



Elephant – an overview

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1. Significance of Various Organs

Trunk: The trunk is the most attractive feature in an elephant and makes it look different from other herbivores. Trunk is an extension of the upper lip. The shape and length of the trunk varies in various elephants. Some elephants have a very long trunk that touches the ground, where as others have very short trunks. The free end of the trunk is produced into a triangular finger like tip. This organ enables the elephant to pick up the smallest of objects from the ground. The trunk is made of two types of muscles. It is by the action of these muscles that the elephant is able to extend or retract its trunk. The trunk has two openings on its free end. The opening within the trunk forms the nasal passage. The nasal passage runs into the centre of the forehead bump, followed by the gullet and finally branches into the lungs.

The elephant thus breathes and also sucks water, through the trunk. The trunk is also used for other things such as spraying the body with water, uprooting grass, pulling down branches, tearing the palm branches apart etc. The elephant has a highly developed sense of smell. Using the trunk, they can smell objects and people. Bulls use the trunk to check if a cow is in heat. They hold twigs or branches by the trunk to scratch their body.

Tusks: Tusks are modified incisors of the upper jaw. They arise from the front portion of the skull. $\frac{1}{3}^{\text{rd}}$ of the tusk is embedded in the skull and the rest is visible from outside. $\frac{2}{3}^{\text{rds}}$ of the tusk is hollow and consists of pulp. Tusks continue to grow throughout the elephant's life. In captivity, the tusks are trimmed once in every two years. Elephants with long divergent tusks are considered attractive in Kerala. Tusks acquire various shapes. They are also called 'white gold', because of the demand for ivory. Ivory continues to be a priced commodity, for which several elephants have been killed. It is therefore rightly said that the tusk is the elephant's enemy. The tusk is used as a defence weapon during fights between elephants. They are also used to push trees down, lift objects etc. The Asian cow elephant and Makhnas possess tushes instead of tusks. African bulls and cows possess tusks.

Ears: Broad and fan shaped ears make an elephant attractive. An elephant that fans its ears constantly is considered healthy. The ears help balance the body temperature of the elephant. The skin on the ear is very thin and the veins can be seen very clearly. Injections and intravenous are administered through the veins on the ears. The sides of the ears begin folding inwards as the elephant becomes older. It is possible to make a rough estimate of the elephant's age by looking at the folds. The ear folds about an inch in 30 years, meaning if an elephant has a fold measuring an inch, its age can be predicated as 30 years.

Eyes: The eyes are relatively small in size. The elephant cannot see objects at long distance. The colour of the eyes are normally honey or dark brown. A third eyelid within the eye protects the pupil. This makes it difficult to apply ointments on the eye. Hence medicines must be applied from the lower portion of the eye.

Teeth: The elephant possesses only molars and there are four of them at any given time. The upper surface of the teeth is made up of several ridges. The teeth are replaced constantly. New teeth arise from behind the mouth and push forwards while growing and the older teeth fall off. The teeth are replaced six times in an elephant's lifetime. Thus there are a total of 24 teeth. Occasionally one may observe a single worn out tooth or a pair, on one side of the jaw. If a pair is seen then one of them is the remnant of the old tooth and the other is the rudiment of the new tooth. The teeth are replaced at various ages in an elephant's lifetime. The first set of teeth appear when the elephant is a year old. These are replaced when the elephant is six years





of age. This is followed by further replacements at 9, 25, 50 and 100 years of age. The age of an elephant can be estimated by observing its teeth. The sixth set is the largest of all the sets and it measures 1 foot in length, 2 inches in breadth and approximately weigh four kilo grams.

Fore and hind limbs: The limbs are strong and pillar like in appearance. In *Malayalam*, the forelimbs are called *nada* and hind limbs, *amaram*. The joints between the bones are vertical which make it difficult for elephants to jump forwards. The limbs bear digits and nails. The digits are not visible as they are embedded within the skin. The nails are visible. Most elephants have 18 nails, 5 on each foreleg and 4 on each hind leg. The number of nails varies in number and some posses 16 or 17 nails. Those with 16 nails are considered inauspicious. It is rare to see elephants with 20 nails, which is considered as a very auspicious sign.

Internal organs:

Tongue: The tongue is fleshy and cannot be protruded outwards. While feeding a depression is found in the middle of the tongue where the food material is placed and folded backwards into the mouth.

Digestive system: Stomach is single chambered. The intestine is approximately 170 feet long. Digestion takes place in the large intestine.

Liver: Liver is large but gall bladder is absent

Heart: Has 2 apexes. The rate of heartbeat is 28 times per minute, but it is greater when lying down i.e. 35 times per minute. Heartbeat is recorded from the veins behind the ears.

Testis: Are located internally, on either side of the vertebral column.

Temporal glands: Are located in the temporal region of the brain. They lead to a temporal opening which is located between the eye and the ear. During musth, the temporal gland becomes enlarged and secretes a fluid, which runs out through the temporal opening.

2. Auspicious and Inauspicious Points of Elephants

In Kerala, as in other states, the presence or absence of certain physical characters determine the quality of an elephant i.e. its temperament and disposition. Based on these traits, it is also judged if the elephant is auspicious enough to be owned or purchased. Listed below are a few of them.

❖ A dignified look with a raised head and low back.

❖ The fore and the hind feet should be placed straight and firm on the ground. The legs must be straight without deformity.

❖ The twin domes on the head (*thalakunni*), should be big, raised and evenly separated. They must not be close to each other

❖ The forehead bump (*vayukumbham*) must be broad and projecting forwards.

❖ The portion on the face, between the eyes and the tusk (*cheela*) must be compact This portion must be long and broad. In cow-elephants this region is less pronounced.

❖ The eyes must appear clear, with the colour of honey and should be moist The pupils must be dilated. Red eyes in elephants indicate an aggressive and angry temperament. This is also observed during musth. Eyes may turn red due to injuries. One must be wary of elephants that have a fixed gaze.

❖ The ears must be large. While being fanned, they must strike with a loud flapping sound in the front. Small ears are not desirable in elephants.

❖ The tusks are decisive in judging an elephant's appeal. They may be formed in several ways such as, converging in the front, diverging, or curved upwards, etc. The ideal is that, the tusks should grow downwards, rise up, and then be evenly separated. The colour must be that of butter or sandalwood.

❖ The trunk should be fleshy, broad, long and trailing on the ground. The tip of the trunk (*thunikkai*) must be long, triangular and strong. Injuries to the trunk, especially the *thunikkai* may disfigure the elephant.

❖ The temporal region, (*kannakuzhi*), must be swollen and fleshy. If this region appears depressed due to loss of fat or flesh, it can be assumed that the elephant is tired or weak.

❖ The back must slope downwards. The bones of the back must be pronounced and the area where the mahout sits (*irikkasthanam*) must be broad and fleshy, otherwise it will not be a comfortable ride. This seat of the mahout is above the forelegs or the scapular bone.

❖ The body must be long and the stomach must always be full and big.

❖ The tail must be long and end broadly into a fleshy region (*vaal kudam*). There should be ample hair on the tail. The tail must be long enough to touch the ankle, but not too long to trail on the ground, and should be devoid of twists or turns.

❖ Elephant usually have 18 nails, five each on the forelegs and four each on the hind legs. Rarely some have 20 nails, which is considered very auspicious. Indian mythology claims that Airavat, the elephant of Lord Indra, possessed 20 nails. Elephants that posses 16 nails are considered inauspicious for individuals to own, but institutions like temples could





keep them. The nails must be clear and smooth without cracks and must appear pronounced like the shell of a tortoise. Elephants used for labour and physical activity may have broken nails.

❖ The skin must be jet black in colour (like black teak or a group of rocks). In *Malayalam* elephants are called *kariveeran*, meaning the 'black hero'. The skin must be resilient. Lack of resilience is an indication of dehydration.

❖ When multiple hairs arise from a single root, it is considered an indicator of long life, and is a good sign. These occur usually below the eye or between the eye and the trunk, or on the sides of their chin.

❖ If the insides of the mouth or the upper surface of the tongue is black, the elephant's character is considered unpredictable.

❖ It is inauspicious to have black markings on the penis.

❖ The elephant makes a gurgling sound, from the throat, on seeing its favourite mahout or owner. Similarly it may excrete dung or urinate, to express its happiness. All these are considered as good signs. If the elephant remains motionless (without fanning its ears), when approached, then one must be wary of it.

3. Handling of Elephants

Elephant being the largest land mammal and also a creature of intelligence has to be handled very carefully. Discussed below are some points that need to be understood, in order to handle elephants properly.

Restraining devices:

A variety of devices are used to control elephants. They are *cherukol* (short stick), *valiya kol* (long pole), *thotti* (ankus). The short stick measures 3.5-4 feet in length and is about 2-2.5 inches thick. The anterior end is rounded and thicker. The mahouts beat the elephant with that end. The stick is made from the branches of a few local trees are used. The mahout must always carry the stick with him while approaching the elephant.

Thotti or hook is 3.5 feet in length and 3 inches thick. One end is rounded and thicker than the rest. To this region an iron hook is attached. The region above the hook is flat or rounded. The regions above and around the hook are covered with brass. The hook is used to control the animal.

Valiya kol or long pole is 10.5 feet in length and 5.5 inches in thickness. On the rounded end of the pole, a piece of iron projection, of about 1 inch length is present. On the opposite end a four-inch long knife is placed. Sometimes the knife is replaced by a rounded ball, made of iron. The latter inflicts pain but does not cause external injuries. The end which bears the *kooru*, can cause punctures and open wounds. The *Valiya kol*

is meant to be used from a distance i.e. when the elephant does not allow the mahout to come close.

All the above mentioned devices must be used with extreme caution. It requires a lot of experience to understand the appropriate use of these devices. The devices must be used only as a last resort.

Chains:

Elephants may be tame or docile, but in captivity they require chains. Chains make it easier to fasten an elephant that has bolted or is out of control. They are a precaution against any accidents, damage to property and loss of life. While tethering, one chain is fastened on to one of the hind legs and the other to a tree or solid object. If an elephant is mischievous, one of the fore legs is also fastened to an object in front of the elephant. The chains should not be too tight. The hook on the chain must further be strengthened by using a small piece of plastic rope or fibre. The knots must be strong, so that the elephant is unable to open it with its trunk tip. The same chain can be used as a body chain, while the elephant is walking. One end stays on one of the hind legs and the other goes around the body. The hook on the loose end of the chain is tied loosely to one of the links. If the chains are fastened too tightly, the elephant will not be able to walk. When the elephant bolts or goes out of control, it makes it possible for the mahout below, to snap the chain. The mahout on top can push the chain down to trail on the ground. On finding a suitable tree or post, the mahouts should try to fasten the chain.

Elephant chains should be strong and flawless. The tethering chains should be 1/2, 5/8 or 3/4th inches in thickness and 21 feet in length. Hobbles should be 11 feet in length. The rope around the neck is 21 feet long and is doubled while tying around the neck. In North India, chains with spiked belts are used to fasten elephants.

Mounting and riding:

An elephant can be mounted in 8 different ways they are mounting by front and hind legs, by ears, by trunk, and by stepping on tusks. Similarly elephants can be dismounted by 10 methods. The first eight are the same as in mounting. The other methods are dismounting via tail and by using the body chains. While riding an elephant, it is safer to use the rope around the neck. The rider must insert his feet between the ropes and the neck, for better balance.

Foot commands:

Elephants are trained to obey foot commands at an early age. They are trained to respond to the movements of the rope around the neck. Some basic foot commands are listed below:

Walk forwards Press with toes behind





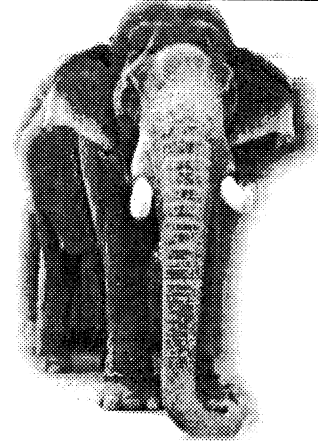
	elephant's ears
Walk back wards	Press backwards with heels
Lift trunk	Use toes and push upwards
To sit down	Use one heel and push downwards. The rider must remove feet from the rope, when the elephant begins to start sitting.
Turn left	Hold left heel backwards and press right toe forwards
Turn right	Hold right heel backwards and press left toe forwards

Breaking an elephant:

The breaking of an elephant in this context is different from the breaking of a horse. In Kerala, the process by which a new mahout establishes control over an elephant is called *Kettiazhikkal*. Elephants do not easily accept a change of mahouts. Mahouts also need time to understand the elephant's personality.

If the previous mahout is available, the new mahout should spend time observing how he handles the elephant. He should also in the presence of the other mahout assist with chores such as cleaning the tethering area, scrubbing, feeding, etc. The elephant would thus accept the new mahout as its caretaker. Gradually the new mahout must try to make elephant perform various commands. The elephant may act aggressive initially. The mahout must control the elephants with the restraining devices or words of command. The elephant thus develops a fear for the new mahout but at the same time also learns to trust. The mahout however must be very careful during this initial bonding period. He must carry his restraining devices while approaching the elephant. The elephant should be properly chained i.e. hobbles and body chains when being taken out for walks. Thus the relationship between mahout and elephant develops gradually.

In the recent years, *Kettiazhikkal* has taken a violent form. Mahouts do not follow the above procedure. They attempt to control the elephant only by physical force. Several mahouts approach the elephant from various sides and inflict injuries using long pole, stick and hook. Elephants resist for a while but then they succumb to injuries and pain and allow the mahout to take control. This is not a correct method. Several elephants have been severely injured and killed during *kettiazhikkal*. Such elephants eventually turn out untrustworthy and killers. This method is extremely cruel and must be discouraged by all those who are concerned about the welfare of elephants.



Evolution of Elephants - The Mythological Story

Elephants are worshipped and respected almost all over India, by the Hindus. Indian mythology contains several stories about them. There is one such story about their origin. *Lord Brahma*, created elephants with his divine powers of creation. At first, he rolled up some loose soil, into a sphere. He chanted some *Vedic mantras* and the mud ball acquired divinity. This divine sphere was consumed by Aditi, a *Devadasi* or celestial beauty. After a gestation period of 1000 years, Aditi delivered the sphere, and it split immediately into 2 halves. Brahma took the two halves and transformed it into elephants. The male was named Airavat and the female, Abramam. Both these elephants had white skin, 4 tusks and a pair of wings. It is believed that these two are procreators of all elephants that are living. These divine elephants were very strong. The Gods in heaven thought it would be good to have a few more to protect them against demons. Lord Brahma therefore created 7 more pairs of elephants. These seven pairs of elephants along with Airavat and Abramam were posted at the 8 entrances to heaven as guards. They were collectively called as *Ashtadikpalakas*, meaning 8 divine guards. The *Ashtadikpalakas* were,

<u>Males</u>	<u>Females</u>
Pundareekan	Kapila
Pushpadantan	Tamarakarni
Vamanan	Angana
Supradeekan	Anupama
Anjanan	Anjanavati
Sarvabhowman	Subradanti
Kumudan	Penkala
Airavatam	Abramam

