake Télé Community Reserve , Likouala and Salongo (The Democratic Republic of Congo) ; Monte Alén National Park (Equatorial Guinea) ; Saiwa Swamp National Park (Kenya) ; Akagera National Park (Rwanda) ; Moyowosi and Kigosi Game Reserves (Tanzania) ; Bangweulu and Busanga swamps (Zambia) . However , only a few are of these parks and reserves are well @-@ protected and managed .