

## The African Elephant - the Real King of the Jungle



The African elephant is one of the most fascinating and complex animals. The largest of all land mammals, it is intelligent, emotional, and sensitive. After humans, elephants have the largest social network amongst land mammals. They display advanced social behaviour - such as celebrating birth and mourning the dead. In the days of mourning, they protect the body of the dead and pile grass and tree branches. Just like man, the natural life of an elephant stretches to about 70 years but some live as long as 80 years.

The elephant's most distinguishing features include its nose, which is prolonged as a trunk. At its tip, the trunk has two finger-like projections that it uses to handle small objects. It also has two upper incisor teeth that protrude outside the mouth forming its characteristic tusks. Tusks in males have an average length of 355 cm and weight of 61 kg. The height and body weight may vary geographically and individually but fully mature bulls average a height of about 3m and weigh 5,000 kg while cows average 2.5 m and 3,000 kg.

The colour also varies geographically and ranges between grey and brown. The elephant is really thick-skinned- the highly wrinkled skin can be up to 3 cm thick. The ears -which have the shape of the African continent - can reach a length of 2m and width of 1.5m. The elephant is unique in having internal testes, unlike most other mammals. In females, the two mammary glands hang between the forelegs, unlike most mammals that have them between the hind legs.

Among herbivores, the elephant's diet is perhaps the least specialized. Daily fare is vegetarian and ranges from roots, grasses, leaves, fruit, twigs, seedpods, and tree bark. The milling action of the two pairs of huge long, rasp-like molars, and the incredible versatile trunk, means that the elephant can feed from ground level up to 6m and eat virtually anything green. The elephant's molars slide forward and backward rather than side-to-side, unlike other herbivores.

Thanks to the marvellous dexterity of the trunk, elephants can pick up nuts, strip off leaves and bark, break off branches, and uproot shrubs and small trees. Some bulls master the technique of pushing over mature trees; this trait makes them very significant habitat modifiers, wherever they range in Africa.

An elephant consumes about 4% to 6% of its body weight daily. The average bull therefore munches about 300 kg while a cow takes 170 kg of food per day. Considering that this is such a huge animal, this is actually modest. The reason as physiologists will tell you is that compared to smaller mammals, elephants lose a lot less heat due to lower surface area to body ratio. The elephant's fibrous dung shows that digestion is very incomplete- only about 44% of food is assimilated compared to 66% for common ruminants.

The elephant's dung is substantial and among the Maasai peoples of East Africa, it is used to make fire. Scientists use the same stuff to estimate elephant densities and distribution, in a method referred to as dung decay method. The technique is very useful in dense habitats like forests where sighting of actual elephants may be difficult. Knowing the rate of decay of elephant dung in all sorts of climatic conditions, researchers can compute an indirect index of elephant density from field encounters of dung heaps.

Elephants are organized in matriarchal social systems anchored on an older female. Males usually live in separate herds or alone, their rank being determined by seniority and reproductive condition. Young males are ejected from the herd as they reach sexual maturity, usually around 14 years of age. They then suffer the burdens of a celibate life, as females will not give them the time of day for another 15 or so years.

The basic social unit is a group of related females consisting of a mother with her mature daughters and their offspring. Herds range in size from 2 to 24 with members keeping close together; individuals rarely venture beyond 50 m from the herd. The matriarch sets the tone- in activity, direction, and rate of movement.

The matriarch typically leads from the front, while another big female trails at the rear. Sudden loss of matriarch, say, by shooting, completely disrupts and disorients the herd. In a remarkable show of loyalty, the herd mills around and would rather be shot than abandon the matriarch. At the same time, cows attempt to lift her off her feet and if she can walk they support her, one on each side. This behaviour illustrates a highly developed sense of charity and altruism.

Elephant stressed by range compression and hunting pressure tend to aggregate in large groups, often composed of reunited clans. In such challenging situations, temporary groupings of up to 200 elephants, bulls inclusive, can gather. The animals feed and move along in an apparently coordinated manner, with the movements of one group having a contagious effect upon others. Aggregations are formed mainly during the rains and are associated with peak mating activity. When elephant movements are unrestricted, such large herds gather only for migration.

Bulls of advanced age are the most sedentary of all elephants. They hang around swamps where they can find the soft vegetation still forgiving of their worn out teeth. Elephants spend 16 hours daily feeding, with peak activity in the morning and afternoon, and around midnight. They sleep, sometimes lying down - for 4-5 hours daily. They can go for several days without drinking, during which they range for up to 80 km away from water.

But they drink and bath daily by choice, with bathing coming after drinking. A mature bull may drink 100 litres at a time and up to 227 litres a day. A need for extra sodium in the diet is met by visiting mineral licks - where elephant excavate pits and even caves with their tusks- or by drinking saline water.

Elephants very much love contact, as is typical of social animals and primates. Family members stand touching while resting or drinking. And they lean and rub their bodies together, often touching one another with their trunks in various contexts. In a greeting ceremony, a lower ranking animals insert its trunks tip into a senior's mouth. This practice enhances social harmony as it enables elephant of different rank and relationship to come close together amicably.

Mothers often guide calves by gripping their tails, and older calves follow holding the mother's tail. A touch, an embrace, or a rub with a foot reassures, while a slap disciplines a calf. In courtship, ele-

phants may caress each other and twine their trunks; playing at fighting elephant trunk- wrestle. The trunk as an olfactory organ is used for tracking and for males to check female's readiness to mate. The temporal gland near the eyes is active in all African elephants when excited or anxious, staining the cheeks below the orifice of the gland.

Trumpeting is the sound of excitement, produced by blowing through the nostrils hard enough to make the trunk resonate, while holding it straight down or curved slightly backward. The sound can be modulated, from a short blast given by a startled animal, to a prolonged reverberating cry of frustration and rage. Then, it is combined with growling and screaming in threat displays. Trumpeting can also signal alarm or a cry for help; it is also voiced during the intense greeting ceremonies.

Females first conceive at age 10-11 years. Thereafter, the interval between calves ranges from 4 to 9 years, depending on nutrition and population density. Gestation is close to 22 months and twins are very rare. Mating and births are most frequent during the rains.

The bond between a mother and her offspring is very close and can endure for 50 years. Mothers water and wash calves by gently squirting water over them and then scrubbing with their trunk. In times of drought a mother will regurgitate water from her stomach and spray it to cool her calf. Even at nine years, a calf may spend over a half the time less than 5m from its mother. A calf may be weaned as early as 1-2 years, but often nurses for 4 or more years. Related cows suckle one another's calves and some cows may continue lactating through their childbearing years.

Elephants were once common throughout Africa, even in northern Africa when the Romans reigned. Today, they are mainly found in Eastern and Southern Africa, where water and trees occur. But their range and number have shrunk with increasing human population, development, and poaching. As recently as the early 1980's, an estimated 1.3 million elephants survived.

But greatly accelerated poaching had already begun, fuelled by a rise in the price of ivory and political and civil instability in various parts of Africa. This brought about easy access to firearms and poachers went unpunished. By the end of the decade, elephant population over much of eastern Africa had declined by up to 80%, both outside and inside the parks.

The rapid catastrophic decline in numbers means that the survival of the African elephant is less than assured. The main pressure emanates from first, competition for habitat with humans and second, the ivory trade. Richard Leakey, one time head of Kenya Wildlife Service has recently promoted the view that drying up of habitats caused by global warming will be the ultimate challenge.

Conservationists shocked at the fate of the deceptively indestructible elephant in eastern and central Africa have advocated for the complete ban of the ivory trade. In 1989, the Convention on International Trade in Endangered Species (CITES) listened to them and imposed a moratorium in international trade in ivory. This led to such serious erosion in demand that poaching declined and numbers set on recovery.

Obtaining of a permanent ban in ivory trade is not easy. In Southern Africa good wildlife management practices has led to an excess of elephants, relative to habitat carrying capacity. These nations have untiringly lobbied for a lifting of the ban. In 1996, CITES invoked a restricted lifting of the ban for Zimbabwe, Botswana and Namibia with unhappy results. Poaching resumed in Kenya, Zambia, Ghana and other African countries. The problem is that it is not easy to tell apart legal and illegal ivory.

Trade in ivory encourages poaching in vulnerable countries. In the short to medium term, it appears that a moratorium in ivory trade holds the key in protecting the elephant. The bloody ivory trade,

though more limited than earlier, continues and a 2005 report funded by Care for the Wild International and Save the Elephants, found that London among other major cities, is one of the world's principal markets.

Excess elephant numbers puts great pressure on the human communities living close by. They destroy food crops, trees and sometimes even injure and kill people. The argument for limiting elephant numbers in some locations is difficult to challenge. In addition to periodic culling, this can be achieved by non-lethal methods such as translocation, expanding parks and contraception. In August 2005, an exercise got underway to relocate elephants so as to enhance biodiversity and save a unique coastal forest in the Shimba Hills National Reserve of Kenya. Here, the population had shot above the estimated capacity of 200 to about 600. This undertaking by the wildlife authorities in Kenya will be the largest elephant translocation the world has ever seen. The plan is to move out 400 elephants from Shimba Hills to Tsavo East National Park.

At the same time the concerns of local farmers, who have increasingly complained that the elephants are not good neighbours as they destroy crops will be addressed. This unprecedented operation is so huge that some have called it "Noah's Ark Two". It is the only option in Kenya, where it is illegal to hunt or cull wildlife. The mechanics involved are straightforward- the animals are first tranquillised and then loaded into special trucks. But considering the massive size of the animals and the numbers involved, the logistics are far from straightforward.

Elephants have more profound impact on the environment than any mammal, besides man. The beneficial effects include opening up thick forests for regeneration through a process ecologists refer to as gap ecology. In this dynamic, they bring in more light and enable some light dependent plants to sprout and flourish while bringing food within reach of smaller browsers.

However, the negative effects of destroying trees-, which has been spectacular in many African parks - sometimes, overtake these benefits. In Murchison Falls (Uganda) and Tsavo (Kenya), for instance, woodland was transformed into grassland, to the great detriment of elephants themselves and many other wildlife species, particularly the black rhino.

Strategies for saving the elephant can only be devised with man's acquiescence to share the living space and a very clear understanding of the life of the elephant- habitats, ranging patterns, food needs, birth and death patterns and social life. Fortunately, the African elephant has come under very close study in recent years. In Kenya's Amboseli National Park, Cynthia Moss has since 1972 undertaken the longest running African elephant field research project. The Amboseli Elephant Research Project (AERP) <http://www.elephanttrust.org/>

Shas collected copious amounts of data on the world of free-ranging African elephants. One Amboseli matriarch -Echo, is the star of the film trilogy "Echo of the Elephants". Cynthia Moss and her research collaborators have singled out more than 1,400 elephants, many of which they call by name. For her labours, she is recognised as the world's leading authority on the African elephant. Time magazine has featured her in their "Heroes for the Planet" series.

Elephants can be dangerous and travellers are warned to avoid close contact except under very safe circumstances. While incidences are very rare, elephants have been known to shatter vehicles and even aircrafts into pieces. Such aggression is mostly confined to females with young calves, but injured bulls are also very dangerous and have been seen blocking roads and easily attack if provoked. It is always advisable to let elephants - much like other animals - have the right of way while on a game drive. Ironically, very small animals like birds and mongoose reportedly scare this giant. Folk

wisdom has it that they are so fearful of chameleons that on seeing one, the mighty elephant, usually so tranquil and dignified will make a hasty run for dear life!

For travellers and animal lovers, elephants are among the most treasured species of Africa's wildlife. There are a good number of elephant hot spots throughout Eastern and Southern Africa. In Eastern Africa, you will find plenty of them at Amboseli and Maasai Mara in Kenya, and Tarangire and Ruaha in Tanzania. In Southern Africa, you are best advised to head for Kafue in Zambia, Mana Pools and Hwange in Zimbabwe; Chobe and Moremi in Botswana; Kruger in South Africa and Etosha in Namibia.

In eastern or southern Africa, you will of course also see the other wildlife Africa is famed for. You will see that on the basis of character, strength and intelligence, the elephant stands head and shoulder above so many other animals. You may even come to share my opinion that the elephant is the real king of the jungle, and not that overrated pretender - the lion.

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