

## Seasonal Behaviour and Treatments of Elephants in Ancient India

K. G. Sheshadri

*Devinagar, Lottgollahalli, Bangalore, India*

*Author's e-mail: kg\_sheshadri@yahoo.com*

**Abstract.** Elephants have fascinated humans from ancient times in eastern cultures that a vast literature related to their characteristics, diseases and their treatment were developed. All known texts attribute the knowledge of elephants to Sage Pālakāpya. His elaborate treatise titled the '*Hastyāyurveda*' is in form of a discourse dealing on elephant diseases, their remedies as well as elephant behaviour. Seasonal behaviours of elephants have been richly described with their causes along with traditional practices of treating them according to the six seasons for their sleep, food and diseases. This involves administering of foods, oils, bathing, regularization of their sleep and work routines recognizing their seasonal behaviour. Such seasonal treatments cure the diseases easily that have been elaborated in the text and presented here briefly. Timely diagnosis and suitable seasonal treatments will help to protect domesticated elephants and those in the wild before they succumb to such diseases thus promoting elephant conservation.

### Introduction

Elephants have played a prominent part in eastern cultures from ancient times. The importance of elephants in war made their management very important for kings and a lot of literature on elephant capture, training husbandry came into existence in Sanskrit, the ancient language of India. Elephantology developed into a branch of science related to governance in ancient India and many early works on statecraft devote chapters to it.

All known texts attribute knowledge of elephants to the Sage Pālakāpya (Harbola 2003). Apart from him, among the other ancient authorities referred to are Vīrasena, Bṛhaspati, Nīlakaṇṭha, Vyāsa, Nārada, Rājaputra and Vaiśampāyana. Several such treatises have been briefly discussed in recent publications (Bhattacharya & Sri Gondekar 1924; Cheeran 2013). There also exist several regional texts in vernacular languages such as Lokopakāra of Chāvūṇḍarāya II (in Kannada), a poet scholar of Karnataka in court of Jayasimha II (1015 – 1042 A.D) (Shesha Iyengar 2002), the Śivatattva Ratnākara an encyclopaedic text of Keladi Basavarāja (Shastry 1964), Mānasollāsa of Chalukyan king Someśvara (1131 A.D) (Sri

Gondekar 2001), 'Mātaṅgalīla' of Nīlakaṇṭha (Edgerton 1985), 'Gajagrahaṇa Prakāra' of Nārāyaṇa Dīkṣita (Sarma 1964) (all of these in Sanskrit). Some of these treatises deal with the characteristics of elephants, their behaviour, classification and diseases – causes, diagnosis and remedy.

Maharshi Pālakāpya's treatise titled the '*Hastyāyurveda*' is an elaborate text in the form of a discourse dealing extensively with elephant diseases and their remedies (Sharma 1894a). Here I present gleanings of the seasonal behaviour and treatments of elephants in ancient India based on this text.

### Seasonal behaviour of elephants

Indian poets laud the six different seasons in their works consisting of spring [*Vasanta*], summer [*Grīṣma*], rainy [*Varṣa*] autumn [*Śarad*], cold [*Hemanta*] and winter [*Śiśira*]. Each season is characterized in ancient Indian literature and the behaviour of all fauna and humans is thought to be rhythmised by nature according to the seasons. Their bodies are said to undergo changes and subjected to ups and downs afflicted by diseases in some seasons while being healthy

in others. Likewise elephants are also thought to be subjected to seasonal variations in body and behaviour. Sage Pālakāpya's treatise '*Hastyāyurveda*' deals with such seasonal behaviour in the Kṣudra Roga Sthāna (section on minor diseases) in chapter 13. He describes elephants being afflicted by an incurable disease that arises by not being restrained or trained properly when they are young. Restraining elephants at an early age by chaining them and bringing them for training afflicts their minds as they ponder over the joys of forest life that they enjoyed in various seasons. In this context, the sage describes their behaviour in different seasons that are briefly narrated below (Sharma 1894b).

### Spring

In spring, nature is at its full marvel with various flowers blooming and intoxicated by humming of bees, parrots and other birds. The elephants enjoy this spring season and move about in caves, rivers and forests eating different fruits, flowers, fresh shoots and leaves, enjoying the winds and fragrance of flowers, viewing dances of peacocks and jungle animals, getting immersed in various rivers and streams hearing the cries of water birds like *Hamsa* (swans), *Kāraṇḍava* (coot), *Cakravāka* (ruddy Sheldrake), *Sārasa* (crane), *Baka* (frogs) and entering lotus filled lakes (Fig 1). Mentally intoxicated by the God of love, male elephants attend the females by holding their trunks until their sexual desires are pacified sporting with them in various lotus filled rivers also hearing songs of cuckoos and other birds.



**Figure 1.** Elephant hearing the cry of a waterbird.

### Summer

In summer as the sun's rays become hotter and drying of all trees takes place, elephants are mentally distressed and are getting angry as they roam about the caves, hills and other places for water, amidst the humming sounds of bees and migration of other animals towards water holes. During this process, elephants enjoy the sounds made by lions, monkeys, hyenas, bears, tigers and so on. Elephants sport with deer by thrashing around in the waters when they come to drink as well as play with the fishes in the water. They ardently listen to insect songs or sport with young ones of other animals either by taking away their food or spraying waters or disturbing their sleep. They uproot branches of trees and wave them like fans to ward off the heat and spray their bodies with water or mud from their trunks (Fig. 2).

### Rainy season

When the rains finally arrive after a hot and dry summer, all animals get relief, so do elephants. Elephants enjoy the fresh smell of earth, smell of lotuses, sounds of forest birds, fresh sprouts of various trees and plants. As rains lash the forests more, the elephants spend the night under stones or boulders, hard tall trees, caves or hills with their females or young ones. If rain is medium, they listen to rain drops, thunder and lightning, and enjoy seeing the clouds. Sometimes playfully they spray waters on the females. They yearn for Doorva (*Panicum dactylon*) grass, sprouts, jungle grasses, barley and bamboos. They also enjoy the nights illuminated by fireflies and are stricken by fear of lightning flashes.

### Autumn

As rains slowly subside and the sky gets filled by stars, forests are full of various trees that have sprung up after the rains and the elephants enjoy their sight and move in mountains and caves. There they enjoy the movements of various wild animals like deer, boars, buffaloes, chamaris, rhinos and cows, they also sport over newly opened lotus leaves, smell various creepers, hear the sounds of different insects and water birds. They like to immerse themselves in waters made



**Figure 2.** Elephant spraying water in summer.

fragrant by flowers, lotus ponds and hitting the fishes.

#### *Cold season*

As rains bring in a drop in temperature, the elephants take shelter in caves, smell various flowers, enjoy the sounds of bees and other insects and watch dances of other wild animals. They move about with the females and enjoy together with young ones of two footed animals. Sometimes elephants also sport with ripe fruits on which snow has fallen, with the females in hills, roaming in the forests. They sleep under the shades of trees in windless places. As intoxication and anger sometimes increase due to cold, they attack other animals or elephants that portray their strength or sport with other females.

#### *Winter*

As cold increases with snow falling over various regions male elephants enjoy the touch of cold streams with female elephants along with pigeons and youthful playmates of other animals. They also admire the new flowers, smelling them and hear the sounds of water birds. They enter the waters with female elephants eating green grass and leaves in the forests. Due to intoxication, rut flows from their temples and male elephants get angry. Sometimes they get swooned or attack other intoxicated elephants having a sense of victory on defeating their opponents. They may bathe with herds of elephants or sometimes leave them, moving towards a female to pacify sexual

desires. Breaking off tree branches or leaves they may feed the females with their trunks.

#### **Seasonal treatments for elephants in *Hastyāyurveda***

The *Hastyāyurveda* is in the form of a discourse between king Romapāda and Sage Pālakāpya. The whole work is divided into four sections named as follows- Mahārogasthāna, Kṣudrarogasthāna, Śalyasthāna and Uttarasthāna. The Uttarasthāna begins with the chapter on giving medicated oils [Snehapānāḥ] to elephants according to the seasons. In cold season, cold water with clarified butter is to be given. In hot seasons, administering oils causes the elephant to sleep. During rainy season, oils if not given properly cause various diseases. Oils give strength to the skin, decrease heat and remove intestinal worms. The measures of oils to be given in different seasons varies based on the class of elephant – *Uttama* [32 ādhakas of oil], *Madhyama* [28 ādhakas] and *Adhama* [24 ādhakas] oil is to be given (one ādhakas = 3.072 kg). The treatments are further elaborated in [Uttarasthāna, Snehavidhikathana, Chapter IV] and are given briefly according to season below (Sharma 1894c).

- (1) Summer – When sunrays are more, the belly of elephants is affected by winds (*Vāta*) and causes problems in genitals. Unrefined oil with three parts water is to be given for a month in the forenoon followed by bathing the elephant in the afternoon and giving it grass to eat. These minimize dysentery, dryness of face and eliminate *pitta* (bile) disorders.
- (2) Rainy season – Rivers and waterfalls become slushy with mud and by drinking such waters or consuming soft grass full of *doshas* (consisting of this slushy mud), there are problems in genitals. Hence elephants must be given clarified butter and oils.
- (3) Autumn – As grass is in plenty when rains are subsiding, the elephants feed on them. To minimize bile disorders, elephants must be given clarified butter and milk.
- (4) Cold Season – To minimize phlegm and windy disorders, elephants must be administered barley and refined oil.

- (5) Winter - As cold winds blow, elephants suffer from phlegm diseases and the body becomes weak. Triphala rasa [a decoction consisting of the three Myrobylans – Āmalaki (*Embilica officinalis*), Bibhītaki (*Terminalia bellerica*) and Hārītaki (*Terminalia chebula*)] with oils is to be given to pacify them.
- (6) Spring - As flowers are full of pollen and blossoms are rich, the elephant must be given oils and barley so that urine flows take place from bladder. Sweet, astringent foods are to be given.

The [R̥tucaryādhyāya, Chap. XV] of the text is even more elaborate in describing nursing of elephants during the six seasons (Sharma 1894d).

- (1) Cold Season - As heat is less and snowfall occurs, the elephants are to be given sweet foods to pacify bile disorders. The place of sleep must be bereft of winds, mud and water and have mild rays of sun falling on the area. The head and feet of elephants must be protected from cold. Oils should be anointed on their head the previous night. Elephants are to be administered with śāli, *sasthika* rice with oils and salts.
- (2) Winter – As cold winds and snow increase, either dry foods or those bitter in taste are to be given. One must light a fire for warmth in elephant stables and cover elephants with blankets. They must be given grass, mouthfuls of parts of trees and warm foods that minimize phlegm and windy diseases. Liquor can be given as a drink with salts as desired. To minimize phlegm elephants must be sprinkled with oil and bathed properly.
- (3) Spring – As the season is neither too warm nor cold, phlegm increases. Elephants drink water from pools, become intoxicated by amorous desires hearing sounds of forest birds and bees. Elephants must be bathed well, given barley, śāli rice and light drinks. It is not good to make elephants carry heavy loads.
- (4) Summer – As sun’s rays are more in summer, the elephants become weak due to over-travelling in search of water. As skin becomes dry and wears out, the phlegm rises to the head regions and it suffers from

*Raktapitta*. Elephants must be given barley, green grass, leaves of milk oozing trees, molasses and clarified butter made into balls administered in the morning. In the night the *raktaśāli* variety of rice, milk and clarified butter mixed together is to be given to cool them. *Rasas*, which are dry, astringent and pungent with oils can be given. Bitter, acidic and hot foods are not to be given. They must not be made to take heavy loads. The head must be anointed with clarified butter. Drinking water or honey should be given in large quantities.

- (5) Rainy Season – In this season, the digestive fire of elephants is mild. Acidic rasas minimize the pitta or bile disorders. Barley, wheat, śāli rice, Molasses and gruels that are refined can be given. Oils, salts and barley are to be given. Elephants must be made to drink water from wells as other waters are slushy with mud due to the rains. They must be taken for a walk. Stables of elephants must be smoked with suitable incense to reduce pests.
- (6) Autumn – In this season, as the clouds part, the sun rays appear strongly. Due to the heat, elephants become angry and *pitta* disorders increase. To minimize them, salty *rasas*, barley, wheat, śāli rice mixed with molasses, clarified butter, milk, fruits and pulses are to be given. In the daytime they must be made to sleep in a cool place and in night time under moon rays. They must be bathed in waters that are pure and non-poisonous. Elephants should be taken around forests showing freshly bloomed flowers that make it pleasant. Sweet grass and lotuses can also be fed.

Apart from these seasonal treatments given by *Hastyāyurveda*, the text also gives certain procedures that are to be practiced in all seasons for their welfare. Elephants must be awakened and made to sleep at the correct time. They are to be bathed and dried in a windless place with waters removed from their ears. Thereafter anointing medicated oils on their head, they are to be again plunged until the limit of ears, protecting the head and sprinkling their forehead to minimize rut flows. In summer, they must be

awakened before sunrise and made to sleep in the night for ½ *Nādi* or 6 *Nālikas* (*Nādi* being equivalent to 24 minutes and *Nālika* to about 60 minutes respectively) for two fortnights. In the afternoon, milk, ghee and water is to be given. In the rainy season, elephants must be awakened and bathed in sunrays, mud offered with trunk and made to drink cow's urine. Night sleep must be for 6 *Nālikas*. In the cold season, they must be bathed in the forenoon and quickly brought out. Night sleep in this season is for about 8 *Nālikas*. In the winter, Oil should be sprinkled all over the body for 3 days after bathing to improve the complexion of the skin. This removes itching and also cures wounds. In both fortnights, they must be made to sleep well for 10 *Nālikas* and also brought back to their place of residence or to the stable.

### Conclusions

Elephant behaviour has been observed and documented since the earliest times by these ancient texts. Even more remarkable are the descriptions of Sage *Pālakāpya's* text as they enrich our knowledge about seasonal behaviour and treatment of elephants.

The intricate details offer us a rich glimpse of the elephant's behaviour and how they affect the elephant's mental attitudes by making them do something that opposes their attitude of a particular season. Description of diseases affecting elephants due to various causes in the different seasons also makes one diagnose them suitably and offer medication. The text is clear in the aspects of food measures, their timing, the quantity and quality of foods and drinks, the walking, bathing, sleeping and protection in various seasons. Interdisciplinary research supported by field studies may allow one to assess these ancient Indian observations of elephants and understand them better.

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