

# **ELEPHANTOLOGY AND IT'S ANCIENT SANSKRIT SOURCES**

**Thesis submitted to the  
University of Calicut in partial fulfilment of the requirements  
for the Degree of  
DOCTOR OF PHILOSOPHY IN SANSKRIT  
(As a part of M.Phil/Ph.D. Integrated Programme)**

**By  
GEETHA N.**

**DEPARTMENT OF SANSKRIT  
UNIVERSITY OF CALICUT**

**2013**

**Dr. P. NARAYANAN NAMBOODIRI**  
**Professor**  
**Department of Sanskrit**  
**University of Calicut.**

## **CERTIFICATE**

This is to certify that this thesis **ELEPHANTOLOGY AND IT'S ANCIENT SANSKRIT SOURCES** submitted in partial fulfilment for the degree of **DOCTOR OF PHILOSOPHY** (as a part of M.Phil/Ph.D. integrated programme) in the Faculty of Language and Literature in the University of Calicut, is a record of bonafide research carried out by **GEETHA N.** under my guidance.

C.U. Campus,  
Date: 31-12-2012

**Dr. P. Narayanan Namboodiri**  
(Supervising Teacher)

## **DECLARATION**

I, Geetha N., hereby declare that this thesis **ELEPHANTOLOGY AND IT'S ANCIENT SANSKRIT SOURCES** submitted in partial fulfilment of the requirements for the degree of **DOCTOR OF PHILOSOPHY** (as part of M.Phil/Ph.D. integrated programme) has not previously formed the basis for the award of any Degree, Diploma or Fellowship or recognition in this University.

C.U. Campus

Date: 31-12-2012

**GEETHA N.**

# CONTENTS

	Page No.	
PREFACE		
ABBREVIATION		
PART A		
CHAPTER I	INTRODUCTION	1 – 21
CHAPTER II	BOOKS ON ELEPHANTS	22 - 39
CHAPTER III	HASTYĀYURVEDA	40 - 51
CHAPTER IV	CONTENT ANALYSIS OF MĀTANGALĪLA	52 - 85
PART B		
CHAPTER V	THE LIFE-CYCLES OF ELEPHANTS	86 – 98
CHAPTER VI	CAPTURING OF ELEPHANTS	99 – 112
CHAPTER VII	METHOD OF KEEPING ELEPHANTS IN DAILY AND SEASONAL REGIMEN AND ĀYURVEDIC TREATMENTS OF ELEPHANTS IN KERALA STYLE	113 – 156
CHAPTER VIII	THE USE AND VALUES OF ELEPHANTS	157 - 165
CHAPTER IX	ELEPHANT IN KĀVYAS	166 - 181
	CONCLUSION	182 - 185
	BIBLIOGRAPHY	186 - 197

## PREFACE

India is wealthy by its own culture. Each nation is varied from its own language, investiture, religion and mores etc. Kerala is the centre of festivals and other cultural events. There are many festivals celebrated in the temple, church and mosque in Kerala. We can see the elephants are the main components for the most part of festivals because elephant is considered as divine.

Elephants can be found in the earliest examples of Indian art, long before the sculptures and frescoes at Ajanta and Ellora were created. Terracotta seals from the Indus valley civilization at Harappa and Mohenjodaro display the easily recognizable profiles of tuskers. The seals, stamps, emblems of newspaper some Universities, Eblems of some national flags, Emblems of some Rupees were also reveal hints of animistic traditions in which the elephants were probably revered as icons of nature. Elephants are the part of culture and tradition, there was not any distinction between Hindu, Buddhist, Jain, Muslim or Christian. Tuskers are found not only Indian iconography but also in folk, art, etc.

Elephant is considered as an inevitable part of Indian community. So they developed the study of Elephant which is based on *Hastyāyurveda* and *Mātaṅgalīla*. Even from the ancient time Indians were awareness about their hygiene and health. They were protected against diseases. They protected not just their own race but also plants and animals. Therefore *Hastyāyurveda* and *Vṛkṣāyurveda* had got equal status in *Āyurveda*.

The thesis is divided into two parts (A and B). The first part contains four chapters and the second part includes five chapters. The first chapter introduces the topic and gives the survey of elephants.

The second chapter devoted to the books on elephants in detail i.e primary and secondary sources. *Arthaśāstram*, *Aṣṭāṅgahṛdaya*, *Carakasamhita*, *Suśratasamhita*, *Bṛhatsamhita*; *Hastyāyurveda*, *Mātāṅgalīla* etc. are given a detailed description on this study.

The third chapter gives glimpses of description about primary source *Hastyāyurveda*, which describes about the author, origin of elephants, treatments in ancient style etc. are in detail content analysis of *Mātāṅgalīla* is narrated in the fourth chapter. Author, date, other works of the author, mythic origin of elephants, various castes names and their classification etc. are elaborately discussed in this chapter.

The fifth chapter begins from B part; discussing the life-cycle of elephants; which is divided into three viz. Baby, Adolescent and Adult, the stages of development and various names of them such as *Bāla*, *Paśuka* etc. This chapter explains how the adult's nourish their young ones, how much food they want and various names in their each phases etc.

Capturing of elephant is the sixth chapter. The catching method is describes according to the *Gajagrahaṇaparakāra*, and the methods are such as *Vāribhandha*, *Vaśāvilobhanā*, *Anugatā*, *Āpata* and *Avapāta* and the essential qualities of mahouts, elephants training etc. are describing here. The last two bandhas were considered to be inferior because in these, the animals sustained injuries which many times crippled them or were fatal at times.

Seventh chapter deals with the method of keeping elephants in daily and seasonal regimen and Āyurvedic treatments of elephants in Kerala style. This chapter narrates the signs and symptoms of elephant diseases and its management and an āyurvedic treatment. This chapter briefly describes the major and minor diseases of elephants etc, the seasonal variations, Main Doctors on elephants recuperative treatments etc. are the subject matter. In the Āyurvedic treatment meat soup, *rasāyanās* etc should be provided to them which will increase blood, pep, thrive, sperm etc.

The eighth chapter explains the use and values of elephants. In past, they were mainly used as beasts of burden and for military purposes; and are considered indispensable part in the timber industry and an inevitable part of the army. Today the use of elephants has been reduced to carry loads and in festive occasions decorated elephants got more place. Apart from this, they have considered as medicinal value. It's must fluid is considered as hair primitive, beneficial in disorders of bile, phlegm, wind and an antidote to poison and an effective healing agent. It describes that the elephant body partially or fully is considered as medicinal or economical use. Carakā, Vāghbhata and Suśruta are describes medicinal importance of elephants.

Nineth chapter explains elephants in *Kāvyās*, *Nāṭakas*, *Pañcamahākāvyās*, *Itihāsās Vedās*, *Purāṇās* etc. are chosen for writing. *Bhāsā's* 13 plays, 3 *Nāṭakās* of *Kālidāsa* and *Bhavabūti's Nāṭakas*, *Rāmāyaṇa* and some *Vedas* and *Purāṇas* are selected for writing. Love,

anger, valiance, beauty, manea (must), natural beauty, decoration etc. are explained here.

The concluding remark is given at last an Appendix and Bibliography are added in this work. Today elephants are facing decay of its race. So that now-a-days the study of *Elephantology* is a very helpful to comprehend the peculiarities of elephant.

### **Aim**

Some remedies for the elephant protection from the decay of the elephant race. This study is an effort to understand the *Elephantology* and its ancient Sanskrit sources. For elephant's welfare or protecting elephants, the following matters are done.

1. To convince the laity (common people) for protecting elephants race decay. Lack of food is one important thing. So that to increase or develop the food system.
2. Spread the grass cultivation, provided essential food and water to the animal.
3. To convince the mahouts and to teach and trained them is essential thing, they should provided best salary and accident insurance Trained and experienced persons only appointed as mahout.
4. The study of wild beast is an essential matter, so it must implement in Kerala.
5. More veterinary surgeons for elephants are essential in Kerala and other states.



6. Permission given to nourish male and female elephant for fertility. Other wise the race may be disappear from the world.
7. More Elephant Rehabilitation centres will be open in all district with the help of elephant owners. Here is essential a Doctor on elephants, whose service must provide at any time. Here must avail/apply the *Āyurvedic* treatment also. There must be essential of the council including Doctors for elephants, Environmentalists, Elephant protectors, mahouts, wild animal protecting officers and S.P.C.A (Society for the Prevention of Cruelty to Animal).
8. Wild animals learning are opening in master of veterinary science.
9. Elephant's working time reducing and torturing is an essential thing. They should be given rest once in a week
10. Common people's awareness is essential, so that it must be penchanted with animal welfare board and wild animal protection centre.
11. Immunity of elephant's health and status is the motto of this work. Neither adoration nor neutralization, but a sincere attempt for revelation of the truth is the expected result.

### **Relevance**

Due to spiritual importance elephants, are occupying an important position in Indian society. To a state like Kerala, where temples and rituals exercise an everlasting impact on day to day life of ordinary people, this enhances its scope. Guruvayur temple is one of the largest elephant protecting centres in Kerala. This shrine is famous in Kerala Anakotta at Punnathurkotta.

All renowned temples like Śrīkr̥ṣṇa temple at Guruvayur, Vatakkumnnatha temple at Thrissur, the Devi temple at Thiruvmanthakunna, Thiruvithamkoor Devaswam Board etc. have their own stables for protecting elephants. Certain families also keep elephants are considered as a symbol of their status. So the awareness of elephant science is inevitable.

It is my most pleasant duty to express my sincere and respectful thanks to my supervising teacher Dr. P. Narayanan Namboodiri, Professor, Department of Sanskrit, whose valuable suggestions and inspiration molded the work. My feeling of gratitude also goes to Dr. N.K. Sundareswaran, Head of the Department of Sanskrit. My sincere thanks are due to other faculty members, the teachers, non-teaching staff and friends for their encouragement and help in the preparation of this thesis. I would like to thank to the librarian of the Department of Sanskrit and C.H. Muhamed Koya Librarians. My special thanks to Librarians of Thunjanparambu, Kerala Sahitya Academy, Guruvayur Devasvam Library, Malappuram Govt. College Library, Kottakkal Ayurveda College, Adayar Library, History Department Library, Manuscript Library of Malayalam Department, Calicut University, Elephant Welfare Association Library-Thrissur, for helping me in the preparation of the thesis. I extend my sincere thanks to Dr. K.C. Panicker, who helped me by giving the most valuable instructions and gave some books for the preparation of this thesis. I express my gratitude to Dr. Vivek, Dr. T.C.R. Nambiar, who helped me to clear my doubts. It is my great pleasure to express thanks to Ceruvalli Narayanan Namboodiri helped me to write the thesis. I extend my sincere thanks to Maheswaran Namboodiri at Poomullimana, Mangalamkannu Parameswaran and sons. My thanks to the mahouts Mr. Satheesan, Harippad Vijayan, Nandakumar and others at Punnathurkotta, Guruvayur who helped me to take photos of elephants and giving me some valuable instructions. My thanks are due to Dr. E. Jayan, Dr. T. Mini, Mrs. E. Mallika, Dr. T.S. Ajitha and my family members, especially my

uncle Mr. E. Narayanan, whose valuable inspiration and encouragement is very helpful for prepare this thesis. It may be a great fault if I have not expressed my thanks to Mr. Sajeesh, Research Scholar, Department of Sanskrit. I thank to the members of Bina Photostat and Computer Centre. I express my sincere gratitude to them in this occasion.

C.U. Campus

Date: 31-12-2012

**Geetha.N.**

## ABBREVIATIONS

AA	-	Ānaye Ariyām
AH	-	Aṣṭāṅga hṛdaya
AK	-	Amarakośa
AP	-	Agnipurāṇa
AR	-	Adhyātma Rāmāyaṇa
AŚ	-	Arthaśāstra
AV	-	Atharvaveda
AVM	-	Ānavilliam
ABŚ	-	Abhiñjānaśākuntalam
AIW	-	Ancient Indian Warfare
AKK	-	Āna kadhayum kāryavum
ATT	-	Among tigers and tuskers
AEPF	-	Asiatic Elephants Past, Present & Future
AKKL	-	Āna kazhcaiyude kānappurangal
BP	-	Bhāgavatapurāṇam
BS	-	Bṛhatsamhitā
CS	-	Carakasamhita

DA	-	Domestic animals
DM	-	Dangerous to man
DBV	-	Dr. Bhandarkar Volume
EH	-	Elephant-lore of the Hindus
EM	-	Elephus maxim
EMY	-	Epic mythology
GS	-	Gajaśikṣā
GGP	-	Gajagrahanaparakāram
GŚM	-	Gajaśāstram
HAV	-	Hastyāyurvedam
IWWR	-	India's Wild life and Wild life Reserves
KS	-	Kumārasambhava
KCS	-	Kerala Sāhitya Caritram
KSSC	-	Keralīya Samskr̥tia Sāhitya Caritram
MC	-	Manuṣyālaya Candrika
MD	-	Meghadūtam
ML	-	Mātaṅgalīla
Mbh	-	Mahābhāratam
NA	-	Nāttānakal

NVV	-	Nammude Vanangalum Vanyajīvikalum
PK	-	Pālakāpya
PM	-	Poorvamegham
RV	-	Raghuvamśa
Rgv	-	Ṛgveda
SS	-	Suśrutasamhita
VM	-	Valarttumṛgangal
VP	-	Vanyajīviparipālanam
YV	-	Yajurveda

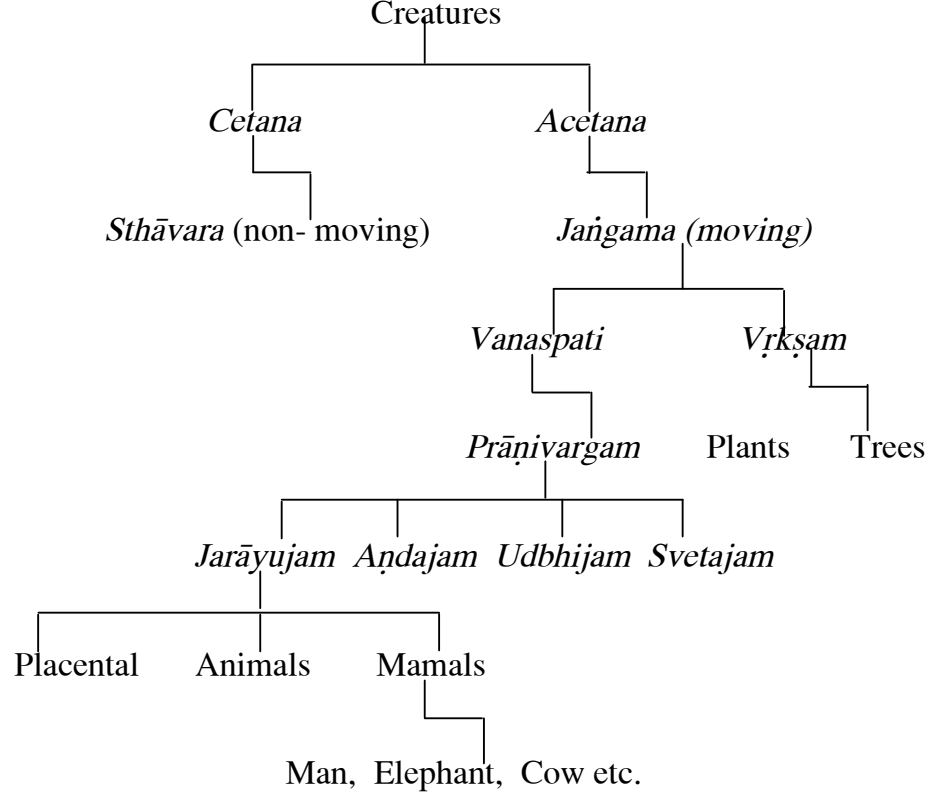
## CHAPTER I

### INTRODUCTION

"According to Caraka, all the creatures of the world are divided in to two groups viz. *Cetana* (living being or living sentient) ie. with senses and *Acetana* (non-living, insentient) i.e. without senses and again classified in to *Sthāvara* (non-moving) and *Jaṅgama* (moving). *Jaṅgama* again divided in to two groups. They are *Vanaspati* and *Vṛkṣa* (plants and trees). The first part is *Prāṇi-varga* (animals). The *prāṇi-varga* again divided into four groups - *Jarayuḥja*, *Aṇḍaja*, *Śvetaja* and *Udbija*. Among them *jarāyuḥja* is the first type, which is born from the womb, viviparous-placental animals/mammals like men, elephants, cow etc.



The pedigree is below:-



Āyurveda is the knowledge (*Veda*) of life (*Āyus*). It is applicable to all types of living beings or the *Jīvasṛṣṭi*, consisting of the humans, plants and all living being in the world. The *Aśva-āyurveda*, *Gaja-āyurveda* or *Hasti-āyurveda*, are the discussion about the health as well as the diseases and the remedies there of in the case of the animal world and the plant world respectively. The fundamental theory of *Tridoṣā* (vāta, pitta and kapha) is applicable like the consideration of the rasādi seven dhātus, and the malas (filth) like mūtra (urine) and puriṣa (fecus). The concept of Bala (strength) is also narrated in the *Hastyāyurveda*. It states that the elephants born and brought up in the jungles more freely, play happily in

the water and mud. By playing more and more, the ojas or *Dhātuprasāda* is produced; resulting in the good health, which in turn gives good strength and the *Bala* (strength) or *Ojas*.<sup>1</sup>

The *Hastyāyurveda* specifically says:-

*Pāmsūkardamatoṣaiccha tataḥ krīdantiharṣitāh  
dhātuprasādam kṣipram tu kṛītatām jāyatedhikam  
dhātuprasādāndarogyadbalemeva ca  
balācca sarvarogāṇām nivṛtṭiḥ syādataḥ param*<sup>2</sup>

### **General awareness of elephants**

There were various kinds of elephants in this universe. But only two kinds are still existed viz. Asian elephants and African elephants. Asian elephants are scientifically termed as "Elephas-maximus" and African elephants are termed as "Laxodonta".

It will be very interesting to study and observe the main differences between Asian (Indian) and African elephants.

---

<sup>1</sup> *Gajāśāstram (Gśm)* Siddharth Yeswanth Wakankar, Introduction-1-2.

<sup>2</sup> *Hastyāyurveda (HAV) Mahārogasthāna*, 1.211.12.

### Difference between Asian Elephants and African Elephants

	African Elephants	Asian Elephants
1	There is a dip in the back	The back is arched
2	A loose fold of skin joins the hind legs and the sides of the body	No such skin fold is present
3	Hind legs have three toes	Hind legs have four folds
4	Four legs have three toes	Four legs have five folds
5	Two nobs of flesh are there on the trunk	Only one nob of flesh on the tip of the trunk
6	Forehead forms a smooth curve	Forehead has two bumps on it
7	Ears cover the shoulders	Ears do not cover the shoulders

### Origin and Categorisation of Elephants

Elephant includes the group of proboscide. Its trunk is known as proboscis. In 1921, Gray the Latin scholar who nominated elephant as proboscide. There were 352 species (Trunked) belongs to the Elephantide family. It is also belongs to the proboscide group. The word 'proboscis' is a Latin and its means trunk.

Charls Darwin in his book Origin of species had mentioned the theory of evolution before 150 years ago. The first elephant on earth was known as 'Moritherium' in 50 million years ago, which had 60cm in height and shaped as a pig with no tusks and no trunk but fangs forud, lived in Egypt. After evolution, the Moeritherium became Mammoth.

## Mammoths

Mammoths are vanished from the earth before 5000 years ago. World's one Mammoth memorial centre is situated in Ukran. The mammoth is a pre-historic animal closely related to the present day elephants, they were huge, lumbering beasts. Some of the Mammoths measured 4-5 metres in height at the shoulder. They had trunks and tusks too. After some times they grew up to 4-5 metres long tusks. They were wooly animals and lived in the icy lands of Asia, Europe and America. They belonged to the Elephantidae - the family of elephants and they are comparable to the *Arala* and the *Atyarala* varieties of elephants, described in the 18th chapter of the *gajaśāstram*.

*Astārathi daśsyāme caikādaśa ca nāhataḥ  
arālaḥ satu viñjeyahḥ sarvakarmasu garhitaḥ  
na vārantyunnato nāgāḥ tadhaiveka daśāyataḥ  
nāhato dradaśāratniḥ atyarāla iti smṛtaḥ<sup>3</sup>*

Taxonomists separate the African elephants in two kinds viz. Savanna elephant (*Laxodonta Africana*) and Forest Elephant (*Laxodonta african cyclotis*). Among them savanna elephant is the biggest mammal in the land. It has 3.5 to 4 metre height and about 7000 Kg weight. The lowest size cow elephant have 2.5 to 3 metre height and 3500-4000 Kg weight. In Africa about 60,000 elephants are seen.

---

<sup>3</sup> *Gśm*. 18.2.6.

## Variety of Elephants

### Kullāna (*Elephas maximas borneensis*)

An elephant is found in Maleşia's Bornia, Indoneşia are known as Kullāns or *elephas maximas borneensis*, which is Bornio Pigmi elephant's sub-species. It's height is below 2.5 metre. They can walk loft stone bondage. So they are known as Kallāna or Kullāna.

### White Elephants

It is known as white elephants, though it is not white in colour, but it is slight reddish. This type of elephant is only seen in Burma and Thailand. White elephant is considered as the symbol of prosperity and purity. White elephants are only used for royal procession and not for other works. It is said that Trivandrum zoo and Burma Zoo contain one white elephant. *Indrā's* Vehicle *Airāvata* is a white elephant, mentioned in the *Purāṇās*.

Airavata is a four tusked elephant, who emerged from the primeval churning of the ocean by the gods and the anti-gods. According to another legend it was born from the egg shell from the right hand of *Brahman*. He and his mate *Abhramu*, guard the eastern quarter.<sup>4</sup>

---

<sup>4</sup> The *Rāmayaṇa* of *Vālmiki*, Plal, *Uttarakāṇḍa*, Glossary-164.

## **Census**

### **Countries where African elephants are seen**

Angola, Benin, Botswana, Burkinafaso, Camaroon, Central African Republic of Congo, Coted Voire, Equational Guinea, Eritrea, Ethiopia, Gabon, Ghana, Guinea, Bissaue, Kenya, Liberia, Mali, Mosambique, Nambia, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, Somalia, South Africa, Sudan, Switzerland, Tanzania, Togo, Uganda, Zambia, Zimbave, Burundi, The Gambia and Mauritania<sup>5</sup> Asian Elephants ñ Elephas maximus.

### **Countries where the Asian Elephants are seen**

India, Srilanka (Myanmar), China, Nepal, Bhootan, Bangladesh, Burma, Thailand, Lavos, Indonasia, Kambodia, Vietnam, Malesia, Sambaha, Bornio.

In Asia, about 37,000 to 40,000 elephants are seen. It is considered that India contains 50% Asian elephants in the world. In Kamboochiya, Lavos and Vietnam the number of elephants are very low. The elephants are not seen in the countries like Iran, Afghanistan, Pakisthan, and Java.

The Indian elephants are taken first place in its beauty more than African elephants, even though the Asiatic elephants are very small in size; Light ash colour beautiful tusk, stout trunk etc are the peculiarities of Indian elephant. Especially North Indian elephants are most beautiful.

---

<sup>5</sup> IUCN 2004 Report (IUCN=International Union for Conservation of Nature and Natural Resources)

In India, elephants are found in Kerala, Tamilnadu, Karnataka, Orissa, Jarkhand, West Bengal, Bihar Assam, Arunachalpradesh, Meghalaya, Thripura, Manipur and Missoram.

### Elephant Census - 2007

No.	Elephant Reserve	Total No.
1.	Waynad	1240
2	Nilambur	663
3	Anamudi	2505
4	Periyar	1660

### Famous Elephant Reserve in Kerala

Project	Protected area and the forest division	
Waynad Elephant Reserve	1	Waynad wild animal sanctuary
	2	Aralam wild animal sanctuary
	3	North Waynad forest sub division
	4	South Waynad forest sub division
	5	Kannur forest division
	6	Kozhikkode forest sub division
Nilambur Elephant	1	Silent Valley National Park
	2	Nilmabur North Forest division
	3	Nilambur South division
	4	Kozhikode forest division
	5	Palakkad forest division
Anamudi Elephant Reserve	1	Parambikkulam Elephant Sanctuary
	2	Peechi Elephant Sanctuary
	3	Chimmeni Elephant Sanctuary

	4	Thattekkad Elephant Sanctuary
	5	Chinnar Elephant Sanctuary
	6	Iravikkulam National Park
	7	Idukki Elephant Sanctuary
	8	Nemmara forest division
	9	Chalakkudi forest division
	10	Thrissur forest division
	11	Vazhachal forest division
	12	Munnar forest division
	13	Malayattur forest division
	14	Kottamangalam forest division
	15	Mankulam forest division

Periyar Elephant Reserve	1	Periyar Tiger Reserve
	2	Senthuruni Elephant Reserve
	3	Thiruvananthapuram Elephant Reserve
	4	Kottayam forest division
	5	Ranni forest division
	6	Konni forest division
	7	Acchankovil forest division
	8	Punalur forest division
	9	Thenmala forest division
	10	Thiruvananthapuram forest division
	11	Agastyavanam Biological park special division

### **Famous Elephants now seen in Kerala**

About 40 Elephants are the most famous in Kerala. They are:

1. Guruvāyur Padmanābhan



2. Thechikkottukāvu Gaṇapati
3. Mangalāmkunnu Gaṇapati
4. Pāmbadi Rājan
5. Thiruvambādi Śivaśāṅkaran
6. Mangalāmkunnu Karṇan
7. Bāstyan Vinaya Śāṅkar
8. Erāttupetta Ayyappan
9. Ezhuthacchan Śrīnivāsan
10. Malayāḷappuzha Rājan
11. Koduṅgallūr Gireeśan
12. Mangalāmkunnu Ayyappan
13. Guruvayūr Valiyakeśavan
14. Kuttamkulangara Rāmadāsan
15. Thirunakkara Śivan
16. Thrikkatavoor Śivarāju
17. Puthankulam Ananthapadmanābhan
18. Shenayi Chandraśekaharan
19. Kuttamkulangara Arjunan
20. Chirakkal Kālidāsan
21. Pallathāmkulaṅgara Gireeśan
22. Poothrikkovil Gaṇapathi
23. Adiyātt Ayyappan
24. Chirakkal Mahādevan
25. Puthankulam Mahādevan
26. Pāramekkavu Padmanābhan
27. Thadathaviḷa Suresh

28. Kongad Kuttisankaran
29. Cheruppulaśśery Pārthan
20. Thrippayar Rāmachandran
21. Thiruvullakkavu Maṇikaṇḍan
32. Maṇiśśery Raghu Rām
33. Deepu Kodumaṇ
34. Iringappuram Prakash Śankar
35. Thiruvaṇikkāvu Jayarām Kaṇṇan
36. Iringolkkāvu Lakṣmi
37. Poomulli Prithvi Rāj
38. Oottoli Rājaśekharan
39. Chullipparambil Viṣṇuśarman
40. Kiraṇ Nārāyaṇankutty and
41. Kodumaṇ Kaṇṇan.

### Synonyms of Elephants

Elephants have several synonyms. viz. *Gajam, Gaṛjam, Mātaṅgam, Mātaṅgajam, Mahāmṛgam, Mahākāyam, Mahāvṛndam, Hasti, Hastihāyanam, Śastihāyanam, Puṣkari, Ibham, Daṇṭi, Dantāvalam, Dantabālam, Stamberamam, Sāmootbhavam, Sammadam, Sindhuram, Sāmajam, Kuṣi, Kumbhi, Kuñjaram, Kumabhu, Kapi, Kari, Karati, Kalabham, Muṣkari, Dviram, Dviradam, Dviradanam, Dvipam, Vāraṇam, Bhadram, Nāgam Nākam, Asuram, Anepakam, Dhrumāri, Śūrpakarṇam, Śundālam, Padmi, Pundrakeli, Aṣṭaprahari, Viṣāṇi.*

### **Cow elephant's synonyms**

*Hastini, Padmini, Mataṅgi, Vaśā, Vasita, Dhenukā, Ibhi, Kareṇu* and *Kariṇi* etc. are the synonyms of Elephant

### **General characteristics of Elephants**

An elephant has a short, muscular neck and enormous head with huge, triangular ears. The trunk extends from the upper jaw at the base of the trunk. It consists of a strong flexible, boneless mass of flesh. An elephant breathe and smells with its trunk and it use while eating, drinking and sniffing. It carries food and water to its mouth using the trunk. And adult elephant's trunk can hold about  $1\frac{1}{2}$  gallons (6 liters) of water. Elephant grasps object with its trunk, and it can carry a log weighing as much as 600 pounds (272 kg). It is a formidable weapon.

Elephants' tail is small in relation to the rest of the body. It measures about  $3\frac{1}{2}$  feet (1 meter) long. The tail ends in a large tuft of hair. Hair grows from both sides of the tail.

Tusk is a noticeable part in elephant body. It is actually modified upper incisors and they grow continuously. Tusks are crept when the animal is one year old. They use their tusks to dig for food and to fight. The tusks can lift and carry a load weighting as much as one short on. The new born baby has milk tusks, and it will fall hour before it becomes two years old. Permanent tusks replace them and continue to grow throughout the animal's life.

The legs of an elephant are pillar like structures. The feet are nearly round. Foot expands under the elephants weight and contracts when the animal lifts the leg. There are four or five hoof like nails on the front foot and three on the hind foot.

Elephant's trunk provides a keen sense smell, and they depend on this sense more than on any other. They frequently wave their trunks high in the air to catch the scent of food or enemies. An elephant can smell a human being more than a mile (1.6 km) away.

They have also good hearing. Their huge ears pick up sounds of other animals from as far as two miles away. It hears the sound very curiosity; its ears stand straight out.

Elephant's sense of touch is in the sensitive tip of its trunk. An elephant can recognize the shape of an object and determine whether the object is rough or smooth and hot or cold.

Unfortunately elephants have poor eyesight, and are colorblind. Their eyes are small in relation to the enormous head and it can't turn its head completely, so it can see only the front and to the sides.

Compared to other animals they have a highly developed brain and they rank high in intelligence. An elephant can learn to perform a variety of tasks and tricks if commands and signals are repeated over again. Younger elephants can be trained easily, but they can't do heavy works.

## **Elephants' Life**

Most elephants live in herds and it consist of a number of several adult and their young ones, and the herds leads an old elephant cow-called 'matriarch'<sup>6</sup>

Wild elephants eat about 650 pounds (295 kg) food daily and drinking water 70-90 liters per day

## **Musth**

Musth is associated with the elephant's mating period. However, elephants also mate when they are not in musth. *Musth* is not a disease but it is only a process which occures in the temporal glands flowing water, with odor; which will attracts cow-elephants; the musth odor caused by phenoms.

## **Conception and Purturation**

The cow-elephants show its musth in 13 years old; if it has provided best food and treatment and then the cow-elephants became sexual growth. Their menstrual time is approxiamately 15-16 weeks (after 4 months). They copulate in musted time. Conception time is 18-30 years. The purturation period gaped in after 4 years 50-55 years is considered the menopause time. The conception period is 20-22 months. Tuskers show its sexual activities in 17-18 years but the reproductive capacity is calculated in 20-30 years. The purturation of cow elephant is same like human beings. Delivery time may be night and the pain lasts about 1or 2

---

<sup>6</sup> Joy.M.S. *Ana*. 4.32

hours. After delivery mother cleans its baby. There will be as a nurse among them for helping.

### **Importance of elephants**

In ancient times elephants are considered as the chief of all pleasant beasts to ride. They are extremely strong and high intelligent. People have tamed and trained them before thousands of years ago. The logging industry uses elephants to carry heavy loads. People throughout the world enjoy watching elephants in circus, movies and zoos. Trained circus elephants stand on their heads, lie down and roll over, dance and perform other tricks. In ancient times they were used for warfare. Elephant's success in an expedition depends upon the numbers of the brave and well-equipped elephants led by able mahouts. Now it is used as a trim in the temple festival and as an inevitable component of timber industry. Man uses them only for his economical achievements. Now they are considered as a symbol of wealth and status.

Elephants are considered as an indispensable part of the army. It is a royal sign. Elephant is considered as the symbol of war and peace.<sup>7</sup> In ancient time elephants are considered only as wild animals, while now-a-days they are considered as a domestic animal. They are favorite royal mount in the sixth and seventh century B.C. The Epic Mythology mentions that elephants are always good in fighting against evil demons.

The first deity to be worshipped at Kailash is Ganeśa, goddess Lakshmi/Gajalakshmi is considered as traditional place the threshold of

---

<sup>7</sup> Sarvadaman Sigh, *Ancient Indian Warfare (AIW)*, 4-78.

shrine. Two tuskers raise their trunks above the goddess and shower her with water. Gajalakshmi of the elephants is unicorn of fertility, one of the most fundamental images of Hindu tradition.

### **Importance of Elephants indicated by symbols**

Government of Kerala, Karnataka, Orissa and Jarkhand are issued as the emblem of Elephant. Delhi University is also used as the symbol of Elephant. Elephant is symbolised on postal stamp in India and abroad. Hyder Ali's army also contains elephant's symbol. Elephant and arrows are the symbol of Chera Kings; Elephant is used for war and magnifies in ancient times. Decorated elephants are used for festive occasions, religious matters, and government programmes. In ancient times elephants are considered as the chief of all pleasant beasts to ride. They are extremely strong and intelligent.

At the time of British rule development elephants are used for forest journey and for carry wood. Now-a-days also the tourists and timber industries are depending upon elephants. The most famous Thrissurpooram have also elephants take an important role.

### **Aṣṭadiggajās:**

It is believed that the *Aṣṭadiggajās* are protecting eight directions. The eight *diggajās* are

1. *Airāvata*
2. *Pundarīka*
3. *Vāmanan*

4. *Kumudan*
5. *Anjanam*
6. *Puṣpadantan*
7. *Sārvabhoumon* and
8. *Supratīkan*

According to Hindu *purāṇa*, *diggajās* are the pillars of the universe sky and cloud. They are also protecting their wives. Their wives name are-

1. *Abhramu*
2. *Kapila*
3. *Pingala*
4. *Anupama*
5. *Tāmrakarṇi*
6. *Śubhradanti*
7. *Aṅgana* and
8. *Anjanāvati*

Indian mythology attaches great importance of elephants. Divine elephants are mythological guardians of the quarters.<sup>8</sup> The *Aṣṭadiggajās* are known as '*Aṣṭadigpālakās*' in Sanskrit. They protected the right *diśas* or areas.

---

<sup>8</sup> *Amarakośam (AK) Pradhamakāṇḍam, dvivargam, 113.*



### *Aṣṭadiggajās and their protected areas*

No.	Direction	Tuskers Aṣṭaidggajas	Cow-elephant (Kariṇ is)
1.	East	Airāvata	Abhramau
2.	South east	Pundarīkan	Kapilā
3.	South	Vāmanan	Piṅgala
4.	South west	Kumudan	Anupama
5.	West	Añjanan	Tāmrakarṇi
6.	North west	Puṣpadantan	Śubhradanti
7.	North	Sārvabhauman	Aṅgana
8.	North east	Supratīkan	Anjanāvati

God Gaṇeśa is depicted as having an elephant face, and he is worshipped to avoid in-auspiciousness. Even now the sight of an elephant is auspicious to a typical Indian mind. According to the ancient Indian thought elephants are considered as the important constituent of the army and strength of the army. Arthaśāstra mentions this

*"Hastyaśvarathapādatam  
anekamukhyam ca avastapayet"*

### **Elephants in arts and literature**

In the contemporary era elephant take much more importance. Elephants are depicted in *Rāmāyaṇa*, *Mahābhāgavata*, *Agnipurāṇa*, *Bṛhatsamhita*, *Brahamapurāṇa*, *Arthaśāstra*, *Pañcatantra stories*, *Jātaka*

*stories, Amarakośa, Kamparāmāyaṇa, Saṅghasāhityakritikal* etc. *Hastyāyurveda* is most famous in all times.

### **Significance of Elephant in Malayalam stories and poems**

S.K. Pottakkads' Śikkari, indicates the story about Bush, the elephant catcher. M.R. Vasudevan Nair's Varikkuzhi, narrated the pit's fallen elephants and human beings story. Sugathakumari's Āna, C.Radhakrishnan's 'Madam', N.V. Krishna Variar's Ānakkaran, Kottarathil Śaṅkuṇṇi's *Aithiyamāla*, Vaikkam Muhammed Basheer, Karur Nīlakanthan, Kunhunni Master and Mahākavi Olappamaṇṇa have written about elephants. Elephants are mentioned in Bible Qurān and Bhāgavatam.

### **Project Elephant Scheme**

For Elephants dwelling system make secured and for procreation improvement project elephant scheme is begins in 1991-1992. This scheme is undertaken by the Wild Life Trust of India. According to this project census 20, 150 wild elephants are found in India.

This project aims at

1. To assured improved shelters, plenty of trees, grass land, water and food available for elephants.
2. Protect the villagers from wild elephants and to protect their farm and other wealth, and if they lose their wealth; they (the village folk) must provide the compensation.
3. Protect the elephant from killing and stealing of ivory.

4. If any burden elephants must be catch and keep as domestic animal other wise it must send to the forest.
5. Domesticated elephant should be protected and mahouts should be trained and experienced.
6. Elephant's diseases and its treatments care best management given to it and to encourage elephantological based research.
7. Elephants dwelling systems are care well. An elephant corridor is to prepare for its easily travel.

#### **Wild Elephants in Kerala until 2007 survey**

<b>Year</b>	<b>Elephant Numbers</b>
1979	2572
1983	2865
1990	3645
1993	4286
1997	5737
2002	6939
2005	5135
2007	6068

#### **Microchip**

For recognizing elephants, its ears back have fitting an electronic product which is known as microchip or transponder. It contains Alfa numerical Number (10 digits) sized only as a paddy grain. This chip is remaining still the life time of an elephant and it can't to erase or rewrite.

It is does not adversely bad to elephant. Until 30-06-2009, In Kerala 702 domestic elephants avail Microchipping.<sup>9</sup>

### **Hereditary animal**

Elephant is considered as a hereditary animal of India. This opposition is awarded to this animal for considering the relation with the country, because India is rich by its own cultural and religious values. The elephant is protected from torment by this position (hereditary animal).<sup>10</sup>

### **Conclusion**

In short, even though studies of *Elephantology* gave much importance of the mind of ancient Indian peoples. Now-a-days also this science got much more important place with as a whole or separately, comprehensive study covering all the subjects based on Sanskrit literature alone is perhaps being done for the first time.

---

<sup>9</sup> *Āna Kāzhachayude Kāṇāppuraṅgal* .6.161-162.

<sup>10</sup> Malayala Manorama daily, 1.9.2010.

## CHAPTER II

### BOOKS ON ELEPHANTS

Animal husbandry was one of the topics which has drawn attention from the *vedic* period itself. Among those animals elephants are depicted as the sign of wealth and prosperity of a country. Here an attempt is made to list those works where elephant has got additional care as a component of military force.

#### *Agnipurāṇa* (AP)<sup>11</sup>

This Purāṇa was narrated by Agnideva to Vasiṣṭamuni. Some part of *Agnipurāṇa* mentions a detailed description of animals, especially of elephants. *Agnipurāṇa* describes the elephant treatment and *gajaśānti* in detail. It also describes good characteristics, marks of elephants, capturing of elephants and the role of elephants in the army etc.

#### *Arthaśāstra* (AŚ)<sup>12</sup>

Kautilyās *Arthaśāstra* (AŚ) is the oldest book, depicting the *hastivana* and *nāgavana*, the royal elephant reserves and stipules how elephants are to be cared after. Its second part deals with this science (elephant science) in detail. It contains 48 chapters known as prakaraṇās. Its 20<sup>th</sup> and 48<sup>th</sup> prakaraṇās give some details of elephants. It describes the protection of elephants, expedition, different category of elephants etc. in detail. In the 48<sup>th</sup> prakaraṇa of AŚ known as *hastyadhyakṣa* explains the

---

<sup>11</sup> Hariharandha Saraswathi AP (Malayalam). Dronacharya Publications. Kozhikode.

<sup>12</sup> Kautilyas AŚ (Part II) Sampūrṇānand Sanskrit University. 1991.

topics like the duty of mahouts, elephants abode, their movement, exercise and characteristics.

### ***Aṣṭāṅgahṛdaya (Ah)***<sup>13</sup>

Vāgbhaṭa is the author of *Aṣṭāṅgahṛdaya* is the most popular and authoritative treatise on Āyurveda. It describes the merits and defects of milk, curd, butter and urine of the elephant as follows:-

*madhuram hastinikṣīram vṛṣyam guru kaṣāyaka*

*snigdham stairyakaram śītam cakṣuṣyam balavardhamam*<sup>14</sup>

Curd from milk of elephant cow provides beauty and is indigestible, increasing body heat and decreasing cough. The elephant ghee causes constipation and affects bile causing cough and destroys worms. Elephant urine helps to decrease vomiting, cough, worms, leprosy and wind. The mushroom born from elephant dung is a good medicine for polio.

### ***Bṛhatsamhita (BS)***<sup>15</sup>

Varāhamihirācārya, the author of *BS* has devoted two separate chapters for showing the characteristic marks of elephants. In its second portion Varāhamihira depicts the characteristic marks of elephants and movement of them in detail. The description of musthfluid of the elephant

---

<sup>13</sup> Kaikkulangara Ramavariyer. Sampurna *Aṣṭāṅgahṛdayam (Ah)* Vol.2. Sultha Printers. Thrissur. 1997.

<sup>14</sup> *Ah. S.S. CV. 3.27.*

<sup>15</sup> Varāhamihira. *BS*. Varāṇāseyasanskṛiti Viśwavidyalaya. Vāraṇāsi. 1890.

shows good and bad characteristic etc. are seen in his *BS*. The good characteristic mark of elephant is described as follows:

*tām roṣṭa tālu vadanāḥ kalaviṅganetrāḥ*  
*snigdonnatāgradaśanāḥ pṛdulāyatāsyāḥ*  
*cāponnatāyatanigūda nimagna vamśā*  
*stanvuekaromacita kūrmasamāna kumbhāḥ*  
*vistīrṇa karṇahanunābhilalā dagṛhyāḥ*  
*kūrmonnata dvinavavimśatibhirnakhaiśca*  
*rekhātrayopacita vṛthakarāḥ suvālā*  
*dhanyāḥ sugandhi madapuṣkaramārutaśca*<sup>16</sup>

### ***Bhāgavata Purāṇa (BP)***<sup>17</sup>

*Bhāgavatapurāṇa* deals with elephant omen, which is the belief good omens. Before we begin with anything the sight of an elephant is considered a good omen. Trijata dreamt of an elephant carrying Rāma. This is believed to be a good omen for Rāma in his struggle for victory. The dream of Gaudama Buddhās mother reflects worth note before his birth. In this case the elephant indicates the birth of an exceptionally brilliant child. It is only a belief, so it is the defect of this omen.

### ***Carakasamhita (CS)***<sup>18</sup>

*Carakasamhita* explains that an elephant parts or most of its limbs have medicinal value. This topic explains elephant's different body parts

---

<sup>16</sup> Varahamihira *B.S.* 66. 6-7.731.

<sup>17</sup> S.S. Dange *BP*. Ajanta Publications, Delhi, 1984.

<sup>18</sup> P.V. Śarma. *CS*. Text with English Translation. Chaukhambha Orientalia Vāranasi, Delhi, 1981.

and such body parts used for preparing medicines in various diseases. eg. *Caraka* recommends an ointment made from elephant bone and neem, which is used for curing piles and helps to prevent bleeding and is also used as a poison detector and penis as an aphrodisiac.

*dantī śyāmāmṛtāsaṅgaḥ pārāvataśaṅgudaḥ  
pralepaḥ syātaṅgajāsthīni nimbo bhallātakanica*<sup>19</sup>

### ***Gajagrahaṇaparakāra (GGP)***<sup>20</sup>

Nārāyaṇadīkṣita is the author of *GGP*, who narrates different method of catching elephants and their training. The work is known as *Gaja-grahaṇa-prakara*, but the last verse suggests the name of the work as *Gajasamgrahaṇaparakāra* of Nārāyaṇa Dīkṣita indicates the author's name, which shows below:

*iti gajasamgrahaṇa kalāprakara eṣa kṣamatale jīyāt  
Nārāyaṇena Dīkṣitavareṇa racita sureśanodaya*<sup>21</sup>

The work contains 881 verses in, *Āryā* metre and is divided into five chapters called *Āśvāsās*.

The first *āśvāsa* includes 29 verses, which describes the role of the elephants as auspicious animals, useful for work and protection from war.

The second *āśvāsa* contains 363 verses describes the method of low catching the elephants.

---

<sup>19</sup> CS. CXIV. 55-231.

<sup>20</sup> Nārāyaṇa Dīkṣita. *GGP*. Śri Venkateśwara University Oriental Research Institute. Thiruppati. 1968.

<sup>21</sup> *GGP*. C.V. CC2 (881). 88.



The third chapter depicts the places of regions where and regions where elephants are found.

The fourth chapter contains 241 verses dealing with the training of the captured elephants and the last chapter describes exhibition of the elephants conducted every year for evaluating their worth for entertainment and instruction of the public. This work elaborately describes the methods of capturing and training of the wild elephants.

*GGP* is a metrical work dealing with the catching and training of elephants.

### ***Gajarakṣātantram***<sup>22</sup>

This text refers to the prakṛti (natural) treatment of elephants. It is written in Malayalam in three Sargās. It describes in catching, training and treating of elephants. This work is done by Puthumana Pushpakathu Śankaran Nambiar.

### ***Gaja Śāstra (Gśm)***<sup>23</sup>

Pālakāpyamuni is the author of *Gajaśāstra*. *Gajaśāstra* contains 10 chapters named *prakaraṇās*. The text begins with the history of Pālakāpya. Origin of elephants, characteristics of various elephants, capturing, training, good and bad characteristic marks, their must, age, elephant treatment construction of elephant stall etc. are described in this book.

---

<sup>22</sup> Śankaran Nambiyār Puthumana Puṣpakath. *Gajarakṣātantram* GT. Mangalodayam Company. Kerala Kalpadruma Publication.

<sup>23</sup> Pālakāpyamuni. *Gśm*. T.M.S.S.M. Library. Tanjore. 1958.

Narrative of the good marks of battlefield elephant is the notable fact in this text.

*ādityasyānalasyāpi savarṇo yasya cakṣuṣī*  
*sa eva vāraṇo rājan samareṣu jayāvahaḥ*<sup>24</sup>

Dr. Siddharth Yeshwant Wakankar, edited *Gajaśāstram*. This book deals with topics like *Pālakāpyotpatti kathanam*, *diggajotpatti kathanam*, *diggaja śāpānugraha kathanam*, *Gajavana nirūpaṇam*, *Kālīyagajalakṣaṇa nirūpaṇam* (which describes the different stages of elephants), *Vaṇagajalakṣaṇam*, *Deśabheda gajalakṣaṇa nirūpaṇam*, *Gajagrahaṇa prakāra kathanam*, *Gajajātilakṣaṇa nirūpaṇam*, *Amsāgajalakṣaṇa nirūpaṇam*, *Superiorelephants*, *Gajabalasatva nirūpaṇam*, *Sātvika guṇa nirūpaṇam*, *Gajajati lakṣaṇa nirūpaṇam*, etc.

### ***Gajaśikṣā (GŚ)***<sup>25</sup>

*Nārada* Gajaśikṣā is attributed to sage Nārada. It contains nine chapters named paṭalās. The first paṭalā describes how sage Nārada visited the court of Indra and how on the request of the latter Nārada proceeded to teach him the *gajaśikṣā*. It contains 28 verses. This paṭalā also deals with the mythological origin of elephants. Elephants are created by *Brahman* by singing *Sāmaveda*. At first they had wings and used to bring unexpected damage to the world. So God made them incapable of flying in the air and thus they became the largest intelligent and beautiful animals; on the land.

<sup>24</sup> Pālakāpyamimi. *Gajaśāstram (Gśm)*. TMSMM Library. Thanjore. 1958.

<sup>25</sup> Nāradamuni. *GŚ. Śri. Venkateśwara University Oriental Research Institute. Tirupati. 1975.*

The second *paṭalā* contains 104 verses that describe the characteristics of twenty eight varieties of elephants. They are categorized as gods, semi-gods and human beings. They are again classified as high class; middle class and low class.

The catching method is described in 23 verses of the third *paṭalā*. For this purpose, the places where the good varieties are found in India.

The fourth chapter deals captivity of the elephants and good omense.

The fifth chapter contains 73 verses, which depicts the four methods of catching elephants.

Sixth *paṭala* mentions the methods of bringing elephants the city of the king and the qualities of the mahouts are described here in 13 verses. This is the shortest *paṭalā* in *GŚ*.

The construction of abodes is described in the seventh *paṭalā* in 28 verses. Various types of stalls for animals and the quarters for the mahouts are elaborately described here. The topic is very unique and are seldom described in other texts.

Eighth *paṭalā* includes 20 verses, describing the different traits features and behaviour of elephants.

The ninth and last *paṭalā* is the last chapter in *GŚ*. It contains 105 verses, giving an account of details regarding various age groups of elephants. Various training methods are described in *GŚ*.

This text contains totally 447 verses. *GŚ* describes the 26 types of elephants found all over the world. Five types of trainings are described in *GŚ*. They are *prārambhaśikṣā*, *khelanaśikṣa*, *dhāvanaśikṣā*, *ekalghādīśikṣā* and *dvighādīśikṣā*.<sup>26</sup>

### ***Hastyāyurveda (HAV)***<sup>27</sup>

Sage Pālakāpya is the author of *HAV*. So the work is also known as Pālakāpyam. *HAV* is an earliest treatise, which deals with elephants disease and medicines. Sage Pālakāpya has elaborately furnished personal details in his work. A commentary on *HAV* is available, which is translated and published by Vaidyamadam Ceriya Nārayanan Namboodiri.

### ***Mātaṅgalīlā (ML)***<sup>28</sup>

Indian medicine not only deals with the treatment of human beings but also animals As *HAV* & *ML* also deal with the diseases of elephants.

*Mātaṅgalīlā (ML)* is the best and known Sanskrit work on elephant science, by Nīlakaṇṭha. *HAV* is a majestic and exclusively spreading work, so it is out of reach for common people, that may be the reason for *ML* to originate.

For about 400 years, before no other commentaries are arise on *ML*. After that, Mahākavi Vallathol wrote a commentary on *ML*.<sup>29</sup> Then after

---

<sup>26</sup> *GŚ* Vyakṛitippani. page No.79-81.

<sup>27</sup> Pālakāpya. *HAV*. Ānandāśrama Mudranālaya. 1894.

<sup>28</sup> Nilakaṇṭha *ML*. Govt. Press. Trivandrum. 1942.

<sup>29</sup> Vallathol. *ML*. Priyadarsini Printers. Cheruthuruthy. 1981.

available an ‘Arthavedi’ translation on *ML* by Brahmaśrī Ceruvalli Nārāyaṇan Namboodiri.<sup>30</sup>

### ***Mānasollāsa***<sup>31</sup>

Sri Someśvarabhūpati is the author of *Mānasollāsa*. In its first part many topics connected with elephants are mentioned. The characteristics of elephants, capture of elephants, favourable marks, various trainings, the treatments and the medicinal dictionary related to elephant diseases etc. are described in it. The last one is a notable chapter because it is only found in *Mānasollāsa*.

### ***Suśrutasaṃhita (SS)***<sup>32</sup>

In the *sūtrasthāna*'s of *SS*, *Suśruta* states that the milk, curd, butter, urine and flesh of the elephant is suitable to the uses of man.

The milk of a she-elephant is sweet and astringent and is spermato poetic heavy, demulcent, cooling and tonic and also, invigorates the eye sight.

Curd of an elephant - is light indigestion; subdues cough and increases fecal condition.

Butter of an elephant cow brings suppression of constipation and stomachic and derangement of cough.

---

<sup>30</sup> Ceruvalli Nārāyaṇan Namboodiri. *ML*. Devibooks. Kodungallur.2005.

<sup>31</sup> Gaṅānan K. Shrigondekar. *Mānasollāsa*. Curator of Libraries. Baroda. 1925.

<sup>32</sup> Kavirāja Kunjalal bhishaggranta. *S.S*. Cosmo Publications. New Delh. 2006.

Elephant urine subdues wind and enrages bile. It is used in the treatment of leucoderma and in the preparation of alkalies.

Elephant flesh destroys the wind and cough.

***Ancient Indian Warfare (AIW)***<sup>33</sup>

*AIW* deals a chapter on elephants. It describes the history of wild beasts especially elephants. The author explains various types of elephants and how they are used for war.

***Among Tigers and Tuskers (ATT)***<sup>34</sup>

Ramesh Bedi is the author of this book. It describes elephants in its one portion. The subject matter of this work includes various elephants in the wild, roughs and killers' forms and some unnatural diseases and miraculous escape.

***Dangerous to Man (DM)***<sup>35</sup>

Roger A. Carus is the author of *DM*. It describes the difference between Asian and African elephants and the use of elephants in their age, and stages of life etc.

***Domestic Animals (DA)***<sup>36</sup>

Dr. D.R. Bhandarkar is the author of this work. This text gives short information about *Pālakāpyam (PK)*. It describes that *HAV* was

---

<sup>33</sup> Sarva Daman Singh *AIW*. Motilal Banarsidas Delhi.

<sup>34</sup> Ramesh Bedi *ATT*. National Book Trust India. 2000.

<sup>35</sup> Roger A. Carus *DM*. London. N5IRX. 1976.

<sup>36</sup> Harban Singh. *DA*. National Books. India – 1973.

published as early as 1894. King Romapāda mentioned as the mythical contemporary of Daśaratha famed in *Rāmāyaṇa*. So that *HAV* is claimed to be belonging to the stages of 5<sup>th</sup> or 6<sup>th</sup> century B.C. S.K. De mentions that the name *Pālakāpya* is derived thus – the sage Sāmagāyana named his son Pāla and the rest of the name Kāpya is his house name and it became Pālakāpya.

### ***Elephant lord of the Jungle (ELJ)***<sup>37</sup>

Ramesh Bedi has also written a book on elephants named *Elephant lord of the jungle*. It depicts the matting habit of elephants, elephant and the glory, the hazards of hunting, state of must in disease and service, expectation of life, telling age last resting place, elephant against man, love of young, capture and training, feeding in trade and commerce etc.

### ***Elephas Maximus***

Stephen after attributed a book on elephant named *Elephas maximus*. It contains ten chapters deals the topics like winter sanctuary, elephants origin, questions of captivity, gajasūtra, power and pomp. etc.

### ***Epic Mythology (EMY)***<sup>38</sup>

*EMY* describes the four types of elephants and their ancestors. This work deals with the divine elephants such as *diggajās*, *diśa-gajās*, *ding-nāgās*, *dig-varaṇās* etc. This chapter depicts how elephants help a King in

---

<sup>37</sup> Ramesh Bedi. *ELJ*. National Book Trust India. 1969.

<sup>38</sup> Washburn Hopkins. *EM*. Motilal Banarsidas. Delhi. 1915.

battle. For eg. protective elephants are always good in fighting against evil demons.

***India's Wild Life and Wild Life Reserves (IWWR)*<sup>39</sup>**

B. Seshadri describes the character of elephants, their must, food and such other peculiarities.

***The Elephant-lore of the Hindus (EH)*<sup>40</sup>**

F. Edgerton has translated the work on elephant science on *ML*. It consists of twelve chapters. It was translated in 1931. It depicts the elephant science in detail.

***Āna*<sup>41</sup>**

M.S. Joy is the author of the work named *Āna* in Malayalam. He mentions all the matters connected with elephants. The myth on elephant's origin is described in its preface. He explains the creation of elephants in the marvelous birth of Pālakāpya, the major group of elephants; like *Ayirāvata Pundarīka* and *Aṣṭadiggajās* etc. It also depicts how the elephant had lost their wings and how they reached the earth etc. These facts are elaborately described in this text. How the elephant had got various names etc. are also described. Then he explains the various castes of elephants, their characteristics, food, watering, the ancestors of elephant, their *must*, mating, reproduction life span, catching, training,

---

<sup>39</sup> B. Seshadri. *IWWR*. New Delhi. 1986.

<sup>40</sup> Franklin Edgerton. *ELH*. Motilal Banarsidas. Delhi. 1931.

<sup>41</sup> Joy M.S. *Āna*. Geoprinters. Trivandrum. 1992.



diseases, preservation of medicines; elephant drivers (Mahouts) etc. The ancestors lived before ten lakh decades, they are Dinotīriyan, Moritīriyam, Gomofoteris, Mastodone, Stegodone and Māmāth.<sup>42</sup>

### *Ānaye Ariyān (ĀA)*<sup>43</sup>

Dr. T.P. Sethumādhavan is the author of this text. It describes the origin, characteristic marks, differentials and peculiarities of elephants, protection of kids, mahouts, must, prestriation, treatment, diseases, elephant market. Thailand elephants, keeping of elephants, African and Asian elephants etc. It also describes that in Kerala, Guruvāyūr Devaswam had found more elephants. There, the Punnattūrkkotta is the abode of them.

### *Ānavilliam (AV)*<sup>44</sup>

J.H. Villiams, in his work *ĀV*, describes his experiences with elephants. He categorises the four kinds of elephants such as Indo-Burman elephants, Zelories elephants, Malayalam and Sumatran elephants. Four of them have no marked differences. Asian cow-elephant's have no tusks. Zelone cow and bulls have no tusks. The author tusk less bull is known as 'Makhnas'. He describes the method of catching, preservation and characteristics, elephant drivers etc. in detail. This treatise also deals how the wild elephants lead their life. Their delivery time is considered the middle age of March to May. Their

---

<sup>42</sup> Ibid. 1-20.

<sup>43</sup> Sethumādhavan. TP. *ĀA*. Current books. Kottayam. 2004.

<sup>44</sup> Villiams. J.H. *Ānavilliam*. Industrial School Press Ernakulam. 1959. 109.

pregnancy period is 20-22 months. The delivery period is a festival according to them. During this time, a group of elephants would surround and protected the pregnant cow. At the time of parturation a lot of wild elephants detach from her. The herds accompany her and give protection. After the delivery the kids begins to rise and walk alone. Other elephants help the kid for lactation. In forest the kid accesses to walk with others.

Elephant's old age is very lamentable. At the end of its life he goes alone to the forest. The rest of his life is spent there. Realising his uselessness he trances away.<sup>45</sup>

### *Ānakadhayum Karyavum(AKK)*

Kerala Agricultural University published a book on elephant, *AKK* authored by Dr.K.C.Panicker. It explains the category of elephants, (their physical specialities) anatomy capturing methods, training, fooding, reproduction, diseases and treatments, elephant and human relation.

According to Dr.K.C.Panicker in this world more than 350 elephant categories are found in ancient period. Now-a-days, seen only to kinds of elephants in the world African elephants and Asian elephants.

According to him the elephants age goes in to its decay, for eg. It's tusk is a valuable thing, so human beings killing them for their economical achievements.

---

<sup>45</sup> Ibid. 25.

### ***Nammude Vamangalam Vanyajīvikalum (NVV)*<sup>46</sup>**

Arakkal Hassankutty is the author of this work. He refers that the elephant take very important place in the world. For instance elephant is the official animal of Kerala. The text explains that there are two kinds of elephant race in the world. It further states that the elephants live with family in forest. Each group includes 50 to 80 members. The newly caught elephants to tame are protected in the places like Nilambūr, Waynad, Parambikkulam, Malayattūr and Konni. In Mysore, the catching method is known as ‘*Kheddha*’. The catching period in Kerala is December to April. The fallen elephant (in the elephant pit) must be raised before 24 hours from the time of their falling and after reaching the land it must be watered. Its body should be frequently made wet. The newly caught elephant needs more attention.

### ***Valarthumṛgangal (VM)*<sup>47</sup>**

*VM* describes the general characteristics of elephants. The author of this work is Harbans Singh. One chapter of this book explains elephant’s various habits such as food, training, abodes, general diseases, preservation etc. It states that elephants are usually seen in forest of India, Śrilanka, Burma (Myanmar), Island of Malaya, Sumatro and Bornio. Harbansising is the author of this book.

---

<sup>46</sup> Arakkal Hassankutty. *N. V. V.* National Books. Kottayam. 1964.

<sup>47</sup> Harbansing. *VM*. New Delhi. 1973.

### ***Vanyajīviparipālanam (VP)***

V.C. Sadāśivan is the author of this work. It indicates about the elephant race and their food, various types of elephants, their peculiarities etc. It states that Indian elephant – cow had not tusks, it had trunk only. The trunk grows in to two-meter length. Their height and weight are 3.20 meter and 5 ton respectively. Wild elephants are mostly seen in the in the Periyar, Tiger Reserve at Thekkadi.

Elephant welfare association published some Malayalam books on elephant edited by Dr.K.C.Panicker viz *Madam anakalil, Surakṣitamaya Ānaezhunnallippu engine Sādhyamakkām, Gajaparipālanam Prasnangalum Pariharangalum, Nāttānakal Paripālanavum) Praśnangalum* etc. And some other works undertaken this association edited by Dr.G. Ajithkumar and Dr.T.P. Sethumadhavan, which named *Kṣayarogam Ānakalil*, and *Ānāyum Pāppānum* compiled by Dr. Ajithkumar, Dr. T.P. Sethumadavan, Dr. K.c. Panicker, Dr. P.C. Alex & Dr.E.K. Easwaran.

### ***Hari Hara Caturanga (HHC)<sup>48</sup>***

*HHC* of Godavarma miśra, a court poet of Pratāparudragajapati (1491-1551) enumerates the matters connected with the elephants, such as elephant – chariot, archery, tactic with the elephants etc. The first chapter of this work consists of 313 verses describing various aspects of elephant science.

---

<sup>48</sup> The present writer does not see the work. The reference to the same is obtained from this book *Sāraswati Suśama*

According to *HindKesariśāstri*, there are some works connected with this śāstra, it is available in the Tanjāvūr Library.

Both Śukrācāryās *Śukranīti*, Bhojās *Yuktikalpataru* and the authors like Vaiśampayanalomapāda and Mṛgaśarma are describe of tje same topics about elephants.

### ***Kalpanaratna (KR)*<sup>49</sup>**

It is an unpublished work on elephant. Dr. N.V.P. Unithiri has edited this. The work gives much detail about elephants and their diseases and treatments.

### ***Sāraswati Suśama (SS)*<sup>50</sup>**

*SS* is a journal, which depicts a lot of descriptions about elephants and the sources of elephant science. *S.S* describes the two elephant class, descriptions to *HAV*, derivation of the name Pālakāpya ancient sources on elephants. Some diseases like pākala and pāṇduroga and the utility of elephant is describing are added in this journal.

There are some other Books on Elephants viz., *Elephant Memories* by Cynthiamoss, *Elephants* by Richard Carrigton, *Elephants and their Disease* by G.H. Evans, *Hastividyārṇava* by Dr. Pratap Chandra Choudhary, *Gajapālanam* by Pūmulli Nārāyanan Namboodirippad, *Elephants* by K.C. Panikker, *Gajaparipālaṇam* by Dr. Girinadhan Nair,

---

<sup>49</sup> Unithiri N.V.P. *K.R.* Calicut University.

<sup>50</sup> Vāgīśaśāstri. *SS.* 55. Vāraṇāsi. 1972.

*Pāramakkavu Śrīparameśvaran, Śrī Mātāṅgalīlābhāṣyam, Techniques and Procedure for Postmortem of Elephants, etc.*

Among these books *Hastividyarṇava* and *Śrī Mātāṅgalīlābhāṣyam* by K.C. Kuñjunni Ezhuthacchan are not available. The *Hastividyarṇava*, is an ancient Assamese text on *Gajaśāstra*, compares the cosmos to an elephants-tusk. According to K.C. Panicker, *Books on Elephants (Gajaviñjānagranda)* is less in less in India. *Hastyāyurveda, Mātāṅgalīlā, Gajaśāstra* etc. are the famous works on elephants. These are describes all matters connected with elephants.

### **Manuscripts**

There are some manuscripts available on Elephant Science. *Mātāṅgalīlā, Mātāṅgalīlābhāṣya, Gajaśāstra* and *Gajacikitsa*. Among this *Gajacikitsa* is an unpublished manuscript. It describes the matters connected with the treatments on elephants.

## CHAPTER III

### ***HASTYĀYURVEDA***

In ancient India a good deal of attention was paid to the study of elephant's disease. The corpus of conclusions of this study came to be known as *Hastyāyurveda* - i.e., the science treatise on the breeds of elephants and on the diagnosis and treatment of elephant's disease. It is the oldest bulky work in Sanskrit by sage Pālakāpya.

“A practical treatise on the treatment of the diseases of the elephant is called *Hastyāyurveda (HAV)*”.<sup>51</sup>

*Hastyāyurveda* deals with the topics like the genealogical, physical, mental, and intellectual characteristics of elephants, techniques of tracing and capturing elephants from forests, nourishment for healthy growth and general upkeep, taming and training them for war and work, classification of elephants on the basis of a number of characteristics and diagnosis and treatment for their diseases.

*Hastyāyurveda* is an important text on elephantlore which originated in India. A copy of which (*Hastyāyurveda*) is available in the Raja Serfoji Saraswathi Mahal Library of Thanjavur in South India. The work consisting of over seventy two chapters deals with the anatomy of elephants and systematically with several disease of elephants grouping them suitably into different categories. It also contains valuable instruction

---

<sup>51</sup> AKK. Dr. K.C. Panicker, 152.

for the healthy of growth, upkeep and training of elephants and also classification of elephants on the basis of a number of characteristics.

*Hastyāyurveda* consists of 171 chapters in 12,000 slokas and is divided into four sections or *sthānas* namely:

1. *Maharogasthāna* (Principal disease 18 chapters)
2. *Kṣudrarogasthāna* (Minor disease, 72 chapters)
3. *Śalyarogasthāna* (surgery, 34 chapters) and
4. *Uttararogasthāna* (therapy, Both, Deties etc., 36 chapters)

### **Content of *Hastyāyurveda***

*Hastyāyurveda* furnishes the contents in 4 *sthānas*. They are

#### **1. *Mahārogasthāna***

In *Hastyāyurveda*, *Mahārogasthāna* is the first part. As the name indicates, it describes some disease like jwara (fever) siro-roga, sweda, and disorders of the eyes.

#### **2. *Kṣudrarogasthāna***

The second *sthāna* known as *kṣudrarogasthāna*, elaborately describes the poisons caused by serpents, causes of vomiting, tooth diseases, heart diseases and gāratrogās etc.

#### **3. *Śalyarogasthāna***

*Śalyarogasthāna* is the third part which describes *kṣatās*, deep wounds, vṛaṇās, disorders of nerves, important nucleus parts and its *kṣatas*, pregnancy and affected diseases, abortion etc.



#### 4. *Uttararogasthāna*

*Uttararogasthāna* is the last part, which explains the topics like *snehāpana*, *snehāpanavidhikathana*, *annapānakathana*, *snehāpanakthana*, *Śalavidhāna*, must various seasons, seasonal food items and other treatments etc.

These are the four sthānas or parts of *Hastyāyurveda* and again each of the sthāna is divided into chapters.

The derivations of the *Hastyāyurveda* is based on the conversation between Romapāda, the king of Aṅga and Pālakāpya.

*Hastyāyurveda*, very old work in Sanskrit is co-related with in modern science and technique. But the Elephant origin is deviated from modern science.

*Hastyāyurveda* describes the mythic story of the elephant origin. Brahma took the cosmic egg to his hand and chanted seven sāmān, then the elephant Aiyerāvata (ऐरावत) and other seven elephants are born from his right hand, and from his left hand had born seven cow-elephants. In course of time children, grand- children etc., were born; they are the inhabitants of the whole world.

In ancient time elephants can fly in the sky. Once they flew long distance, and for rest sat down on a banyan tree. Under this tree lived a sage named Dīrgatapas when elephants slighted on the tree; a branch fell upon the body of this sage. He felt angry and cursed them, and the curse they come down the earth and became the vehicle of the human beings

*śākhataikḥ paripaditāśramapade tasminstitāstāparso  
nāmnā dīrghatapāstataḥ kupitavān nāgam śasāpāñjāsā  
tasmātte khalu kāmacārarahitā nāga bhabhūvurgatāḥ  
martyānamapi vāhamatramata nośāpstu dikkuñjarāḥ.*<sup>52</sup>

After the curse the *diggajās* approached Brahma and revealed the fact, the elephants were gone to the earth, and availed bad food so they may be vulnerable to diseases. Then Brahman pacified them by saying that "a sage will be born immediately, he will be related to the *mataṅgas* and will protect them".

*Hastyāyurveda* gives a clear picture of the origin of the elephants and the birth of Pālakāpya. Being compelled by Romapāda; the King of Aṅga, Pālakāpya reveals his identity.

### **Mythic story of Pālakāpya**

Campa city was ruled by King Romapāda, once he knew that his farm and plants were ruined by elephants with the blessing of certain sages and the help of his people, he caught and immured them.

Pālakāpya, the elephant messiah (protector) searched them in the forest and nearby places. At last, he found them captivated in Campa, and he treated their wounds. He always spend his time with the elephants. Then he saw fifteen elephants are dies-and he know the reason thus.

*Paravatat patamam panko viṣavalli jarānalaḥ  
Kṛpaḥ pratigajo grāho vidyudlabado bhujāṅgāmaḥ*

---

<sup>52</sup> ML.1. 11.6.

*ala daramsasthā vyāho bālye māturvisarjanam  
daśabhiḥ panjabhiścaiva hetubhirvāraṇā vane  
mṛiyante nāgānām tristaṇṇājjāyate bhayam.*<sup>53</sup>

The King and some sages asked him really who he was? After the compulsion Pālakāpya revealed himself.

### **Birth of Pālakāpya**

Brahma created a beautiful lady. She showed her imperious beauty. Frustrated by her ego Brahma himself cursed her and she was born as Bhārgavās daughter named Guṇavati. She joined the hermitage of Mātanga. Indra sees her and thought that she may disturb his penances! And he cursed her to turn out an elephant-cow. Soon he understand that she was innocent and he gave a boon for recovering from the woe i.e., when she begets a son of the sage Sāmagāyana, her curse will removed.

Once the sage Sāmagāyana dreams of a female spirit with whom he mates. Then the hermit passed the urine and Guṇavati drank it soon, and brought birth to a male child from her mouth, she gave her son to the sage Sāmagāyana, he brought him up. The etymology of the word Pālakāpya is given below:

*Pālanat gajayuthasya kāpyagotrodbhavo yatha  
Pālkāpya itisrīmān nāmdheyam cakāra sah.*<sup>54</sup>

The mythological story of Pālakāpya indicates same as the story of Śakuntalā - the human baby of Menakā and Viśvāmitra, she was

---

<sup>53</sup> *Hastyāyurveda*. 1.3. 14.

<sup>54</sup> *ML*. 12. 30. 157.

abandoned in the forest – was protected and reared by the birds – known as Śakunta in Sanskrit. Śakuntala, the human baby, abandoned in the forest – was protected and reared by the birds. Like this story, *Hastyāyurveda* describing the birth and nourishing of Pālakāpya, whose life is with the elephant. The sage named him 'pāla and he was known as Pālakāpya .

*Smṛddohamataḥ sātmyam sukham dukham ca hastinām  
janami bhakṣyabhakṣyam ca tadaivengitabṛmhitam  
yadā yacca niṣevante pratikāryam ca yena yat  
araṇye kurvate nāgastat sarvam viditammama”<sup>55</sup>*

*HAV* is the basic and best available text on elephant lore. The text itself reveals this fact

*“swayambhū prāg dadau yasmāki gajāyurvedamuttamam”<sup>56</sup>*

The treatise is an extensive compilation, starting with a legendary introduction according to which it was revealed by the sage to King Daśarathan in the Rāmāyaṇa. Sage Pālakāpya, according to the text, was born to a human sage and an elephant mother and is said to have had his own hermitge at the confluence of the river Brahmaputra with the ocean. The gotra of the sage is said to be 'Kāpya'.

The word 'Kāpya' is the tribal name. His childhood was with elephant. Because of that reason 'Kapi' changed into the synonym of the

---

<sup>55</sup> *HAV* 1.1.164 - 165

<sup>56</sup> *Ibid.* 145.12.

elephant. 'Pāla is a Dravidian word, that word would also become the synonym of the elephant.

### **Origin of elephants, in Modern view**

Modern scientists accept another view in the birth of elephants. Before 23000 daśavarṣa, elephant casts are born. They are not in the shape of today's elephant, its upper lip is like a long pipe. But today they are vanished from the earth and will exist three kinds. One of this is Heracks in the race of rabbit, the second one is Dugong, which is a type of sea-elephant and the third one is the ancestor of modern elephant called 'Morithirīum'. They lived in Egypt, near the cast of river Nail. Then they changed their shapes and became Dainatherium, Gamgotherium, Anāṅgus, Trailofodone, Plabilantone Mastdone and Māmmoth. Modern elephant is the converted type of Mammoth, and it had two tusks and is the pre-historic animal, closely related to the present-day elephants. Today the elephant cast is mainly divided into two. Asian elephants and African elephants. Modern science is, most acceptable in case of elephant origin, than the myth.

Anyway *Hastyāyurveda* is the basic treatise on elephant science, which brings the best awareness of elephants and their managements.

The author (of this book) *Hastyāyurveda* is Pālakāpya and he was a contemporary of Angaraja of Campa.

The king Romapāda wished to tame elephant for the use of the human beings. 'Romapāda mentions of Daśaratha the kings of Aṅga. According to KunnigHarm, Pārthaghatta is known as Campa, today's

Bhagatpure. Romapāda is the father in law of Ṛśyaṣṛṅga and the contemporary of King Daśaratha. Fahiyān describes Campā is a big city, which had many Bouddhastūpās and vihārās. Campa is the capital of Aṅgarāja, which (campa) is also known as Mālini, which is famous at the time of King Campans. He was the son of Pṛdulākṣha. According to Trikaṇḍa the author of Śeṣās, Dhanvantari and Pālakāpya are the same person. Suśruta learned Śalyacikitsa and animal treatment from Dhanvantari. So Dhanvantari and Pālakāpya may be same person. But there is no other clear evidence available to prove this similarity.<sup>57</sup>

## Other Work of the Author

### *Gajaśāstram*

Pālakāpya's other work called *Gajaśāstram*. (*Gśm*) (*HAV* and *GŚM*) both describes the some similarities and more differences comparison between *GŚM* and *HAV*.

The *G.S.M.* (*Gajaśāstram*) refers to the *Dhātus* and *Doṣās* etc. No separate description of the anatomy (अशीराचन) or *śārīrakriya* (physiology) is given in *G.S.M.* In *Gajaśāstram*, not more than 50 technical terms are used. But in *HAV* separate chapters about the *śārīra* and *śārīrakriyā*.

## Similarities between the two works (*GSM & HAV*)

- Mythological story is the same
- The author of both treatises is same

---

<sup>57</sup> *Āyurvedacaritram*. 17. 379.

- Mānaparibhāṣā-technical terms are the same.
- Types of Elephants are similar in terms and numbers
- The questions and answers in between king Romapāda and the sage Pālakāpya are similar.

### **Difference between *Hastyāyurveda* and *Gajaśāstram***

- *GŚM* describes Gajavaṇa in detail, but, no such description is found in the *Hastyāyurveda*.
- *Gajaśāstra* gives details about the Deśa and features of the elephants living. But in *HAV* does not give these.
- *GŚM* has a unique chapter on the *Kālīyagaja*, i.e., (the physical) age wise growth of elephants.
- *HAV* not describes this
- The *GŚM* describes only the diseases, signs and not describes treatments.
- *HAV* does not describe the treatments and disease in detailed. It includes chapters on anatomy, physiology, different habit like matting-habits etc; seasonal changes, creation of stables and food, sterility and madness of the elephants. *HAV* is not in order and it is hard for common people.

The symptoms or signs of diseases and their treatments; indications of the imminent death of elephants etc. are also described in the text.

Campāpuri is famous and it is also the country of 'Rani Lakshmi bhāi'.

*Authors nation is revealed from this-*

*'Aṅgadeśeṣvabhut Śrīman Ramapado Mahīpathiḥ  
Aṅgarājo Mahaprajñāḥ Campāyām Pridhivīpatiḥ  
Mahāprabhāvamāsinām Pālakāpyam sma pṛecchati.*<sup>58</sup>

So it is concluded that Pālakāpyan is Aṅgadeśin. *Hastyāyurveda* is available in the Raja Serfoji Saraswathy Mahal Library of Thanjavur in South India in 1894.

## **Date**

Date of *Rāmāyaṇa* is considered as before 500 B.C. Romapāda is mentioned as a mythic contemporary of Daśaratha, famed in *Rāmāyaṇa*. The introduction of *Hastyāyurveda* also reveals it i.e.

*"Ikṣvākooṇām kule jātaḥ bhaviṣyati sudhārmikaḥ  
nāmna Daśaratho rājā śrīman satyapratiśravaḥ  
Aṅgarājan asakhyam ca tasya rañjo bhaviṣyati  
kamyācāsya mahabhāgā sātā nāma bhaviṣyati  
Putrastvaṅgasya rañjastu Romapāda iti śrutaḥ  
tam sa rājā Daśarathah gamisyati mahāyaśaḥ"*<sup>59</sup>

This *śloka* indicated that Romapada is the contemporary of Daśaratha, the King of Ayodhya; formed in *Rāmāyaṇa*. The date of Dāśaratha is considered as

<sup>58</sup> *Hasytāyurveda* Introduction. p-21.

<sup>59</sup> Ibid. 22.



*'Caturvamśo yuge Ramo Vasiṣṭena purodhasa  
saptame Rāvaṇasyarotha jañje Daśarathātmajaḥ'.*

There are references to *Pālakāpyam* in the *Agnipurāṇa* of Vyāsa. *Agnipurāṇa* is important one among the 18 purāṇas. So *Hastyāyurveda* is written after the manner of Purāṇās. The period of the purāṇās may be fixed as 200 BC to 500 AD<sup>60</sup>. So *Pālakāpyā (Hastyāyurveda)* is before *Purāṇas*.

The *Hastyāyurveda* is composed in Kārika verses, interspersed with prose for greater elucidation. It has been quoted twice by K. Kshiraswamin (11<sup>th</sup> century) in his commentary on *Amarakośa* (under ii.38 and iii.3-148).

The *Agnipurāṇa* also quotes *Pālakāpya* as an authority on the science of animals and these sections have been dated to at least 10<sup>th</sup> century. Some authors even argue that the text is presupposed by Kālidāsa at *Raghuvamśa*. In any case the extend text is earlier than the 10<sup>th</sup> century and there is a possibility that it might even preceded Kālidāsa.

The text was published as volume No.26 in the Ananthasrama Sanskrit Series (Poona) in 1895 and can be assured that *Hastyāyurveda* is written in 6<sup>th</sup> of 7<sup>th</sup> century AD.

*Hastyāyurveda* gives valuable instructions for the healthy growth, upkeep and training, nourishment, diagnosed and treatment etc. So it must be study the elephant owners, elephant doctors and mahouts.

---

<sup>60</sup> *Matsyapurāṇa* 242.

The propounders of Āyurveda has considered a special branch of Indian veterinary science (on elephants) called *Hastyāyurveda*.<sup>61</sup>

There is a Malayalam translation available on *Hasytāyurveda*, authored by Vaidyamadham Ceriya Narayanan Namboodiri.

*HAV* is most popular text available on elephant science because there is no other treatise available beyond this. *HAV* is generally considered as Kalpavṛkṣa (coconut-tree).

*Mātaṅgalīlā* is the other best known book on elephant. According to *Gajaśāstra*, no other work is available in Kerala like *Mātaṅgalīlā*.

---

<sup>61</sup> *A short history of Sanskrit literature.*

## CHAPTER IV

### CONTENT ANALYSIS OF *MĀTAṄGALĪLĀ*

*Mātaṅgalīla* is an earliest treatise which deals with elephants, in detail. It is a concise work in 263 stanzas divided into twelve cantos. The verses are not equal in their length.

#### **Author (Tirumangalath Nīlakaṇṭha)**

The prelude (preface) of the work (*ML*) shows that Kerala had an art known as *Ānappāvu* and the most of the Keralites were trained in this method. *Kaṭalāyil Nambūtiri* was one of the famous artist in this *Ānappāvu*. The *Rasikarañjini* commentary mentions that *Kaṭalāyil Nambūtiri* wrote a work on elephants named *Mātaṅgaśāstra*. He belongs to 9<sup>th</sup> century (Malayalam era). It describes that he can manage any tuskers. The prelude of *ML* states that this book is written by one *Nīlakaṇṭha*. This book (*ML*) is based on the text *Mātaṅgaśāstra* uttered by ancient sage the *Pālakāpya* and *Kaṭalāyil Nambūtiri*. It is emphasised in the beginning and the end of the work *ML*.<sup>62</sup>

According to *Ullūr S. Parameśvara Iyer*, *ML* is the work of *Tirumangalath Nīlakaṇṭha*, the author of *Manuṣyālayacandrikā* (*MC*) and *Kāvyollāsa*. The reason for such identification is the similarities of the introducing verses of these works. That is found in *ML*.

*nṛsimhayādavākaratejo dvitayamadvayam*

---

<sup>62</sup> *ML*. Preface.

*rājate nitarām rājaraja mangaladhāmani  
tatratyaḥ śrīmadetaccaraṇasarasiḥkāśrayo Nīlkaṇṭho  
nityam śrīmangalāvāsya mangalagurujanādatta śāstravabodaḥ  
brahmānandābhīdhām pratayatikṛpāprāpta tatvābodaḥ  
wādhīta stairyakāmḥṣī parshitanitaro ratnamuccai ratānīt*<sup>63</sup>

He mentions that he was an inhabitant of Tirumangalam near Tirur.  
It assured in *MC* (*Manusyālaya candrika*)

*śrīmatkuṇḍapure virājati parakrode ca tejatparam  
nāvānāmnī ca dhāmnī yacca nitarām mallīvihārālaye  
aśvathākhyaniketānēpi ca pure śrīkeralādhīsvare  
sambhūyāita duraprakāśaviṣaye citte mamojjīrbhatam.*<sup>64</sup>

The author himself indicates that his name is Nīlakaṇṭha and the  
name of his family is Śrīmaṅgala.

*śrīmangalāspada sadaśraya nīlakaṇṭe  
premaprakarṣṇīlaya ssakalābhivandyāḥ  
śrīmadgirindratanayā tanayot/ṅgribhājām  
kāmaprado jayati mattamātaṅgajjasyāḥ.*<sup>65</sup>

In the first śloka of fourth chapter of *MC* he pays reverence to the  
dieties of Nṛsimhayādhava installed in the Rājarājamangala temple Tirur, ,  
now at municipal town in Malappuram District of Kerala. In  
*Manuṣyālāya candrikā* and *Kāvyaollāsa* (which are the another work of the

<sup>63</sup> *Keralīya Samskrita Sāhitya Caritram* (KSSC). 8. 2.3. 503.

<sup>64</sup> Ibid. 4.

<sup>65</sup> Ibid. 5.

author), he involved the deities of several temples, which are the prakāśaviṣaya (vettattunādu) prakāśaviṣaya is a tract of land around Tirūr. Prakāśa means light (vettam in Malayalam) and viṣaya means country (nātu in Malayalam). Therefore it can be regard that Nīlakaṇṭhan is a native of Tirumangalam near Tirur.

*taddavapādakamalaikasamāśrayaḥ ko-  
pyudyota mānaguruvarya kṛpābhīyogāt  
vidyāparīśramaparo bhahudhāmaśuddhā-  
vyudyogavān bhavanti bālavibodhane ca  
yeṣām śrutipraṇayinī dhiṣaṇa yadīya –  
ssankalpa kalpitataṅḥ parameśvaropi  
teṣām mahīsumanasām mahānīyabhāsā-  
muttamsaye paramudārapadāravindam.  
nissarga samsidda samasta śilpa-  
prāvīṇyamadyam druhiṇam praṇamya  
mayāmaṇuṣyālayacandrikaisa  
vilikhyate mandadiyām hitāya  
mayamatayugalam prayogamañja-  
ryapi ca ribandanabhāskarīya yugmam  
manumata gurudevapaddatiśri-  
harijayanādi mahāgamā jayanti.*

In Śrīśaṅkaragurucarita

*yatgrāmasambandhī kṛtā maṇuṣyālayacandrikā  
mātaṅgalīla cādyāpi keralīyairadhīyate.<sup>66</sup>*

---

<sup>66</sup> KSSC.8.506.

which indicate that Nilakaṇṭha is the author of *ML* and *MC*.

*mārkaṇḍeyanibandianam mayamatam rathāratim,  
proktam kāśyapa viśvakaramadevoktañca pañāśīkam  
savyākhyām Harisamhitām vivaranādyam vāstuvidyādhikanam  
dṛṣṭva tamtrasamuccayokta manusṛtaivātra samkṣīpya te (MC)  
nṛsimhayādavau daityasamūhogrāvītavau  
rājamānau bhaje rājarājamangalavāsīnous. (ML).<sup>67</sup>*

Both these works (*MC* and *ML*) gives the term Nṛsimhayādavau and Rājarājamangala, and the verses of *MC* gives the name of the author that is, Nīlakaṇṭha. The name of his house was Tirumaṅgalam and he worshipped the deities of Narasimha and Śrīkr̥ṣṇa of Rājarājamangala. Brahmānanda, the commentator of *Uttaragīta* of Goudapāda was the Vedāntaguru (teacher) of Nīlakaṇṭha. Goudapāda is also attributed with a work Bhāgavataoladeśasāram. He is assumed to be the seer of Thriśśūr convent. Nīlakaṇṭha mentions of temples of Thṛkkantīyur, Tripaṅgod, Tirunāvay, Mullappalli Ālathur and Kēlādhiśvaram. If we accept the reading.

*nitya rājarājamangalapure cārād gaṇeśālaye  
nāva nāmni ca dhāmni rājatitaram mallīvihārālaye<sup>68</sup>*

Rājarājamangala and Gaṇeśālaya will replace the last two. Nīlakaṇṭha was a stouchn devotee of Gaṇeśa and a resident of 'Vettattunātu'. The verse of starting with 'yesāmśrutipraṇayini in *MC*,

---

<sup>67</sup> Ullur. S. Parameswara Iyer *KSSC* (II part) Kerala University, 1953-27, 304-305.

<sup>68</sup> Ibid.

suggests that its author is not a Brahmin and the word 'taddoṣapādakamala', suggests that he was an Ambalavāsin. Even now a house namely Tirumaṅgalam is there near the temple Tripraṅgotu.<sup>69</sup> The name Nīlakaṇṭha is a synonym of 'Siva' so it indicates that he may be 'saivits'.

It is assumed that the author was an illustrious Sanskrit scholar, it is clear from his usage of metres. He had tried to avoid the mannerism (repetition) of verses in this book (*ML*). The author himself admits that this is not an independent work. He also not argue of the novelty of the content. He begins his text with an innovation, in which he salutes Naramsimha, so that he could complete the work without cohibition. The work is modelled on the *Mātaṅgāsāstra* uttered by an ancient sage. Then he narrates the subject matter of the work.

### **Date of Nīlakaṇṭha**

There is no clear evidence to fix the date attributed to Nīlakaṇṭha. The (style) usage of language indicates that the work goes back to Thousands of years. *Manuṣyālayacandrika* mentions the *Tantrasamuccaya* and its vivaraṇa commentary. This shows that *MC* was written after *TS* was compiled. The kali year of the birth of the author of *TS* indicated in the text is 4529 corresponding of 1426 AD also Tuñcat Eḷuttaccan lived in 17<sup>th</sup> century. So that it can be assumed that Nīlakaṇṭha lived between 15<sup>th</sup> and 17<sup>th</sup> century A.D.

---

<sup>69</sup> Ibid. 306.

From this, his date cannot be earlier than Kollam era 650. Though he mentions the architecture, it helps little to determine the date of author. Traditions makes him the disciple of Kellalur comātir and hence he is believed to be lived in the disciple of Kellalor Comātiri and hence he is believed to be lived in the former part of 18<sup>th</sup> century. In *Kāvyaallās* he mentions the texts like *Ekāvali*, *Pradaparudrīya* and *Rasārṇavasudhākara*. But he does not mention the works of Appayyadīkīta, and Jagannātha paṇḍita are assumed to have been lived 16<sup>th</sup> and 17<sup>th</sup> century A.D. This supports the above idea that he belongs to the 650 Kollam era. The prelude of *ML* mentions the period of Kaṭalayil Nambūtiri during 9<sup>th</sup> century. From this it can be concluded that Nīlakaṇṭha lived after Kaṭalayil Nambūtiri.<sup>70</sup>

### Other works of Nīlakaṇṭha

Nīlakaṇṭhan mūsat has several other works to his credit. The most important among them are:-

1. *Śilpacandrika*
2. *Manusyālayacandrikā*, which is similar to *Vāstulaḥṣaṇa* of unknown authorship.
3. *Vedikkampuvīdhi*, which deals with the ingredients used for, makes the fire works and mixing them from different types of fire works.<sup>71</sup>

---

<sup>70</sup> *ML*. Prelude. 1-3.

<sup>71</sup> *MC*. Introduction. XI.



## Peculiarities of *ML*

There are many other works available on elephant science, but *ML* considerably deviates from them. According to *Gajaśāstrās*, there is no other work in Kerala, got famous like *ML*. There is big *Gajaśāstrā* text named *HAV* (*Hastyāyurveda*) which is tough and inaccessible to common people. It may be the reason for Nīlakaṇṭha to write *ML*. Its language is ancient but simple. There is two affirmative points of modernity available in this science. One is Vallathol commentary and the other is Brahmśrī Cheruvalli Nārāyaṇan Nambūtirī's. In its variety, simplicity and quality, it excels other texts connecting with the same matter. Clinging closely to the Kāvya tradition, the author begins the work with a benediction.

*ML* is a very short but beautiful work. , in 12 cantoes, which contains only 263 verses. It gives an exclusive picture of elephant science. For writing this text, the author choose some models.

Pāṭur Vaṭakillattumanakkal Brahmaśrī Nambūtirī's model more helped Nīlakaṇṭha for writing *ML*. It is also recorded in *ML*'s prelude.

There are twelve chapters in this text.

They are:-

1. The origin of elephants (*Gajotpatti*)
2. On favourable marks (*Śubhalakṣanādhikāraḥ*)
3. On unfavourable marks (*Aśubhalakṣanādhikāraḥ*)
4. On marks of longevity (*Āyurlakṣanādhikāraḥ*)

5. On marks of stages of life (*Vayalakṣaṇadhikāraḥ*)
6. On determination of measurements (*Mānanirṇayadhikārhi*)
7. On details of price (*Mūlyādhikāraḥ*)
8. On marks of character (*Satvalakṣaṇādhikāraḥ*)
9. On kinds of must (*Madabhedādhikāraḥ*)
10. On catching of elephant (*Gajagrahādhikāraḥ*)
11. On keeping of elephants and their daily seasonal regiment and (*Dinarttacyādhikāraḥ*)
12. On the qualities of elephant drivers.

### **Content of *ML***

Among the twelve chapters, the first one is an introductory chapter. It describes that there is a king named Romapāda in Campa. His farm was ruined by elephants. At that time a group of sages come to Campa and they were well treated by Romapāda. They (the sages) pleased his (Romapādaś) hospitality, and they gave the king a boon for catching elephants. Accepting the boon the king ordered his men to catch the elephants. They went to the forest with the king for catching elephants. In forest they had seen a sage with elephants. The king and his retinue happened to know that a sage who will have their company without only in the evening, always accompanies elephants. Being aware of this matter they planned to catch them in the evening. Once they caught them and mured. After astringency, the inhabitants of Aṅga lived with peace.

Pālakāpya didn't know this incident and he went to the forest and searched the elephants. At last he found them in Campa, with captivity. He felt sad and treated their wounds carefully. At the same time Goutama

and other sages saw him and asked his identity; but he did not reveal it. The sages told all these things to Romapāda. Thus Romapāda compelled Pālakāpya to reveal his identity. At his compulsion, the sage display the mythic origin of the elephants and his own marvelous birth. This chapter describes the story of *Mātaṅga*, story of *Guṇavati*, origin of Pālakāpya, origin of elephants and various caste and characters of elephants in 40 verses.

The second chapter explains the favourable marks of the elephants. This classification is based on the elephant's colour, length, height, sensitivity and other qualities. This chapter contains 17 verses. The best elephants are those, which share the king's pathos and fight in favour of the king. It is said that the elephants are driving the chariot and fighting.

*Yudhyanti kevalam martyāḥ  
vahantyeva haya rathāḥ  
vāraṇāstu narendrārḥah  
yudhyanti ca vahanti ca.*<sup>72</sup>

The third chapter describes the unfavourable marks in 7 verses. The king is advised not to catch a cow-elephant if a young one accompanies her, because it will seriously hurt the wealth of the country.

The fourth chapter deals with marks of longevity state and best elephants. It includes only 4 verses. This chapter explains the full length of life of the elephants. The best type of elephant will live in twelve

---

<sup>72</sup> *ML.* 2. 11.22.

decades while the 'slow' and 'dear' castes may be expected to live only for eight and four decades respectively.

The fifth chapter explains the different stages of life of elephant. The animal is named differently according to their age and deeds. It is depicted in 23 verses. It states that an elephant has no value for man up to the twelfth year. He is of middling value between twelfth and twentyfourth years; upto the sixteenth (60<sup>th</sup>) year and it is considered as precious.

The standard measurement of each of the three main castes, the length, height etc. is described in the sixth chapter. In modern times also this measurement is recognized.

The seventh chapter is the smallest one in *ML*. It consists of only 3 verses. It narrates the method to calculate the price of elephants. The prices is calculated in accordance with their quantities.

*gṛṇīyāt pūrṇamūlyena tu nikhilaguṇaiḥ*  
*-ranvitam vāraṇendram*  
*bhagnaikamkṣyam gṛīdantam badhirampirujā*  
*vantamapyardhamūlyāot*  
*ccinnārdhaśrotra bālādīkamapi matimām*  
*statra mūlyastribhāgā-*  
*ddantadvandvaprāḥīṇādīkamabhivarama –*  
*pyangrimūlyena gṛhyāt.*<sup>73</sup>

---

<sup>73</sup> *ML*. 7.2.40.

The eighth chapter deals with the characteristics marks of elephants in 25 verses. This characterisation is made according to the elephant's acting on command of the mahouts. It is physical and mental characteristic marks. The classification resembling supernatural beings of different sorts such as gods, demons, gandharvas yakṣās, sprites, goblins and serpents, brahmins, kṣatriyās, vaiśyās and śudrās.

The ninth chapter is taken as the most important one in this text. It deals with the state of *must*. The elephant is periodically subject to a strange condition called *must*. The *must* is the discharge of sweetish sticky fluid from the temporal glands, which are situated on midway of the forehead. It flows from eyes, palate, nob, temples, ears, naval, trunk and nipples and from the hairs of the body. *Must* may be occur in both wild and domestic elephants after they have reached the age of maturity and accompanied by great activity of the temporal glands, which becomes highly inflamed. *Must* period is regarded as most dangerous and in this condition they will try to kill their own mahouts.

The tenth chapter explains the method of catching the elephants. It describes the five methods of catching wild elephants and it contains 14 stanzas (verses). The five methods are:-

1. *vāribandha*
2. *vaśābandha*
3. *anugati*
4. *āpata and avapāta.*

Eleventh chapter contains fifty-one stanzas, which recount the principles of keeping the elephants in details. It mentions the food items according to, each stage, medicines, on particular occasions, special attention at the time of rut etc.

The twelfth chapter and last chapter is some what miscellaneous one, which recites the nature and characteristics of elephant managers, trainers and mahouts etc. It consists of 31 verses.

The text (*ML*) summarising all the details of an elephant in a lucid way. It is useful for the elephant lovers, managers, doctors and any one of who loves elephants. It narrates a mode of dialogue, between Romapāda and Pālakāpya.

### **The Representation of *ML***

*ML* deals with the elephant's life cycle in detail. That is:-

*Utattiḥ śubhalakṣanānyaśubhala-  
Kṣmāyur vayolakṣaṇam  
mānam mūlyaviśeṣasatvamabhē  
dāśca kramāddantinām  
vanyānām grahaṇam ca rakṣaṇadinar-  
tvāvārabhedādikam  
nāgādhyakṣaguṇādikam ca sakalam  
samkṣepato vakṣyatte.*<sup>74</sup>

---

<sup>74</sup> *ML*. 1.3.25

*ML* gives a clear picture of the origin of the elephants and the birth of Pālakāpya.

### Elephant castes

There are four famous castes mentioned in *ML*. They are 'bhadra', 'slow' (*manda*), 'deer' (*mṛga*) and 'mixed castes' (*mṛgasankīṛṇa*). They are born in different periods.

*jatā bhadrā dvipendrāḥ kṛtayugasamayelakṣaṇenābhīyuktā-  
stretāyām mandajātyāḥ khalu gajapatayo dvāparakhye yuge ca  
nāgāścaite mṛgākhyāstadanu kaliyuge traiva samkīṛṇajātaya  
nāgānām jātibhedajiririhā kathita kālayogānurūpa.*<sup>75</sup>

### A version of different castes

Duration of time is divided into four yugās in ancient days they are the *kṛtā*, *dvāpara*, *treta* and *kaliages* various castes of elephants are born in this four ages respectively. Among these ages first age is *kṛtā*, the spring time. The bhadrā caste is born in that stage. They looked like spendiferous, bearing beauty and good characteristic marks. Their body is not over thick, they are rosy in colour, energetic, ambitious towards by the cows, having twany eyes and well balanced tusks, impartial is lustiness and grief. They are known as bhadrā. The Bṛahatsamhita mentions bhadrā caste thus –

*madvābhadantāḥ suvibhaktadeha  
na copodigdā na kṛśā kṣamaśca*

---

<sup>75</sup> *ML*.1.26.12.

*gatraiḥ samaiścāpa samānavamśā  
varāha tulairjaganaiścabhadraḥ.*<sup>76</sup>

### **Manda caste**

World's second age is treta. In this age, the cool season had born manda caste. Characteristic marks of them are described here. They can walk in misconduct mind their neck is short and their ears are very short and black coloured, highly phlemed having very long tusk and highly sensible skin. These are considered the remarkable qualities of the *manda* caste. They are also known as *gabhīravedi*.

### **Deer castes**

*Deer castes* are born in 'dvāpara age'. They are small in size, grey colour, each much shirty, like to walk water ranging places, predominance of bile, if the ankers touch the body he felt afflicted, that kind of elephant is called deer caste. It also known as *Uttānavedi*.

### **Mixed caste**

This caste is born in the 'Kali age' as the name indicates these are the mongrel of characteristics. They were born as hybrid of slow castes.

Varāhamihira in his *BS* deals the *mṛga* and *samkīṛṇa* castes as follow.

*mṛgāstu hrasvādhara vālamedā  
stanvaṅgadhrikandadvija hasta karṇāḥ*

---

<sup>76</sup> *B.S.* 66.1.629.



*stulekṣaṇāśceti yathoktaciḥṇeḥ*  
*sankīrṇanāgā vyatimiśraciḥṇaḥ.*<sup>77</sup>

### Life time

The *bhadra* caste had lived twelve decades as their maximum age, and *deer* caste lived for four decades. The *manda* castes can live upto the time of eighty and the *miśra* caste were born as minkling of *bhadra* and *mṛga*. According to Nīlakaṇṭha, *miśra* castes age can't be calculated. Varāhamihīra refers to elephant's longevity –

*pañcannaṭiḥ saptamṛgasya dairghya*  
*maṣṭau hastāḥ pariṇāhamāṇam*  
*ekadvi vṛdhāvatha manda bhadrau*  
*sankīrṇa nāgoniyata pramāṇaḥ*<sup>78</sup>

Among these castes *bhadra* caste have the long life and *deer* caste had shortest living time.

### Various name of Elephants

Because of their characters they had different names. They are:

*Nāga, gaja, hastin, vāraṇa, mātaṅga, kuñjara, padmin, dvipa, eight*  
*blows, i-bha, karin, dantin, and sindhūra.*

---

<sup>77</sup> BS. 66.4.730.

<sup>78</sup> Ibid.

## Favourable marks of elephants

One who has an admirable tusk, back born and is considered as an excellent elephant, its two trunk ends, penis, tongue, tip, anus, and palate are in red coloured. Twenty nails are considered as a good mark, or there must be 18 nails, their trunk and tail are long, straight and handsome, and highly dark like betel nuts are good in their characteristics.

*That is described in Mānasollāsa (mo)*

*Susniadau radanau vṛttou dakṣiṇāśca. Samunnataḥ  
ākṛṣtam tālu tāmram ca dasāṣṭau nakhāśubhāḥ.<sup>79</sup>*

Obesity is the essential thing, it must have long legs and arms, large long round neck is essential, trumpeting with a roar like clouds, full of water with honey coloured eye, with trunks like tree stems and marked with three corrugations such elephants are fine. Those having drum like trunk kettle like ears, and flutes like mouth are also considered as good.

Those who do not make any sound due to hunger, thirst, grief and fright, are considered to be auspicious who make sounds like a lion, crane peacock, cuckoo, tiger, lion and bull, were considered as good.

According to their characteristics they had various names.

Since they came walk anywhere and everywhere they are named nāga. They can roar in high sounds they are called as *gaja*. They were the portion of the troof and they protect the king in the battle so they called *vārana*, because of their weight they make tribudiness their way so they

---

<sup>79</sup> MO. 41. 225.49.

named *mātaṅga*; with the force of their feet they scrunch the earth so they called *kuñjara*, because of blot in their body they are known as *padmini*, they can drink both with the mouth and trunk so they called *dvipa*, they are known as *eight blows* because they attack with trunk, tail, tusk and forefeet. They were known as *hasti* because they born from the hands of Brahma. Because of their beauty and immensity in body they called *ibha*, because of their long trunk they were known as *karin* they are known as *dantin* because they have tusk, they are joyful in the water so they are known as *sindhūra*.

*Gś makes out a pictures of Padmin –*

*Padiminaste kinnarāmsāḥ padmagemdāḥ śubhekṣaṇāḥ  
piryāparśvāḥ śāntacinta dhīmataḥ priyabhāṣaṇāḥ<sup>80</sup>*

It is said that elephant fights and draws the chariot. 'Yudhyanti ca vahanti ca

### **Unfavourable marks of elephants**

Some elephants show unfavourable marks. such disqualified elephants must be forsaken from catching.

One who has more or less nails or portions of the body, viewed bullacks, turbid fingers, shapeless belly and body, blue coloured palate as much stout or somebody too blackened body deficiency of must lean trunk etc., that kind of elephants are considered as palfrey.

---

<sup>80</sup> GŚ.2. 31.6.

Who has harsh and different coloured massive tusks, whose body is filled with blackened or whitened blots, has short lengthened tail and tiredness buttock that type of elephant is considered as bad luck. One who has external testicle it is considered bad luck to the kingdom. It may kill the king or his friends. *ML* describes it.

*lakṣamuṣkāstu mātaṅga*

*yatra tiṣṭanti pāṛthiva*

*hanyate tatra nṛpatih*

*sutena suhṛdā/pivā.*<sup>81</sup>

If it can (an elephant) lacks the right ear, it will destroy the forecasts. It may cause the disease of the king if lacks of the left ear. If there has an evilbolt in his skin, tusk, check or nail they shall be forsaken.

At night who seems to rejoice, the day time who jittered and to make sounds with the birds fanning the tail, who impulse to mahout that kind of elephant is known as rogue elephant is abundant and they must be discarded.

As mentions the disqualified elephant.

*Vikko mūdo matkuṇo vyādhito*

*garbhīṇī denukā, hastinī ca agrāhyaḥ*<sup>82</sup>

If a she-elephant is pregnant or accompanied by a calf it is believed to bring bad luck. That is –

*potānvitā vā kariṇī sagarabhā*

*labdvā bhaved vāhanakośanāśaḥ*

<sup>81</sup> *ML*. 3.3.25.

<sup>82</sup> *AŚ* 31.459.

*tapovane vā svavane thavāpi*  
*nītvapayet diggajadevapūjām.*<sup>83</sup>

### **Marks of longevity**

Some elephants live for long time. Who has long tusks, nails, hair, eyes, long ears, and trunk, long tail and such type of elephants are live long. They have twelve good characteristic marks. Those who have found five or seven or eight good characteristic marks also have long life. There are certain peculiarities of the long-lived elephants. Some nobbs, shining eyes, tusks, hairs ears and long trunk are long-lived.

According to their age the elephants are of four types. They are *bhadra*, *mṛga*, *manda* and *miśra*. The *bhadra* caste can live 120 years while the *mṛga* or deer caste lives only four decades; the *manda* or slow caste had 80 years the age of *miśra* (saṅkīṛṇa) caste is not mentioned.

Nīlakaṇṭha mentions their age

*chatturthī mṛgajāyasya*  
*mandajā tyasya vāṣṭamī*  
*dvādaśī bhadrajāṭasya*  
*pura māyurihoeyate.*<sup>84</sup>

Slight reddish side of the trunk, tongue, lips, palate etc., are good marks which indicates their longevity. Their back born is rush into front.

---

<sup>83</sup> *ML.* 3.7.26

<sup>84</sup> *ML.* 4.4.27.

They roar voice, their body is locked like very beautiful, skin is thick etc., are considered good marks of elephant's longevity.

After birth, the deer caste is a hasta and a half length and its girth is two hastā. Each year they grew up five angulas. *ML* describes their growth.

*panconnatisapta mṛgasya dairghyam*  
*nāhapramāṇam tu vitastayo ṣtau*  
*etat dvivarmu dhāvada mandabhadrau*  
*prāpte tu varṣedaśame triyuket.*<sup>85</sup>

### Stages of life marks

According to their age four different names are given to them. Before twelfth year he is know as jagahanya, at this age he is worthless; before twenty fourth years he is known as *madhyagaja*, at this time he is of middling value, before sixty year, he is named as *mātaṅgavarya*. At this time he is formed as a noble elephant, after sixty year, he is known as *uttamagaja*.

According to Nīlakṣṭha and other scholars on elephant science, the duration of elephants age is 120 years. The *bhadra* caste only has this age. Working elephants will not live more than 60 years. The elephant's age is calculated by the number of teeth.

---

<sup>85</sup> *ML* .6. 3.3.7.

At first, the new born baby is called *bālan*. It is light reddish colour, always like slept, it has very short trunk, always like to drink milk and these are their marks.

In the second age, it is called *puñcaka*. At this time the baby elephant is also called *paśuka*. Its body parts are reddish and its eyes are partially shut, it begins to eat the spring leaves and grass indisposed to drinking milk, mostly like sweet food, journey is in orgastic, its interest is to play.

In the third age he is known as *upsarapaka*. At this age it is matured. At this age his nails, vidu, joints, ears, and sheaths and covering of the tusks are clearly developed; its body is hairy, he begins to eat grass with firm rows of teeth.

*vilāgaṇiṣkośavilohitaḥ payo*  
*divt prohasandānaghanastṛṇapriyaḥ*  
*kṛṣṇahtatāluḥ pṛtulaścaatuṣṭaye*  
*manāk prarohaddaśanoḥi harbaraḥ*<sup>86</sup>

The fourth stage it is known as *Barbaraḥ* and *kalabha* in the fifth age. From six to ten they are respectively called *naikārika*, *śísu*, *majjana*, *prabhava* and *cikka*.

In the year of 20<sup>th</sup> it is known as *prota* (cott) and the age of 21-30<sup>th</sup> the *must* arises. At this phase it seems handsome with smooth hair and skin. In this third stage he is known as *javana*. At this state when they

---

<sup>86</sup> *ML. 5.5.29.*

issue the must they like to travel and exhibit violent anger, wish to kill etc., these are their common characteristics.<sup>87</sup>

In the fourth state (31-40) they are known as *Klayāṇa*. At this age it appears slimy with the must fluid he seems to the best condition that is natural to him he becomes mad and angried. From 41-50 years considered as the V<sup>th</sup> state. In this stage they are called *yaudha*.

The age of 51-60 is the sixth state. At this time its body wrinkles crack open on the surface, decrease his sensation power, bodily humors spirit diminished hair grows on his tusks have fallen out these are the characteristics of the sixteenth age.

At the seventh stage (61-70) he is known as *Arivarnā*. In this stage they look like stiffy limbs rough skinned and faded coloured.

In the 8<sup>th</sup> decade their body is faded highly and his wounds don't heal quickly, the shining of the eye decreased, marcescence the hairs etc., these signs show that they are aged.

In the ninth stage (81-90) he is called *purāṇa* with sunken neck, teeth dropping out, body movements become slow, eating soft fodder, tusks falling out, ugly in colour, sleep long time, these are the characteristic marks of the old age.

At the tenth stage (91-100) its limps are hanging, body hairs fallen out, teeth/tusks are falling, wasting away in flesh and strength, hoof-slippers, eating little, rough-bodied, body covered with veins, evacuating

---

<sup>87</sup> *Āna*. p.95.



and urinating with difficulty, thirsty he is and old elephant in the tenth stage.

At the eleventh state (101-110) he looks like sleepy. He always build a tree for sleeping, dislike to eat, his tusk fall of, his four limbs are permanently sickly. These are the characteristic features of the eleventh decade.

At the age of 111-120 he seems like

*nīcaiśa mandam pramṛśecca yāya-  
ccalatkarō dhaścalakarṇabāiaḥ  
prastabdagātraḥ paravānajaśram  
sa drādaśīm prāpya daśām svapecca*<sup>88</sup>

His trunks, ears, and tail-swaying downward, fore- and hind limbs are stiff, he sleep constantly in this twelfth stage. The age up to 120 is considered as the last stage of an elephant.

Having performed many duties the elephant goes to heaven in his hundred and twenty years.

It is stated that the elephant is no value in his twelfth year. It has got the middling value until twenty to forty and of the highest value from them on until sixteenth.

---

<sup>88</sup> *ML.* 5.23.35.

## Measurement Determination

At first standard measurements of each of the three main castes are given.

The 'deer' caste just after birth is a *hasta* (kara) and a half and he is to be a *hasta* high and two hand girth. Five *angulās* said to be their annual growth until ten years. Each year they grow eight *aṅgulās*. *Slow* (*manda*) caste is more than one girth and *bhadra* caste is more than there girth growth than deer caste.

There are three types of cow elephants. They are best cow-elephant, middling cow-elephant and protest cow-elephant. The measurement of best cow-elephant is six drumstick girth and the middling cow-elephant has five height, seven length, and eight girth and the protest cow-elephant has four height, six length and seven girth-must need that is

*ṣadpañcaturacchrāyā cāṣṭacaptaṣadāyatāḥ*  
*navāṣṭasaṭtanābhāśca mukyamadhyādhamā vaśāḥ*<sup>89</sup>

Elephant length is calculated by measuring the distance from the eyes to the root of tail, and height is measured from the top of shoulder to the ground. Now-a-days also used this method of height measurement.

Body parts of Elephants, named differently. The two nobs between the head's called *vidhu*, its under part is named *vāhitha*, its lower portion is known as *vayukumbha*. The space between left and right nobs are called *vilaga*. Tip of the trunk is known as *puṣkara*. Brink/lair of the eye is

---

<sup>89</sup> *ML*. 6.4.37.

called *īṣila*. Corner of the eye is known as *niryāṇa* and the ear root is named *cūlika*.

The lobe of the ear is *civccatūṣ*. The part between the shoulders is called the *proha*. Above the trunk is known as *avaskāra*, that portion over is called *vali*.

Middle of the body is known as *nigala*, above that is *cikkā*. Over the haunch is called *samdāna* and below this part is known as *kalā*.

Above the waist is called *apara*, over the buttocks named *niṣkośa*, belly parts are known as *kukṣi*, bellies elevated sides named *uttṛṣṭa*.

The tail root is named as *pecaka* below the throat is known as *antarmaṇi*.

*puścāmūlasamīpaḥ syāt*

*pecakastu galādadḥ*

*urasyantam maṇim vidyāt*

*grīvāsandhim samāśritam.*<sup>90</sup>

These are the names of the body part of elephant

## Details of price

Elephant's value is calculated according to their mansuetude and age. A tamod bull elephant is the first one, it will be taken by full price.<sup>91</sup>

Nīlakaṇṭha describes, an excellent elephant shall taken full price. They have agreeable accomplishment like, those who has one eye, one

---

<sup>90</sup> *ML*. 6.1.4. 39.

<sup>91</sup> *Domestic Animals*, 7.168.

foot or tusk missing, dead or diseased , they shall taken half price; those who have half an ear or tail or lost both tusk or if it is cow-elephant they shall taken three quarters of the full price.

According to Nārāyaṇa Dīkṣita, the value of the elephant is varies from its age and quality. He describes that

*Uttamagajāstu loke nahi labhyāsarvadeśeṣu  
ata eva mūlyadānātte svīkāryāḥ parīkṣtāḥ karmaṣa  
trivayaskjāḥ kariṇastu svīkāryā mūlaśatakadīnāraiḥ  
evam caturtha varṣāḥ pañcamavarṣāsadabhakāḥ potāḥ*<sup>92</sup>

Then he narrates the value of elephants in each and every phases. At the age of 5 to 10 it takes hundred price, beyond this state increasing their value accordingly their body characters. The *uttamagaja* carries full price.

*Uttamākulajaḥ ṣadguṇaparimanditāḥ sarūpaśca  
mūlyadhikyārḥā iti duṣyante dviradaguṇakulatñaiḥ*<sup>93</sup>

According to M.S. Joy, the favourable elephant can get full price. If they lose anybody parts, such as their eyes, ears, tusk, leg or they may be diseased such elephants shall taken half value. Tail-less and deaf elephant shall get the price three fourth (3/4). If they lose their two trunk they get only one fourth (1/4) of the price.

---

<sup>92</sup> *GGP.* 5. 715-716. 72.

<sup>93</sup> *Ibid.* 726.73.

## Marks of character

Most of the Gajaśāstrās describe varieties of elephants. Brāhmaṇās, kṣatriyās, vaiśyās and śudrās are the four important elephant castes. This categoriation is similar to man *ML* explains the fantastic description of the character of elephants, based on physical and psychic characteristics. According to the characteristics they are classified into various sorts. Among them the four castes are taken important.

The brāhmaṇās are simple-hearted their body is fragrant with odors like honey, milk and obedient like to play with pairs, like to bath and are intelligent.

Kṣatriyās had the fragrance of sandal, ghee, yellow orpiment and red arsenic. They are adept in all duties, fearless in battle, plucky in the battle dabing the weapons.

The fragrance of show flower, paddy, gingel flower, pandanus flower and jasmine is the characteristics of the *vaiśya* class. They would be vulnerable and lustered in the tongue and cheek, non-vegetarian and to immediate anger and propitiation.

*The śudra caste is:*

*uccīṣṭa hṛṣṭassahaiva bhīruḥ*  
*śuklākalahastāthi kulīrugandhaḥ*  
*krodhī ca bhedayḥ kṛpaṇaḥ*  
*satvena śudra ssagajo dhamaśca.*<sup>94</sup>

---

<sup>94</sup> *ML*. 8.12.44.

Based on the caste variety, they are classified into gods, demons, gāndharvas, yakṣās, gaint, goblin, serpent, etc. Another classification is based on varying the degrees of sensitivity to stimulation. The sensation of elephants is known to be seven fold according to extreme, shallow deep, comfortable to meaning, contrary to meaning, harsh and perfect. In Sanskrit they are known as *atyarthavedi*, *uttānavedi*, *gabhīravedi*, *anvarthavedi*, *pratyarthavedi*, *karkkaśavedi* and *siddhāntavedi*.<sup>95</sup>

*GŚ* Nārādhamuni describes the different characteristics of elephant. In the second chapter he narrates twenty-eight varieties of elephants found on earth. Among them 16 varieties are called noble ones as they are born with the characterisation of gods, semigods, and human beings.

*GŚ* elaborately deals with their height, colour, the place where they generally found and their dispositions etc. They are those of gods – *Indra*, *Agni*, *Yama*, *Varuṇa*, *Vāyu*, *Kubera*, *Śaṅkara*, *Viṣṇu*, *Brahmā*, and *Candra* and of the semigods like *Yakṣas*, *Gandharvas*, and *Kinnarās* and of the ascetics kings and ordinary human beings. The elephants belonging to the middle class are those having the traits of manes, the fish, the birds creepers, flowers and the traits of *Rākṣasās*, *Asurās*, *Pisācās*, *Lions* and *Monkeys* belongs to the lower class.

According to Nīlakaṇṭha, elephants vary their several signs indicating this. The gods - are beautiful in features, it has an odour of white water lilly, sandalwood, akstomia scholaris, orange tree, lotus or

---

<sup>95</sup> *ML*. 8.1.25. 41-48.

carpus fistula where face beams, who always retains the interest of *kalabha* who has a cry like cuckoo, in Sanskrit its name is *Devastava*.

Who tries to do prohibited things desirous in fighting, soon angered, unkind, smelled like āloes or fish he likes to kill anything these are the character of a *Demon*.

The Deva is

*yaḥ kāntimān kumudacandanasaptapraṇa*  
*nāramgapadmacaturaṅgulatulyagandhaḥ*  
*phullānanaḥ kalabha kautukabānajasram*  
*mānyosnya puṣaninadaḥ sa tu devasatvaḥ*<sup>96</sup>

The asuras show the reprehensible things, wish in fighting passion in pairs, unkind, fragrant like vitex negundo berry, aloes or fish etc.

Who has the fragrant like gaertnera racemosa yūthika, abja, rattieria nāga, or yellow sandal, (atimuktam kurumuttimulh) who is fond of song, has an excellent gait and handsome tusks, eyes, temporal glands, head, trunk and trunktips, comparatively small spots on the body they known as *Gandharva*.

The characteristics of yakṣās were impatient by nature; radiant, well-favoured, always seemed to pleasant aspect, spirited, with ears erect.

Then describes the demon, ghost and serpent. The serpent smells like fish, , śaivala, phanirjaka, mud, brandy or row fish, frightened by the

---

<sup>96</sup> *ML*. 8.2.41.

rumbling of the clouds, becomes angered at night and delighted in the water and dust.

At last the different sensitivity is described who is gentle in all conditions and free from voice the best of that is counted accurate quality.

### **The must of elephant**

At spring time all elephants are declared to produce *must*, particularly who were born in spring season. They are considered as the carriers of victory to the kings. Probably *must* period is calculated as in the year of 15 to 60. It is a special section devoted to the strange and interesting pathological condition. *Must* is not a disease, but it is a physical process. In African elephants both bull and cow-elephants are seen the *must* but Indian elephants are not the same.

An elephant has a temporal gland on each side of its head, about midway between the eye and the ear. About once a year of temporal glands discharge a dark oily substance that has a strong odour. This substance stains the elephant's face. The temporal glands are active for two or three months yearly. During this period an elephant is in a condition called *must*. *Must* occurs chiefly in adult male elephant.

Elephant in *must* becomes extremely dangerous if it gets excited. it attacks any nearby animals, including human beings and sometimes other elephants. It also causes sexual feelings to mate. *Musth* elephant in captivity to be believed that which is associated with elephants mating period. At this period the chained bulls always become so dangerous. At this time, they attack their keepers or others and sometimes kill. Between



the age of 15 to 20 they show the symptoms of *must* for the first time. The following of secretions from the cheek gland occurs at regular intervals. It refers to both the time span during which the temporal glands are active and the behavioural changes are seen. At the time of *must* the elephants hesitate to take food or water and exhibit other behavioural changes. The *must* bulls show specific features like scratching the trees where they rub forehead; cheek and trunk. The sign of such scratching will be specific enough to be smelled and identified even by human beings. During this period found behaviour of fighting. They strike up or back with their trunk and press the inner portion of the trunk attachment area against the tree trunk sometimes actually knocking over these marked areas immediately since the bulls in this condition always will be mad.

The state of *must* increases the strength endurance, and dearness, of the bull. It is only a temporal change. The *must* bulls usually remain in the group with cows and their offspring. They are largely successful in keeping other bulls out of the living space of the maternal families.

Varāhamihiractārya mentions different colour of the *must*

*bhadrasya varṇo harito madaśca*  
*mandasya naridrakasannikāśaḥ*  
*kṛsno bhavaścāno hi hito mṛgasya*  
*saṅgīrṇa nāgasya mado vimiśraḥ.*<sup>97</sup>

According to M.S. Joy *must* is also known as *must*, *musth* and *matt*; in Sanskrit it is called *mada*, means intoxication. It is only rupture.

---

<sup>97</sup> BS. 66.5.73.

In *ML must* is stated as a rupturous condition. *Must* is found majority in male elephants and very rarely in females on maturity, are subject to peculiar paroxysms of excitement which have some connection with the sexual functions it occurs. Most frequently in the cold season and may perhaps due to ungratified sexual desire in some cases, but not always. So since the society of female by no means always quells or even pacifics animals in *must*. Other times an animal in *must*. Other times an animal is *must* doubtedly seeks the opposite sex for mating. Some elephant becomes dull and morose. The behavioural changes shown by disobedience to commands trying to break away or shows violence to man or destructive tendencies and being altogether out of sorts. When *must* is established there is often a partial retention of urine the water to trickled away. As soon as the urine is passed freely the natives consider the dangerous stage is over. The attack may last for a few days, week or months. It is considered to be of sexual nature.

*Must* means 'joy', 'rupture' or 'exhilaration'. It mentions eight valuable traits excitement; swiftness, odour, florescence of the body. It occurs only in elephants of very good physical/healthy condition; which mentions as much parts the eyes, palate, temples, ears naval, penis, trunk, nipples and hairs of the body.<sup>98</sup>

When the elephant reaches in its furious stage, then he has no desire for bed, food; and water, always seems to be in anger, he can not able his own shadow and is constantly benton yeloping. During the *must* reduced stage, his power has departed from the intensity of his fury, lost

---

<sup>98</sup> *ML*. 5. 50.

jealousy. He shines like a cloud that has discharged its accumulation of water.

The bodily humors of the elephant constantly waste away by flowing of the *must* fluid. So that they caught serious diseases. Because of previous wasting they can't to develop *must* in other years. One shall cause him to appease his *must* through three months devoted to the bodily humours. After coming the *must* the elephants should be treated well.

Some medicines are given to them before three months for derivation and control of must

*Sahāmṛtāsīgru balādvimūrvā*  
*kāpītha saptacchada candanānām*  
*kadambaguñjā madhukāśvagandhā*  
*jīvantikāśālmalisūraṇām.*  
*vṛścīrasevyekṣurakukkuṭāṇḍa*  
*guñjāśvagandhāyurugokṣurāṇām*  
*kerīpayah kṣaudrayuto gajānam*  
*pindaḥ pradeyo madasambhaveyam.*  
*koraṇḍamallikānimbavilvamūlaisasaindhavaiḥ*  
*sengudairmadhunā piṇḍo deyo roṣavivardhanaḥ*  
*mātalaṅga suvahāsahākaṇā.*  
*saptaparṇavijayengudīmadhu*  
*dugdapiṣṭamidamangalepitam*  
*matta vāraṇavaram vaśam nayet.*<sup>99</sup>

---

<sup>99</sup> ML. IX. 20-23. 55.

M.S. Joy in his text named *Āna* mentions that *must* gland is the differentiation of an elephant. He further states that if there is an elephant with *must* in the town or the country the earth Goddess be pleased to shower good food, which could be attained easily. If the *must* found in its right ear side, that elephants owner becomes a victor, and if it is found in the left side then there is plenty of rain fallen in the earth. If it is seen in the penis then the king become luminory person (Kubera).

The *must* is related to the sexual sensitive swoon. But it is not connected with last perplexity. *ML* and other connected works reveal it is an excitement or rupture state of an elephant.

It is said that for reducing the *must* the elephants are given foods and water; and it isn't given more works in that time. For reducing the *must*, the elephant should be given sufficient quantity of food regularly. Its works should also reduced timely.

*Mātaṅgalīla* is filled with observations reflecting elephants biological behaviour. Unlike most modern texts, which separate poetry from prose, Nīlakanṭhās work makes no distinction between imagination and reason.

*Hastyāyurveda* and *Mātaṅgalīla* are revealing almost the same matters, even if there is no other best work, on *Gajaśāstra* like *Mātaṅgalīla*, which caused for simple description of a monstrous topic.

Various phases of development of elephant is an interesting topic.

## CHAPTER V

### THE LIFE-CYCLES OF ELEPHANTS

The life-cycle of an elephant can shed some insights into their physical and psychological process. Elephant's life-cycle is not binding by rules and it is broken up into three main divisions. These divisions are based on the group of experiences and changes that occur in the different phases of development in the life of an elephant.

The life-cycle is divided into three viz. Baby, Adolescent and Adult.

#### 1. Baby

The life-cycle of baby describes the physical appearance of the new born calf and its dependency on others in the herd for survival. After being in the mother's womb for about 22 months the calves have a great deal to learn. The earliest calves are born about two months before the rains appear with fresh growth.

The new-born may consume 12 liters of milk a day.<sup>100</sup> It is believed that the domestic elephant calf drinks mothers milk up to the age of four.

The new born baby is seemed as slight reddish gray colour. Its body seemed to wrinkly, and hairy. The new born enters this world at an incredible mass of 77-133 kg with a height of about 91 cm. The brain of new-born elephants are 30-40% of size that of an adult. The young calves

---

<sup>100</sup> *Elephant*. M.S. Joy. 8. 82.

are tended not only by their mother's but also by other females of the herd. There are many eye witness accounts of the females in the herd gathering around to welcome the new-born. Within minute of the birth the mother and other females trumpet rumble and scream, oozing temporal secretions down the side of their faces. During this initial minute the mother also attempts to help the new-born rise to its feet. This is a matter of survival since the new-born must stand to drink its mothers milk without this necessary food, the calf is sure to perish.

The relationship and social contact allow the young elephants to successfully reach other stages in life-cycles. Infancy is not only an important time for young calves, but also for the young mothers-to be. It is through the close interaction and relationship between the two that allows the young females to develop necessary skills required for motherhood. However, first time, mothers can be very difficult to manage with their babies and depending on their experiences to play a role in preventing the calf from feeding.

The infancy life-cycle of an elephant is not a brief period. Young elephants are started on the process of weanling in their first year of life and may continue to be weaned until their tenth years or until another baby is born. But generally it is stated that the babies are weaned until their second year. This prolonged dependency period is worthless to the elephant. As a minimum, the African elephant calf is entirely depending on the infant's mother for three to five years.

Due to a calf's fairly undeveloped brain, the elephant is very much like a blank slate which must be shaped over the upcoming years. The

elephant is quite similar to the human and many of the other great apes in this one particular way, a great deal of brain development goes on outside of the womb. Amazingly this opens worlds of possibility for complex learning, social development and the formation of culture. In this situation a species tends to rely less upon instinctual behaviours and more upon socially learned behaviour within each individual's genetic boundary.

Also this stage of development lays the foundation for the caregivers to play a role in shaping the particular being growing up. The newborn elephant is born with a minimal amount of 'innate' knowledge. For eg. despite a calf's precocious nature, they lack the ability to use their trunk with any real skill. Hence as the calf grows and through experiences it will understand what it can do with its trunk paralleling a human baby learning how to walk. The young calf will within times comprehend that it is to be used as an extra hand to pick up its, to scratch with, to drink with, and wash as well as many more tasks.

## **II Adolescent**

The second stage is called adolescent. This stage briefly describes the sexual maturity that is achieved, as well as the phenomenon of herds being broken up and formed. The adolescent life-cycle means that the elephant is now ready to have its own baby and elephant may leave the herd to find a new home.

### **III Adult**

The adult life-cycle briefly describes the great similarities between the adult elephant and adult human, such as age-related illnesses. Taken together, these sections on the elephant life-cycles will provide fascinating information on the elephant. This can only further validate what amazing beings they are!

Elephants begin mating at the age of 20 (twenty)

Female elephants have a long post-reproduction phase, similar to human menopause.

Diseases they suffer from are similar to man (humans) eg. They are prone to cardiovascular diseases and arthritis.

Elephants can live to be over 70 years. Some of the adulthood-cycle experiences of an elephant are very similar to that of a human being. Both will continue to reproduce until mid-life; a cow typically produces a single calf and will have babies up to around fifty years old. The elephant also experiences post reproductive symptoms. In the case of females, they experience a long post-reproductive phase which is similar to human menopause.

The interval between births typically ranges between two and half to four years. This is primarily due to the elephants' very long gestation period. It is not hard to understand why a mother and her family become so attached to the baby infant given the 22 months she carries it around. The faithful day is one filled with joy for the whole family. This includes



family members crowding around the mother and her new-born greeting the other elephants with high temporal gland secretions streaming down the side of their faces, and of course urinating. An event that can only be described as true joy and celebration, each elephant shares in the excitement of the new-born that has joined the world.

The adult elephant also experiences similar adult human illness which is attributed to age. The elephant can suffer from cardiovascular problems, as well as suffering from the age related arthritis. Despite these age-related illnesses, the elephant can live a long natural life, it is not poached. But it is generally stated that the life span of an elephant is 120 years. During their long lives the female herds will continue to narrate their young ones; while the male herds roam great distances in search of female herds. They continue to be activating reproductively up to approximately, fifty years old. Their life span, as described by the section on teeth is limited to the fact that once their last tooth wears out they will essentially starve to death. It is possible for an elephant to live seventy years or more.

Elephants live in small family groups led by old females (cows) where food is plentiful, the groups join together. Most males live in bachelor herds apart from the cows. More bulls and cows both possess two glands that open between the eye and ear. Elephants of all ages and sexes secrete a fluid called temporion out of this orifice. Males however enter a *must*.

Adult elephants get sick easier, just like older humans. They also get slower and have a harder time moving.

The life-cycles of an elephant can give key insights in to their physical and intellectual process.

The life-cycle of an elephant has been broken up into three main divisions. These divisions are based on the multitude of experiences and changes that occur in the different phases of development in the life of an elephant.

### **Stages of development and various names of elephants**

According to *Gajaśāstra*, the duration of elephant age is 120 years; and it is divided as follows-

In the first decade (1-10) they have separate names

- 1) *Bāla*
- 2) *Puñcaka (Paśuka)*
- 3) *Upasarpaka*
- 4) *Barbaraḥ*
- 5) *Kalabha*
- 6) *Naikarika*
- 7) *Śīśu*
- 8) *Majjana*
- 9) *Prabhava (dantāruṇa)*
- 10) and *cikka*.

After ten years they are known as respectively

In the second stage *prota* (colt, third stage *Javana*, IVth phase-*Kalyāṇa*, V – *Yodha*, VI - *Kṣīṇita* VII - *Maṇḍa* (Arivarṇa), VIII - *Śokamūka*, IX- *Purāṇa* X - *Avaśa*, XI - *Balahīna* and XII - *Atyavaśa*.

**1. *Bāla (Infact)***

At first the new-born baby is called *bāla*. It's body is slight reddish colour, always like to sleep, very short trunk always like to drink mother's milk these are their characteristics.

**2. *Puñcaka or Paśuka***

In the second stage the baby elephant is called *Puñcaka or Paśuka*. It also seemed same colour of *Bāla*. Its eyes seems to partially shut, it begins to eat the spring leaves and grass indisposed to drink milk mostly like sweet food, journey is orgastic, it likes to play.

**3. *Upasarpaka***

At the third stage is known as *Upasarpaka*. At this period it is matured. Its nails, *vidhu*, joints, ear and sheaths and covering of the tusks and spotted on the breast and on the lobes of the ears on the head, its body filled with hairs, he begins to eat grass with firm rows of teeth, these are the signs of the third age.

At the fourth age, the elephant calf is known as *barbaraḥ*. This year, its forehead and back are reddish in colour. Not like to drink mother's milk. Like to eat grass. Body is in stout. Small tusks are seen which described below:

#### 4. *Barbaraḥ*

*Vilāganiṣkośa vilohitaḥ payodvit  
praroḥaṣaṇḍāna khaṇastrṇapriyaḥ  
Kṛṣṇantatāluḥ pṛthulaścatuṣkaye  
maṇāk prarohat daśanoḥi barbaraḥ<sup>101</sup>*

#### 5 *Kalabha*

With hard, skin, sewing up of a wound, in the skull, thin hair, fond of mud, water and dust shows a very little sexual excitement, becomes angry controlled by a mahout, and also understand the commands, sensitive to pleasure and pain, tusks become prominent. In this stage, it is known as *Kalabha*.

#### 6. *Naikārika*

In the sixth stage it is fairly marked with abundant spots on the ear lobes, temples, mouth comers both ear tips and its body is free from wrinkles, now it is called *naikārika*.

#### 7. *Śīśu*

Compact nails, soles, joints, *proha*, *samdāna cikkā*, *pali*, trunk and nail tips, eating with teeth showing well developed speed of limbs, with smooth fore legs and end of the trunk tips, is called *Śīśu*.

---

<sup>101</sup> *ML*. 5.5. 29.

## 8. *Majjana*

Nails, soles and joints are filled with wounds, eating slowly the soft grass with unstable rows of teeth (because it is dropping and become soft) always showing an unsteady gient, in this stage is named as *Majjana*.

## 9. *Prabhava Dantāruṇa*)

With white eyed, walking behind the she elephant, handsome, smooth skinned, broad breasted, solid vulnerable points, strike vigorously these are the marks of the ninth stage and is known as *Prabhava* (dantāruṇah)

## 10. *Cikka*

Secreat the sperm, stout-limbed, erecting penis, strongly grown teeth, eating with relish, wishing pairs in the tenth stage he is known as *cikka*.

After ten year the elephant's age is calculated as stages of *daśakās*

## II *Protaḥ.*

In the second stage (11-20), it is called as *prota* (colt). At this time they are looked handsome with clearly developed joints in the forelegs, strenuous sensitive to pain, might in love, walking fastly, seemed yellow coloured (pale) surface of the tusks energetic etc. are the marks of this stage.

### III *Javama*

At the third stage its ears, tongue, haunches and other body parts symmetrical according to its age, secrete the must fluid, with smooth hair and skin, locomotive eyes, handsome, bright, wish to kill, etc are the marks of the stage. Now it is called *Javana*.

### IV *Kalyāṇa*

In the fourth stage it appears slimy with the must fluid, he seemed to the best condition that is natural to him. He become mad and angried to the pairs, at this phase he is known as *Kalyāṇa* or *Yodha*

### V *Yoadha*

*Sanḍāna prabṛtipradeśa vilasat  
dānāvilodyadvai-  
Sāndraḥ karṇakatākṣayeṣu sahaja  
māyāti ca śreṣṭatām  
drāṅ madyatya nimittameva muditaḥ  
Śūrofti sarvamsaho  
youdho nāma sadā madāvilakataḥ  
prāpto daśām pañcamīm.*<sup>102</sup>

When the elephant reached its fifth stage, then it is called *yaudha*.

### VI *Kṣīṇita*

The age of 51-60 is the sixth stage. At this time its body wrinkles

---

<sup>102</sup> *ML.* 5.15. 67.

crack open on the surface, decrease his sensation power, bodily humors spirit diminished, hair grows on, his tusks have fallen out these are the marks of the sixth stage and is named *kṣīṇita*. (tired)

## VII *Maṇḍa*

At the seventh stage he is known as *Arivaṇa*. In this stage they look like stiffy limbs rough skinned and fade in colour.<sup>103</sup>

## VIII *Śokamūka*

At the eight stage (71-80) they are known as *Śokamūkar*. This time their body is fade highly and his wounds not heal quickly, the eye shyning decreased, marcescence the hairs, sensitive to sorrow and fear, walking alone, these are the signs of the eight phase. These shows that they are aged.

## IX *Purāṇā*

In the ninth decade they seemed sleeping always, teeth would be dropping out, body movements, becomes slow, eating only soft foods, ugly in colour; these are the marks of the old age. At this stage he is called *purāṇa*.

## X *Avaśa*

At the stage of (91-100) tenth, its ears, shoulders, tail and trunk hanging limbs and body, hairs fallen out, falling tusks, wasting away in flesh and strength with loose foot soles, hoof slippers, eating little, rough

---

<sup>103</sup> Ibid. 16. 33.

skin, faded eyes, vein covered body, evacuating and urinating with difficulty, worms filled nails etc are these stages mark. At this stage it is known as *Vṛddhā* or *Avaśā*.

### XI *Balahīnāḥ*

At the eleventh stage (101-110) he looks like sleepy, always bield a tree for sleeping, dislike to eat, his tusk fall of, his four limbs are permanently weak. These are the characteristics of the 11<sup>th</sup> stage. In the decade the elephant is known as *Balahīnāḥ*.

### XII *Atyavaśā*

At the age of 111-120 (Twelfth stage) he seems –

*nīcaiśca mandam pramīśesca yāyā-  
ccalatkarofsdh ścalakarṇabālah  
prastabdagātraḥ paravānajasram  
Sa dvādaśīm prāpya daśām swapecca.*<sup>104</sup>

Its trunks, ears and tail, swaying downward fore-and hind-limbs are stiff and he sleeps constantly. The age of up to 120 is considered as the last stage of an elephant. At this stage the elephant called *Atyavaśāḥ*.

Having performed many duties the elephant goes to heaven in his hundred and twenty year.

---

<sup>104</sup> *ML.* 5. 23. 26.



Elephant is considered as wild animal and the same as a domestic animal. To bringing the elephant from forest is a strenuous work. Next chapter introduce how to catch the wild elephants.

## CHAPTER VI

### CAPTURING OF ELEPHANTS

Most of the *Gajaśāstrās* accept five methods, of capturing wild elephants. This job was carried out at the end of the rainy season. In *Mātaṅgalīla*, Nīlakaṇṭha also mentions the five operations for capturing elephants as follows:-

*Vārikarma vaśāvilobhanavidhi-  
bhyām cānugatyā tadai-  
Vāpatena tato f vapādattaa itī-  
hebhagraḥ pañcadhā  
nindyāste tu yatchottaram kila gajā  
naśyanti yasmattato  
varjyāvantyabhavāvubhavapi viśe-  
ṣādetayoścāntimaḥ<sup>105</sup>*

*Vārikarma*, *Vaśāvilobhana*, *Anugati*, *Āpātā* and *Avapāta* are the five method of capturing elephants.

#### 1. *Vārikarma*, (kheddha or trappen)

The word *kheddha* means driving. In this method, binding the elephants with rather gentle though firm bonds around the girth, at the neck, end at the hind parts, and also bind the iron foot bonds upon them on

---

<sup>105</sup> *ML.* 10. 1.56.

the two feet. They fastened very long and stout ropes in front, leading them constantly forward by the first class elephant groups. He shall cause them slowly to proceed after loosening the fetter behind.

The best time to conduct kheddha (Vārīkarama) is in winter, more specially the period January-February when the forest is free from too much moisture and has enough water.

In 1890, G.P. Sanderson who was the manager of elephant capturing at Mysore and Bengal; elaborately describes the kheddha method in ‘*Thirteen years among the wild beasts of India*’. This method is adopted in modern times (1890)<sup>106</sup>

## 2. *Vaśavilobhana*

Taking five or six elephants and covering their backs with leather, elephant tenders shall hide under these skins armed with ropes etc. then by striking them with their hands they shall drive the cows straight ahead and shall quickly tie up five or six elephants and they are trained by the elephant-cows. This type of catching is known as *Vaśavilobhana* or cow seduction.

## 3. *Anugatā*

*Bherītūryakakāhalādininadairvidravya nāgān bṛsam  
bhīānāśu sada sasainyamanudhāvanto bhatā nirbhayaḥ*

---

<sup>106</sup> *Āna.* 10. 101.

*yāvad pāda pariśrameṇa kalubhāḥ stabdāḥ syuretānstadā  
bbadnīyudchatura javātanugatākhyosf am. gajānāmgraḥ*<sup>107</sup>

The third type of catching is named *anugatā* with the help of kettle drums (sounds) musical instruments, drums etc. used for driving elephants the herders, always with a crowd swiftly and fearlessly pursuing the greatly frightened, animals, when the young elephants are lame with weariness, then quickly and easily catching. This method is known as *anugati* in Sanskrit and pursuit in English. Only, elephant kids are caught by this method.

#### 4. *Āpata*

Placing three on stalks of lotuses, bamboo, plantain trees, white sugar can etc. and tying those ropes also to a stout tree, then trained and experienced person lying in wait in concealment shall quickly catch the elephants while they are engrossed in eating, throwing them down by drawing the ropes taut. This kind of catching is known as assault or *āpata*.

#### 5. *Avapāta*

The fifth method of catching is known as *avapāta* or ‘pit’. In this method, making a four *hastās* (six feet) deep hole, two *hastās* broad; and five *hastās* long concealed with bamboo shoots and grass mats, covering it over with earth, and bestrewing it with food on the surface.<sup>108</sup>

---

<sup>107</sup> *ML.* 10. 11.60.

<sup>108</sup> *Āna.* 10. 105. 108.

According to Nīlakaṇṭha the last two methods and specially the fifth are objectionable and not to be recommended because they are very dangerous to the elephants.

Nārāyaṇadīkṣita in his *Gajagrahaṇaparakāra* enumerates ten methods in contrast to the five. Among them the first two methods are *Vṛttibandha*, and *Vṛkṣabhandha*. These are differentiated by the fact that the former gives simple method of catching while the latter gives comparatively complex method. The capture in both is effected mainly by the fortitude and dexterity of the men engaged in the game.

*Rajju-banda* is the third capturing method, fourth *Vāri-bhandha*, *Anugata-bandha*; *Laghu-bandha*, *Codanā-bandha*, *Vana-bandha* and *Pāñcālikā-bandha* are respectively.

*Anugata-bandha* and the ninth *Vana-bandha* are particularly the same. The eighth *Candana-bandha* is similar to the method *khedda*. The last one is known as *Pāñcāla-bandha* is novelty and this method is not adopted by any region for catching elephants, it could be better, assumed that the method is the result of the author's own imagination.

Arakkal Hassankutty states that December to April is the period for catching elephants. He further adds that the fallen elephants should be rescued before 24 hours; otherwise it may die.

Nāradamuni in his *Gajasīkṣa* mentions four methods of capture; they are *durga-bandha*, *varī-bandha*, *kāriṇī-bandha* and *garba-bandha*.

Durga-bandha is the way of catching the elephants by putting barricades on their way and driving them into an enclosure. The *Vari-*

*bandha* is blocking the escape of the elephants when they are entering a lake or large pond for drinking and sporting in the water. Entering the males by the trained females and match the elephants with their help are called *Kāriṇī-bandha*. The *Gartha-bandha* is by making the animals full in the artificially dug ditches.<sup>109</sup>

This different method followed by common people is elaborated here as a way to understand the similarities as well as dissimilarities hidden in their preparation.

*Arthaśāstra* mentions the catching time of elephants. It occurs in *grīṣma* season. Twenty years and above are the age considered for catching. Diseased, pregnant, cow-elephant accompanied by a calf, those lacking teeth etc. are to be forsaken.

*Mānasollasa* describes 4 types of catching. They are *Vārī-bandha*, *Vaśa-vilobhana*, *Anugata-bandha* and *Āpāta-bandha*. It is

*Vaśābandha varībandho*  
*bandaścānugataḥ paraḥ*  
*Uttamastriprakāraḥ syāt*  
*bandhaḥ karaṭināmayam.*<sup>110</sup>

It states that the last two methods are not considered as good.

*āpadaścāfvapātaśca dvau*  
*bhandhanu ninditau matau*

---

<sup>109</sup> *GŚ.* 5.5.1.63. 60. 64.

<sup>110</sup> *MU.* 3. 186. 46.

*vinaśyanti gajā yasmāt  
tasmāt tau parivarjayet*<sup>111</sup>

*GGP* describes that

*anugata-bandhasyāpi prayogavid bhūpatśreṣṭhaḥ  
labhate hyutām siddhim sahasa hastigraḥṇakāle.*<sup>112</sup>

It is also mentioned in the *MU*.

*āpadākhyāḥ samakhyāto  
bandho' yam hastibandhakaiḥ  
nindhitaśca bhavatyēṣa  
simhasamaśayitaḥ sadā*<sup>113</sup>

In *Arthaśāstra*, Kauṭilya mentions-elephant catching tools such as scavenger, bamboo, madines is *ankuśa veṇuyantrā dhika mupakaraṇaḥ*<sup>114</sup>

### Essential Qualities of Mahouts

The catching elephant must be protected. Then there would be a warder for the elephant, he is known as mahout. Elephant driving is an art. There are two mahouts for an elephants, major mahout and assistant one. They must be strong in belief, healthy and kind hearted.<sup>115</sup>

According to *ML* three types of mahouts they are

---

<sup>111</sup> Ibid.

<sup>112</sup> *GGP* 2. 174.18.

<sup>113</sup> *MU*. 3. 216.48.

<sup>114</sup> *AŚ*. 32. 468.

<sup>115</sup> Ibid.

*Rekhāvān, Balavān and Yuktiman.*

### ***Rekhavān***

*Rekhāvān* always keeps a balance in his duty, according to the elephant's character. He gives them enough food and water in proper time. He delights the elephants with good words. He remains a best friend and a good keeper.

### ***Yuktimān***

The *yuktimān* minds not only elephant matters but also his own interest. He keeps the elephants in care but with a selfish mind.

### ***Balavān***

*Balavān* does his duties not for elephant's well-being for his own self. He has interest in taming elephants by beating. He does not give food and water in time to them. Always gives advise to them.

Among the three, *Rekhāvān* is the best one. The second place is held by *Yuktimān*, *Balavān* is a dangerous person both for men, and elephants.<sup>116</sup> They are respectively known as in Sanskrit *Uttama*, *Madhyama* and *Adhama*.

The best mahout is intelligent, brave, kinglike, righteous, devoted to his lord, pure, veravious, free from voice, mortificated by self, courages, energetic, merciful, well trained, renowned for curing diseases, and possessing all knowledge about elephants.

---

<sup>116</sup> *Āna.* 12. 137-138.



The characteristics of a mahout are –

*Śikṣāprakrama dakṣamām kuśagadā Sañjāraṇa prakriyā  
bhedañjam baludeśa kalanipuṇam dānakriya. dakṣinam  
arohaṇeṣvarohaṇeṣu kuśalam sāntamvayomarmaṇām  
ñjātaram munayo vadanti nṛpate tvadhoraḥam dantinām*<sup>117</sup>

There are four types of elephant castes, they are *Bhadra*, *manda*, *mṛga* and *sankīrṇa*. Elephant training is in three ways, three directions, three methods of sitting in front, end also five behind, six kinds of wielding the hook, five types of walking, eight ways of mounting and ten methods of dismounting. The eight way of mounting is, by the two ears, the four legs, the face, and the dismounting is by tail, the four legs, the face, the two sides, and the two ears thus the wise declare the ten ways.

The method of sitting is between the backbone and the neck, there is a hump three ways of sitting in front of it, arranged in order as best middling and worst.<sup>118</sup> The six ways of sitting are named differently *pāscātyamāsana*, *ānatajānkāsana*, *utkatāsana*, *kūrmaāsana*, and *mandūkāsana*.

Nīlakaṇṭha described it-

*ekaḥ prasāritaḥ padastadanyo natajānukaḥ  
pāścātyamāsanam jñeyamekham Jānugatam budhaiḥ  
Vamśasyobhayath prasārita padamajānudvayalkuñjitam  
Vidyādānatajānukāsanamidam*

---

<sup>117</sup> *ML.* 12.2.82.

<sup>118</sup> *Āna.* 12. 138.

*tattūtkatenotkatam, etattutkadajānukam tadaparanamram hi  
kūrmāsanam*

*Vidyāt samhatanamrājānu yugalammandūka samñjam hi  
tat.*<sup>119</sup>

Who controlling the savage elephant speedily brining on must in those, in whom it is not accomplished, making elephants that have no swiftness in desires killed in striking and is clear at mounting elephants, he is considered as a good elephant driver. These are the best characteristic marks of the elephant drivers.

There are three fold driving methods. The first one is by words, known as caressing, which is not produce fear, or unpleasant reaction in the elephant.

### **Training of Elephants**

Nīlakaṇṭha describes three fold driving methods – i.e.,

1. Caressing 2. Indicating and 3. Abuse.

The first one is directing by words, known as caressing, which is not to produce fear, anger, or unpleasant reaction in the elephants. The second driving method is by feats (courage), named indication and the third driving method is by hooks named abuse.<sup>120</sup>

These training methods are named differently in Sanskrit ie. *upalālana*, *prajñāpana*, and *sandarśana*. These words suggest that the

---

<sup>119</sup> *ML.* 12. 15-16. 87.

<sup>120</sup> *ML.* 12. 8. 84.

undertaker of an elephant; shall teach, him what he is intended to do. The double sound hum means to sit down. To make him take hold of something quickly he shall say 'Take, take' and to make him lift with his trunk; 'up up' means to step; 'come come'! means to come, and 'go go', means to go. These smaller words indicate the instructions to him what he done.

Both his feet inserting in the neck chain with stokes of his firmly implanted toes and heels and with his thighs highly binding, with firm mind; fixed securely like a post the driver shall take a good hold of the hook in his right hand and with the other hand likewise a staff of reed or the like, and with concentrated mind shall gently make the elephant go. The three folds are slow, fast, and running. According to the situation their legs may be tied with a rope. The gates are also classified again into five ways as forward, backward, circular, crosses wise and pivoting.<sup>121</sup>

There are three ways of sitting in front of it, arranged in order. Best is between the backbone, middling seat at the neck and worst is of hump. One sitting method is called *pāścātyamāsana* in Sanskrit, it is why one foot is stretched out another has the knee bent.

The spirit entered in to the hooks like thunder bolt, half moon, nail and ketak thorn and took his station there, in order to control temperature the must maddened and extremely roguish elephants.

---

<sup>121</sup> *ML. XII. 13. 86.*

Six months of training had been given for hook applications in some of the body parts. For eg. the two *vitānas*, the *vidhu* and the neck and two outer corners of the eyes and the two temporal bosses.

To go forward a pricking is to be hook, touching the face in front, to guide backward, downward, scratch, there, to make him rise an upward scratch, and to guide him down, a downward pressure, but guide him to the left, a pricking on the right side, and so there are other ways of wielding these hook according to circumstances.

Wielding is of six ways. They are barely couching pressure, heard, striking pressure after brandishing and again violent swinging around after brandishing. *Kośātakī* powder, *kṣāra*, the three spices yellow arsenic white mustard and *semecarpus amacardium*, mixed with the kind of salt called ‘pungent’ and the fruit of *embelia ribes*, when this is smeared on the hook, they declare that it well helps to control an elephant.

The ninth paṭalā of *GŚ* gives an account of various phases of training which is divided into seven types. The first type is called *khelanaśikṣa*. There two training period given up to the end of the four year of their age. At the beginning of the fifth year, training must be given to them in running. Unfortunately the manuscript breaks off in the middle of the description of this *dhāvana śikṣā*. The other *Śikṣās* are unknown or not mentioned in the work.<sup>122</sup>

The elephant’s training is a very serious thing and is *atigabhīra* or *Śramasādhyā* to achieve with great efforts only through training the

---

<sup>122</sup> *GŚ*. IX. 75-83. 37-38.

elephants can be rid of their natural wild qualities and made useful to men. First of all, therefore, a lot of captives are to be sorted out and classified into three categories.

Those are found easily trained and well behaved even before the training come under the first division; these which are subdued after a little threatening under the second and those who require chaining and severe punishment four months to get her under the third. The misleading ones and those which bear their anger for a long time are to be removed from the training camp.

The training is to be grouped into five calves upto the age of ten called *tavanka* or *vatsa* from the first group. Those within the age of ten to twenty called *kalabha* from the second, those between twenty to thirty named *dvirada* from the third those who between age of 30-40, of which are called, *mātaṅga*. From the fourth and those upto the age of 50 named *karin* come under the fifth group. These groups must have separate stables and training yards.

The training time is in the early morning and in the evening. The trainees are placed between two lines drawn to their right and left. They are arranged in rows according to their number. Armed men guard the trainees during the training. The first thing to remember is to begin with gentle and kind words, patting with hands and using soft names to address the novice. After a few days the calves are able to stand, discarding their restlessness. Immediately they are taught to spread out and roll up as well as to hold up and bring the trunk to stand for a moment on three legs, also on two legs, and to take long and close strides forwards and to step

backwards, to old the come and such things at the tip of the trunk and hand it over to the man on the back, to receive from throwing mud and on themselves when the mahouts sits on the back. These appear under the simple training *laghuśikṣa* when the trainees are established the *laghuśikṣa* they are given more advanced training *guruśikṣa*. This training makes them capable of with standing hunger and thirst enduring strain and carrying great burdens. They also discard their natural laziness and timidity and are trained to walking-calls like *vega-gati* or *drutagati*, *calana-gati*, *dhāvana-gati*, or *vāhana-gati*.<sup>123</sup>

They are also taught to run in circle and also in serpentine. They are called *maṇḍala rekha caturaśrareksha* and *trikoṇarekha*. They are also trained in holding weapons by their trunks and protecting for trees and treasury of the king. Names pertaining to the country of their origin according to their imagination of the mahouts are to be given to each elephant.

The two fold training mentioned two eyes for the human beings. The point is that the training is imparted treats the protection of the life of elephants as having paramount importance. The training should be claimed to bring them joy and strength.

M.S. Joy, author, *Āna*, mentions the training time of elephant is fixed both in the morning and evening which extends of to one hour daily. If they obey then they should be pleased with came or another tasty food. First training is occurs in the cage after that they had to be lead for both. The newly tamed elephants had given more attention especially in the first

---

<sup>123</sup> *GGP*. 4. 429. 536.44.

two years. The elephant's reaction is of seven types. That is extreme, shallow, deep confirmable contrary to meaning, harsh and perfect. Each of them reacts according to their own character.

Always the newly captured elephants will be furnished by thinking of its past life. So it is essential to protect them from diseases. Elephant keeping in various seasons and Kerala Style-*Āyurvedic* treatment etc. is explained in the next chapter.

CHAPTER VII

**METHOD OF KEEPING ELEPHANTS IN  
DAILY AND SEASONAL REGIMEN AND  
ĀYURVEDIC TREATMENTS OF  
ELEPHANTS IN KERALA STYLE**

A newly caught elephant will go through a rather miserable condition in which it exhibits a tendency to die. So he must be treated with great care, especially in the early days of captivity. He is very fond of water; he should be washed frequently and given opportunity to plunge in streams. Inspection of bed and water, exercise, suitable medicine, rubbing down with powder returning to the stall post, food accompanied by ghee and jaggery, giving of pastry, bathing in drinking water, and in the afternoon, food accompanied by a quarter of sesame oil and medicine, and then sleep, there are inevitable in the daily routine of elephants.

Scrupulously the elephant should be provided with desirable food and water. So that it could be pleased. The elephant inner body is having heat and it needs water. The bedew is a natural treatment for them. The washing helps to make them tender hearted benhomies. Bathing helps them to cure the wounds from their body.

Some important food items are always be given to the elephants. For eg. stalks and bulbs of lotus, water, lillies, plantains, edible lotus, roots, *trapa bispinosa*, *durvagrass*, *udumbara thurifera*, *sugar cane*,



*spikenard, banyan, bamboos, sportus* and fruits of figs, wood-apples and other sweet delicacies. Rice grits mixed with grass is to be given to elephants, which increase this measure one 'kuduba' each day shall be given.

The quantity of food is to be supplied to elephant is about '160-180 kg' green grass and leaves and had 6.8 kg groceries and '80 kg' other foods, besides this '56 gram' salt and '28 gram' oil '90 kg' (straw) are considered (to given). It drinks about '190 litres' water each and everyday.<sup>124</sup>

Elephant's nails do not split, the sole of its foot doesn't waste away, its feet do not burn on the road, the hairs grow and the food aspect is not destroyed, if his feet are constantly bathed. By the way of bathing his body overcome skin diseases, wounds due to binding. It destroys disorders due to cold wind, makes the thighs and the body bending, strengthens, quickly and produces gentleness good character, strength, and comfort.

Elephants eyes are anointed with ghee all time, diseases of the eye do not arise and the sight remains strong. By anointing the tusks constantly, their tusks are made stout with firm sockets, smooth immune to perforation and capable of tusk fight.

*na bhedaṁyānti nakhāstalom ca  
na kṣīyate nadvani pādadaḥaḥ  
bhavanti keś āśca na cāsyadṛṣṭir-  
ni hanyate santat pādasekāt*

---

<sup>124</sup> *Valarthumbāṅgal. vii.117-178.*

*tvagdoṣabandnavadhabhīṣaṇaśoṣaśāstra*  
*stambhādijit kṣapitaśītasamīrakopaḥ*  
*sandhyaṅga mārddavakāro*  
*laghu bṛmhanaśca*  
*snigdatvasatva balasaukhyakṛdangsekaḥ*

*abhīkṣṇam sādū paśayanti*  
*ghṛtābhyamgena nityaśaḥ*  
*akṣirogā jāyante*  
*sthirā dr̥ṣṭiśca dantinām*  
*sthirāveṣastau dṛḍau dantau*  
*snigdau vyathavivarjītau*  
*dantaghāta samarthau ca*  
*dantābhyamgena nityaśaḥ<sup>125</sup>*

Salt is considered as to elixir to elephants. Eating salt caused bladder purification to displace the worms, cure the air in motion, to annihilate the diseases, quickly improve want of craving and create dampness in elephants. It helps them the state of better digestion beneficial in this world Ghee with sugar and milk smeared on the foot. Dainty rice and best wheat grains are given to them in the early morning.

One shall give meal to put together of the three spices, the two curcumas, costus, caraway, achgranthes, aspera, the two karñjās, garlic vacā, clypeahernandifolia, ramatha, white mustard, soapberry seeds, the root of plumba gozeylania; pungent, varā, ironflings, vermifuge and nyagrodhi mixed with the sesame oil - are given at dawn. For curing the

---

<sup>125</sup> *ML.* 11. 18-21.

cough problem and wind, an elephant shall be given to the Kabala accompanied by cardamoms, vacā, garlic, rock-salt, dry ginger, white mustard, asafoetida, pepper and vermifuge stirred in oil.<sup>126</sup>

Sesame and rice gruel compounded with sour milk and oil-cake, together with jiggery with drinking water shall be given to an elephant to make him stout.

### **Signs and Symptoms of the Diseases**

The common signs seen in elephant are as follows:-

- i. Sleepy eyes with weak eyelids and increased tears.
- ii. Bright red or pale upper palate, trunk, and anus.
- iii. The presence of scar on head, trunk, neck, back of ears, etc.
- iv. Decreased movement of legs, weak swinging of ears and tail.
- v. Dry, pale, hard fissuring of skin.
- vi. Mild or no sweating around nails.
- vii. Decreased amount of urine which is dark coloured and foul smell.
- viii. Hard stool indicating indigestion.
- ix. Decreased appetite and apathetic look.
- x. Body temperature is very high which is near to 100<sup>0</sup> Fahrenheit=32°C.

### **Management**

- i. Give plenty of water. Provide adequate rest and sleep.
- ii. Provide nutritious diet.

---

<sup>126</sup> *ML.* 11.25-27.

- iii. Provide medicines that improve appetite and general health.
- iv. Administer antihelminthics.

### **Major Diseases**

Imperfection of wind-bile and phelm, orgiastism, tormented thirst, arthritis, haemorrhage septicemia, rabbis, stroke, muscle pain, measles, cataract, jaundice, fever, pediculosis (worm) wound, injury, contusion, dislocation, sprain, fracture, deep wounds, bite of other animals like tiger, diseases of the elephant tusk, infections helminthic infestation, diseases of foot and mouth, trypanosomiasis (elephant surra) etc. are the certain common diseases seen in elephants.

### **The Common Diseases of Elephants (Diseases and Affliction)**

It is said that prevention is always better than cure. The improper hygienic condition of the tamed elephant is a major cause for many diseases. So it should be brought up in proper hygienic condition. So that it does not suffer from any diseases. Camping site (elephant stables) should always be selected on high, well drained and level ground and close to a flowing stream where plenty of clean water and food fodder are available. Regular feeding, watering, bathing and supervision by a mahout, preferably a veterinary surgeon is necessary for the maintenance of good health of a domesticated elephant.<sup>127</sup>

It wants more attention for daily caring. Their improper eating, drinking and sleeping caused for indigestion and provoke the three bodily humors (wind-bile and phlem), causing diseases of body and mind.

---

<sup>127</sup> *Asian elephant*. VIII .105.

*Gajaśāstrās* mention shaking of three bodily humours are causes of diseases.<sup>128</sup>

Barley and sugarcane increase the strength of the elephants. Dried barley would derange the humours the elephants.

### I. Imperfection of Wind

The imperfection of wind shows some special symptoms in elephants. It is identified by unstabled mind, nimbleness sensation, reverse, perceive, sorrow, marness, lack of forbearance, weariness, broken nail, trempless legs and foot, rough skin, marcescence of hair, risen nervecells, blood vessals, rugged tusks, messy eyes, etc. are the symptoms of the wind diseased elephants.

### II. Imperfection of Bile

*Cando nirmaṇḍitākṣastanukararadanatvagnakhaśrotrarma  
grīvāgatrāḥparamghrirbahubhugarunadṛṅgdurbalo bahvalīkaḥ  
chayecchurdveṣṭi gharmam visyajati nacirāddānamuttānavedi  
hīyetoccaiḥ prahī ṇam śrayatipunaribhaḥ paittiko nātiśobhaḥ*<sup>129</sup>

The cause for bile is irritable in nature. Reddish eye, thin trunk, emancipate bodies, tendency to remain in to shade, dislike heat, immediate animosity in things, slow flow of must fluid, etc. are the symptoms of blemish of the bile.

---

<sup>128</sup> *Āna.* XI. 125.

<sup>129</sup> *ML.* XI. 39. 77.

### III Phlem

Unusual swinging of nails, trunks, head and the yellowish nob, tint of eyes, and they are mope and imperturbable, resolute, deep correctner, aplomb, and fond of instrumental music, lustful. These are speciality of diseases of the phlem.

*haryakṣaḥ sumahāṅgulīkaraśiraḥ kumbhādirīṣatpriyo  
nātikrudhyati, maṇdarahni, rabhayo gambhīravedī stiraḥ  
akṣhobhyaḥ sumukho vilīnataralo vīnadigtapriyaḥ  
pīna snigdara doftimandagamaṇaḥ kāmīgajaḥ śleṣmalaḥ<sup>130</sup>*

Daily bathing decreases the bodily sickness like skin diseases, wounds due to binding, weapons, and cuts, dryness, stiffness of the limbs, etc. It also helps to destroy wind diseases, give strengthness, gentleness and comfort. If their tusks are anoint constantly it made stout, with firm sockets, smooth, immune to perforation and capable of tusks fights.

It says that salt is like elixir to elephant.

*jayanti ca bahu bhuktam śodhanam mūtravasteḥ  
krimihṛdanilahāri vyādividvamsanam ca  
aruciśamanamāśu kledanam vāraṇānām  
lavaṇamamṛtatulyam vakti dharmāvatāre<sup>131</sup>*

---

<sup>130</sup> *ML.* XI. 40. 77.

<sup>131</sup> *Ibid.* 22. 70.

The kabala accompanied by cardamoms, vacā, garlic, salt, dry ginger, white mustard, asafoetida, pepper, and vermifuge, stirred in oiled to be given to an elephant for stabilized his phlem and wind.

#### **IV Orgiastism**

At the time of must, frequent flow of urine is caused to increase the temperature of the penis. Constant bathing is the treatment for this and give a pala of chalk (naigarika) mixed with ghee.

#### **V Tormented Thirst**

Shutting the eyes, breathing with tribulate sniffing here and there dryness of mouth, sluggishness, shivering the eartips, frequent yawning, tumbling in the dust, redness of the urine, and reddish eye, are the signs of the thirsty elephant.

Showing this symptom the elephant should be given much water for drink and allow to bath.

#### **VI Anthrax**

Anthrax is a major contaminative disease affecting elephants during the rainy season. This disease has vigorous effect. It suddenly increases the body temperature causing bleeding from phlem layers. The preventive measures consist of immediate segregation of sick animals and thorough disinfection of the contaminated place. Cleanliness is very essential thing for preventing the disease from other animals. The infected litter calf should be disposed of by burying. The carcass of the animal should be cut open and should be buried deep.

## **VII Haemorrhage Septicamia**

It is a highly infectious disease. The disease effects either in the initial or the latter stages of rainy season. The major symptoms of the diseases are swelling in the head, neck, shoulders and between the jaws; lack of thirst, complete loss of appetite, mouth being usually kept open, the trunk contracted, high fever, diarrhea, and scanty and turbid urine.

There is no treatment prescribed for the disease except precautions.

## **VIII Trypanosomiarisis (Elephant Surra)**

Continuous or frequent fever is the major symptom of the disease. Fever effected elephant will be in active with pale phlem layers. Elephants become dull and are disciplined to move about. The quantity of urine will be decreased and it comes out in green colour. Gradually the elephant losses limbs health. Major precautions against the disease are prevention from the bite of poisons creatures and marsh flies.

This disease is effected by 'Trippinosomiya' of blood. Dropsy, anaemia, and tiredness are the symptoms of this disease, and is affected their body parts such as ear back, trunk and throat. Disease is confirmed by testing the blood.

## **IX Foot and Mouth Diseases**

Bitter taste in mouth, increased temperature, hesitation in taking food, scar in tongue check and tip of trunk, etc. are the major symptoms of the diseases. When the diseases effect, then the lungs swells. Loss of condition takes place due to inability of the animal to eat. When feet are



affected, they become swollen and tender and cause the animal to limp. It is an infectious disease. Attention to hygienic and sanitary conditions is essential. Mouth and feet of the effected elephant should be washed three or four times daily with some mild astringent lotion. Though not a serious disease in absence of adequate attention it will affect the routine of elephants.

#### **X Small Pox (Elephant Pox)**

Small pox is a specific fever characterised by eruptions, it is similar to small pox in human beings. Buhils will be formed in the body which will burst to leave back the sear. This is a serious contaminative disease. Sick animals should be isolated and the premises should be thoroughly disinfected. It is an acute and highly infectious disease. The animal becomes weak and listless.

#### **XI Rabies**

Rabies is caused by the bite of the diseased dog. It is communicated by jackals and wolfs. The major symptoms are restlessness, trembling, convulsion and tendency to become to loneliness. The animal shows lack of hunger, and desire to drink water. Sometimes it makes abuses and sometimes roars and sometimes seems violent. The animals' shows lack of appetite and desire and sometimes roars and may become violent. Its nature undergoes severe changes. In this situation it should be kept under frequent observation and if necessary be destroyed without delay.

## **XII Elephantiasis**

It is a dangerous disease. It destroys the elephant's health in fully. Two to six years old elephant kids affect this disease. A worm known as 'phileriyar' causes this diseases. This worm reaches the inner ship, blood vessels, lasika vessels and mixed tissues. The larva is known as phaileriya; who modulate in the body and are very dangerous. It caused to stopping the blood circulation lumbness, and thus causes for heart failure. The major symptom is to contract swelling in the fleet of the Elephant in rest time; after the rest or working time, its neck and forelegs were building. Diseased skin seems to be dry; the elephant seems to be lean and tired. There is no effective treatment for this disease. The only way is to use worm controlling medicine and to prevent the mosquitoes from the earth.

## **XIII Fever**

The normal body temperature of an elephant varies from 35.5 to 36.6 degree celsius. Elephants temperature of 37.8 degree centigrade indicates considerable fever. Arise in temperature of two to three degree centigrade is considered grave. Wounds or injuries caused for its fever. It is prevented by only the help of a veterinary surgeon. *HAV's* first chapter describes it as

*ṛte manuṣyādrājendra nānyo viśahate jvaram*  
*tejotika manuṣyāstu sahante tenate jvaram*  
*eṣa ghoṛo mahāvyadhir jvaraḥ pākalaśamjñitaḥ*<sup>132</sup>

Its symptoms and treatments are same as human being's fever.

#### **XIV Arthritis**

This disease regularly affects the working elephants. The symptoms are lump in the joints, wear ness of the joints, wounds of the body parts, etc. The distress of the joints walking with legs limp dragging, lying and rising onerously, etc. are primary symptoms. The simultaneous application of *Āyurvedic* and allopathic treatment prevents this disease.

#### **XV Tuberculosis**

This disease is transcribed from human beings. Extremely leanness panting, severe tribulation, etc. are the symptoms. Working elephants are affected by this disease. For strengthening the body, best food are given to them. More attention is given to the animal.<sup>133</sup>

#### **XVI Indigestion (Dyspepsia)**

Some elephants are attacked by this disease. Epsom salt is given plenty to eat for them (elephant). The solution of such salt curing indigestion. And the green grass or green leaves, etc. are forbidden. At this time elephant seems to be tired. Malnutrition causes in growing parasites in the belly. Then elephant shows hesitation to eat and drink. It's

---

<sup>132</sup> *HAV. I 22-23. 55.*

<sup>133</sup> *VM. VIII. 182-186.*

egests seemed scable coloured, in hard green colour. It had in elemency smell, in hard green colour. It had in clemency smell; some times it is in solidify and otherwise seems as lubricious. At this time elephant had given complete rest; and have given nutritioned and variety of good food items. In this time sometimes it causes worms. Then the elephant should be provided with worm invading medicines. It (elephant) had given rest and more attention in the time of diseases.<sup>134</sup>

### **XVII Stoppage of Bowel (*Ānāham*)**

Stoppage of bowel is most commonly seen in elephants because of peristalsis. It is mainly due to improper diet pattern. It is mainly seen in winter season. This is mainly due to two reason (1) improper diet, sudden change in body temperature and suddenly shifting from hot climate to cold water or drinking water after coming from hot climate.

Symptoms are negligence to eat and drink constipation, protruded abdomen, severe abdominal pain, restlessness, rathing on ground, etc. Sometimes vomiting may occur. Sometimes it may last for 40 days. So that it is a dangerous disease.

Because of impurition of gas sometimes the bowel may get inflamed and get burst and the elephant may die. Diet should be maintained at this time. It is not good to give any analgesics (sedatives) to relieve pain. Manual evacuation is done. Then soap and water enema/castrol oil/liquid paraffin is given. I-V glucose is also given to

---

<sup>134</sup> *Āna*. XII. 125.

relieve from tiredness. When stoppage is relieved nutritious diet is given. Gazing in fields with bamboo cultivated (pasturage) is good.

### **XVIII Spasmodic Colic (*Āntrāsūla*)**

Sudden cold climate and indigestion may lead to spasmodic colic. Symptoms are severe and intermittent stomach pain, loss of satisfaction after food intake, restlessness, etc. Urinary retention may be present. It is not associated with fever.

Treatment includes enema (i.e., soap and water). To relieve pain analgesics are given. If the elephant is having spasmodic colic, then isolation is recommended and variety of food is included in diet pattern.

### **XIX Constipation**

In constipation, the fecal matter will be very hard. This is mainly caused due to faulty diet pattern. If constipation is not severe, administration of Epsom salt daily one/two times is enough. If still not relieved soap and water enema is given.

### **XX Cardiac Disorders/Diseases of the Heart**

The major causes for cardiac disease in elephants are physical pain. One of the common ways of death due to cardiac arrest in elephant is prolonged walking in the hot sun leading to unbearable hotness there by resulting in cardiac arrest.

## **Management**

Elephant walking in hot sun long should be given plenty of cool drinks to drink. Remove all chains and pour cold water over the body. Make the elephant stay in shade under sheds. Pour pure water into mouth. Spread salt in the mouth. To relieve from weakness inject stricknie dissolved in ice water.

## **Disease of the legs/feet**

Dirty stables are the causes of feet diseases. *Hastyāyurveda* describes 30 kinds of *pādarogās* (feet diseases) and its treatments. For recovering the disease, *Āyurveda* mixed with *Allopathic* treatments are the best one. Reducing scable abating the feet disease, gypsum salt package stirred with coconut oil and this pack pricking elephants diseased feet; for this its feet should be cleanliness. Dried ginger mixed with butter and apply it into the affected area is another treatment, by this feet disease may abated.

Cow's butter mixed with salt or Python's butter rubbing is a best remedy for this disease. Otherwise, purified gulgulus, neem-leaf, dried ginger, pepper, long pepper and sesame are mixed and it will rub to the affected area is a best treatment for feet diseases.

The commonly seen disorders of foot in elephants are deep wounds, itching, fungal infections found in between and around nails, edges and underneath foot etc. At this time not wash the foot; and keep it cleanly, use antiseptic lotion daily at once. Now it is washed in formalin liquid and

used antibiotics and inject antibiotic medicine. The third chapter of *HAV* describes it clearly.

*Āyोजनाśatam sārdam vicarantofpi kunjarāḥ  
niravahanti na sīdanti salilenaiva kevalam  
yadā na pariśicyanta karmdakasīkaraḥ  
bhavanti kuṣṭinosntāśca hastinastena hetuma<sup>135</sup>*

Decamali oil is massaging elephant's body for insisting the bascillus and for not affecting the leg or feet diseases.

## **Wound**

Wounds are mainly of four types, they are

- I. punctuated wounds
- II. incised wound
- III. lacerated wound and
- IV. contused wound

## **Treatment**

- I. First of all control bleeding
- II. Remove any dirt, accumulated substances or any other objects from the wound.
- III. Then waste or rubout the wound neatly.
- IV. Provide appropriate medicine to prevent infections flies and other dirt's.
- V. Provide adequate rest and sleep.

---

<sup>135</sup> *HAV*. 1.2.271-218.

Milk boiled with dried ginger, long pepper, grapes and sugar is given for curing wounds.

### **Points to be remembered**

- a. In the beginning dressing should be done twice daily aseptically.
- b. The antiseptic lotion used for washing out the wound is 1 (one) ounce phenyl added to 18 lt. of hot water (105°C)
- c. Dry the wound after washing and apply medicines.
- d. For easy healing of the wound two or three pinch of  $\text{CUSO}_4$  (thurisu) is added to one ounce of water for washing.
- e. It is better to apply the above mentioned lotion of the cleaned wound once daily for two or three days.
- f. To prevent the flies either vegetable oil/or carbolic oil can be applied around the wound.

### **Deep Wounds**

If minor wounds are left uncared, microbes may enter the wounds and it gets inflected leading to deep wounds. If the wounds site is less, it can be increased using groups and the germs can be taken out from the wound one by one using the forceps. While washing using antiseptic lotions more or less gems can be washed out. After manipulation cover the wound site using cloth piece dipped in oil. Repeat it for two-three days. This helps to remove all germs.



In the event of severe injury in the war, balls of (flesh of) crows, hens, cuckoos and owls must be given mixed with honey.

The 3<sup>rd</sup> chapter of *HAV* deals with the treatment of wounds and their characteristics.

*vṛṇasyopakaramo tñeyamstirvidhātmanah  
sodhanam ropanaṇam caiva savarṇakarannam tatha.*<sup>136</sup>

When a pustule is noticed, apply steam for 1 (One) litre daily in the morning and evening. Mustard powder, CaCO<sub>3</sub> (Quick lime/caustic lime Cao/Ca(OH)<sub>2</sub> is taken in equal quantity and mix in kerosene and make it in paste form. Apply this paste on the pustule. If the tip of pustule is soft enough then incisions and drainage is done.

#### **After care of incised pustule**

1. Clean the wound antiseptic lotion
2. Plug the wound using cloth sated in antiseptic lotion, like saline, yusolete.
3. Repeat the above, 2 procedure until all the dead tissues get removed.
4. If the wound base is clean, then plug the wound with cloth piece soaked in gypsum: casoy salt 20% solution after cleaning the wound.
5. As the healing progress, reduce the size of plug used.

---

<sup>136</sup> *HAV II. Uttarasthāna.105.41*

6. After each dressing its better to apply carbolic oil on the skin around the wound.

### **Nodes/lumps**

Most commonly seen in middle aged elephant cheeks abdomen, legs are the common sites. Its not necessary to incise/ operate such lumps.

### **Scabies**

Scabies will decay epidermal cells. Morbid ness may also be felt. This is usually seen in old age elephants scabies are of three types.

- a. Seen on forehead and joints as grains
- b. On ears and tail in spreading manner.
- c. Permanently around nails.

### **Treatment**

Wash the affected area ēalum solution.

### **Constitution**

The area which is contused get easily swelled up. This leads to impaired physical mobility. Applying oil and steam is indicated in such cases. If pus is present on the contused part incision and drainage is to be done. If contusion is severe Rx should be a long term one say for months. Medicines that improve the general health are to be administered.

## **Dislocation**

Among the change in the location of joints due to fall is known as dislocation. It is commonly seen on tips and legs. The common external symptoms are swelling and severe pain. To relieve from pain hot application can be done daily morning and evening. Topical applications are found useful. To prevent further injury to legs and hips, a support is provided on the abdomen.

## **Fracture**

It may be caused due to fall or fall of legs. Rib is cause while fights elephants compounded may cause injury to different organs and is found most dangerous. Its leg symptoms include change in body image change in length, swelling, severe pain, and unbearable body weight. Usually treatment modality adopted is to correct the elephant after reading the elephant.

## **Sprain**

Even though elephant legs are strong, sprain is seen in them due to several reasons. The common clinical features are lane, joint pain etc. I<sup>st</sup> aid measure include pour cold water soon after sprain occur. Dip the affected part in water and under running water. Pour cold water every day morning and evening until swelling subside. The subside swelling apply the following on affected part that is 10 parts camphor mixed in oil and I<sup>st</sup> part mustard powder and make a paste and apply it.

## Disorders of the tusk

Broken or weak tusk are usually cut and made appropriate usually. This can be cut using ordinary sword. Water can be dripped on the induced area.

## Snake venom poisoning

The death due to snake bite is mainly due to cardiac arrest because of the effect of poison. The commonly adopted treatment methodology for snake bite is injection of anti venom immediately to save life. In the II<sup>nd</sup> chapter of *HAV* describes it elaborately.

*Viṣam pradadusyate pāpā gajānām dehanaśanam  
bhakṣa bhojyānnapāneṣu dūpane vtañcaneṣu ca.*<sup>137</sup>

## Disorders of the eyes

Cataract, Keralite and phihalmia are the common eye disorders seem in elephants. It may affect the vision of the elephant. If vision is partially impaired ointment is applied. If visual impairment is complete say blind due to cataract surgery ie. Keratoplasty is indicated. If there is any swelling of eyes, then massage the eye lids and lashes using castrol oil.

*apasmṛtam apakṛṣtam gunam paścāt svabāvavenutofpivā  
taviṣam viṣatatvatñjai dūṣi viṣamiti smṛtam*

---

<sup>137</sup> *H.A.V. II.* 617. 163-168.

*dūṣitam deśakālānna divāvaprāti bhojanaiḥ*

*Yosmāt dūayet dhṣtumtasmāt dūṣatviṣam smṛtam*<sup>138</sup>

A liniment consisting of long pepper, oil, honey of different kinds applied along the eyelids is commended as sharpening the eye sight. Feces of a sparrow and a pigeon, the resin of the *kṣīratree* and liquor prasannā are the excellent collyrium. Such a collyrium applied on the eye would make the elephant destructive in the battle. Blue lotuses mustard and takara made into paste with water in which rice has been washed in an excellent cooling agent for the eyes.

### **Disorders of Stomach**

It is mainly of 7 types as follows:

Helminthes, cobaldia elephantis worms, liver fluke, round worms, diarrhoea and grip disease.

#### **(i) Helminthes**

This is most dangerous microbes. This is most commonly seen in young elephants. Round worm, tap worm, thread worm etc. are common ones. Hook worm is most dangerous one because it invades the intestinal wall and suck out blood. Some hook worm take up almost  $\frac{1}{2}$  of the diet taken by the elephant.

---

<sup>138</sup> Ibid. *Śalyasthānam*. 100.357.

**(ii) Coboldia elephantis**

These organisms lay eggs on mouth and tail. They hatch on the internal wall and complete their life cycle within the elephant body. The matured ones are exiroated through feaces and to them within weeks. These organisms decay the intestinal and stomach wall. This causes weakness of the body. May be treated using ‘Arsanic Tonic’ or ‘Sodium by carbonate’ (NaHCO<sub>3</sub>) solution.<sup>139</sup>

To prevent further multiplication organisms elephant tusk has to be checked frequently and if eggs are present it must be rubbed off.

**(iii) Worms**

This parasite worms of almost length 0.62 cm and is seen in large intestine. The infestations are managed using salt, arsenic and other appropriate medicines. If dysentery is present it is to treated first.

**(iv) Liver fluke**

This is mainly seen in bile duct of an elephant. If the number of this organism is increased, it may cause fall on (lean) in elephants. If once the organism is entered in the body, it will remain in the body for life long.

**(v) Round worms**

These are seen on the intestine of the elephant. If infestation is present then, given increased amount of salt along the diet. Mebendazole, thiabendazole leveamizole, thiophenate, tetramizole etc. are the common

---

<sup>139</sup> *Āna*. XIV. 186.

medicines used by veterinary surgeon. Environmental hygiene is to be maintained. Dysentery and indigestion are the other affected diseases of elephant. If not care them it may be die. So an exceptional case is given to them. It is common disease affected elephants.

**vi. Diarrhoea**

It's mainly a seasonal disease. The main cause is eating tender grass and leaves. To relieve, give rice daily morning and evening.

**vii. Gripe Diseases**

Cancer is severe helmithic infestations, constipation, etc. This is due to their intestinal wall. Symptoms are constipation in the early stage and late symptoms are lower abdominal pain, fever, etc. 1<sup>st</sup> aid measure is given enema to the elephant. Administer Kanja or other sedatives seven (7) gram every three (3 hours). For pain relief ground nut oil 8 once (1/8) is given. Liquid paraffin can be used to give enema. If disease is almost relieved, grains can be included in diet.

**Treatment in various seasons**

According to *Gajasāstra* there are special treatment conducted to the elephants in various seasons. The six seasons are equally divided into two months beginning in the month of *meta*. In various season, the elephants are protecting with verity of food items.

The 4<sup>th</sup> chapter of *HAV* mentions the daily life of elephants, various season; charities like antimony, milk-application of *rasāyana*, construction of elephants abode etc.

*paccanyadapi nāgānam kartavyam hitarniccate  
tadaśeṣena bhagavatsarvam vyākhyātumarhasi*<sup>140</sup>

**1) Autumn season**

In this season they had given rice with abundant blossoms and plentiful sap up to the neck in a cool place, beans to be administered with their flowers along with *māṣā* and *makuṣṭa* and wheat jaggery with butter. Bathing in cool water daily, day and evening, food with boiled water, milk, enriched with ghee and broth are given.

**2) Summer Season**

A rice porridge, in evening the same with salt is given. In this time they have not taking to the road, activate pouring on the head of bags full of water and anointing the head, morning, noon and night with the butter called hundred fold purified, contract with the rays of the moon, ten ding with grits mixed with jaggery and butter, a cool stall, play in water and mud. These are prevention of the summer season.

**3) Cold Season**

In cold season elephants' regimen is thus –

*śāla channā savahnistrikatupatuyuta vāruṇi vaprasannā  
mandoṣṇā sāyamannam diadhirasasahita kambalai rāvṛtiśca  
ikossevā somātra kabalakavalayoḥ śīlanam nityacāraḥ  
pāthaḥ kṛīdāvimuktiryavasaparihṛti śśaiśro yam vidhisyāt*<sup>141</sup>

---

<sup>140</sup> HAV. US.4. 310. 541.

<sup>141</sup> ML. XI. 32. 73.



It is described thus. The abode of elephant is covered and provide with a fire tepid brandy and rice liquor specified with the three spices and pungent substances, in the evening food mixed with sour milk and broth, measured included in sugarcane, covering with blankets, regular exercise and regimen for the cold season.

**4) Spring season**

Daily walking in fragrant parks, rice gruel with wheat, food mixed with sour milk and oil; little burden bearing and road work salutary dipping of the elephant at will in to rivers are regimen for the spring.

**5) Rainy Season**

In this seasonal treatment water from a well, grass growing on the dry land, a place tree from mud, protection of smoke in the stall to rid it of flies and gnats, means of strengthening the bladder, great, mixed with jungle deer soup and oil, and broath that increase the belly fire etc, are included.

**6) Winter Season**

Fearful with broken nails of unstable mind, of contrary sensitivity whose great foot trembles of rough skin, not enduring, stiff with little hair, and plaintive, with visible sinews and veins with rough tusks, quick with ugly eyes, stupid and undependable in work, such an elephant is declared to be of the wind. Exposure to the morning sun, fierce water and marsh animals and strong spicy condiment and exports approve also a single

plunge of elephants in deep water and anointing with oil on the head is to be performed constantly. It is the regimen for winter.

The wild elephant became unpleasant while catching. They may hesitate to eat and drink the available food unsuitable to them or sleeping in improper place on account of journey etc. Disturbance of the wind and other bodily humours are provoked and are quickly cause diseases to them.

From constant flow of urine the penis of the elephant in *must* is irritated. Then they are constantly bathed and proved with a *pala* of red chalk mixed with butter.

Elephant's thirst is a sign of its sickness. It sucking shutting the eyes sniffing of the ground and of trees of the sky and the wind, sluggishness, dryness, of the inside of the mouth quivering of the ear tips, listlessness, frequent yawning, moodiness, retarding in the dust. In that time its urine and eyes became reddish colour.

Water is libido according to elephants, it is general notable fact with the watering and the drinking his hunger, thirst and natural troubles are removed. It occurs the boon (favour) of lotus-born (Brahma). Most commonly they had caused disease by worms. So anthelmintics are used given to them.

It is noticeable that the seasonal variations are observed in cure of elephants and in each seasons they are given treatments.

*Mānasollāsa* deals the elephant treatment in detail. Some medicines are indicating.

*tia nimbasya partāṇi rajanīceti peṣitam matuyuktam  
vranānām syātccotanam ropanampuram*<sup>142</sup>

*HAV* mentions a detailed description of the elephant management. The 1<sup>st</sup> Chapter furnishes the fever known as *pākala* and then *pāṇḍu* and *śoṭha*.

*Pāṇḍu* (white leprosy) is the white disease; the *śoṭha* is swelling disease, which is a type of fever.

The 2<sup>nd</sup> Chapter describes poison test and such things.

The 3<sup>rd</sup> chapter mentions the treatment of wounds and their characteristics.

The 4<sup>th</sup> chapter deals with the daily life of elephants in various seasons.

Generally all *Gajaśāstrās* mentions the same matters. Referring to other texts *ML* is varied from them because its style of purity and simplicity. The author begins and ends his work with innovation. Simplicity and brevity are the hall-marks of *ML*. That is why the work obtained great popularity.

### **Diseases and ailments**

It is a general statement that “prevention is always better than cure”. Tamed elephants should be maintained proper hygienic condition, if so it does not suffer any disease. At first the stable should be tidy and airy one. Feeding regularly, watering, bating, and supervision by a

---

<sup>142</sup> *ML*. II. 45.51. 79-81.

mahout (supervisor), preferably a veterinarian is essential for good health of the domesticated elephant. So this type of *Dinacarya* and seasonal based daily routine are necessary for a tamed elephant.

Ancient physicians in India think about the *Āyurvedic* treatments of elephants and practiced. Elephant recuperative treatments are applying in Kotaku, Sathyamangalam, Mangalamkunnu, Punnathurkotta and Avanapparambumana.

### **Ayurvedic treatments of elephants in Kerala style**

“Observing '*Dinacarya*' and '*Ritucarya*' and firmly accurate the body health; is called recuperative, treatment”<sup>143</sup>. According to Nīlakaṇṭha *dinacarya* is

*Śayya toyāvagāhaścatmamaiyuṃam bheṣajam, dhūtivṛṣṭiḥ*  
*Śālāstambharpraveś ā, ghṛtagulasahitam bhojanam pūladānam*  
*nirvaṇam toya pomam tilsahitamidam bhojanam, cāparāhne*  
*bhaiṣajyam cādasamveśmamithi dinacarya gajānām kramam*<sup>144</sup>

In Kerala, the main recuperative treatment centre for elephants are in Punnathurkotta; and the main veterinary Doctors in this field is

1. Dr. K.C. Panicker
2. Dr. T.C.R Nambiar
3. Dr.Vivek
4. Dr. Muraleedharan Nair

---

<sup>143</sup> *Gajaparipālanam*. 18,60.

<sup>144</sup> *ML*. 11.8.111.

5. Dr. Giridas
6. Dr. T.S. Rajiv
7. Dr. Easwer
8. Dr. Radhakrishnakaimal
9. Dr. P.S. Eesa
10. Dr. Jacob V. Cheeran
11. Dr. Girinadhan Nair and
12. Dr. Krishnamoorthy etc.

Some elephant lovers such as Poomulli Neelakanthan Namboodirippad, known as Aaram Thampuran, Avanaparambu Maheswaran Namboodiriuppad, Nibha Namboodiri - the lady mahout, Matambu Kunhikuttan, Paravoor Ramesh, Cheruvalli Narayanan Namboodiri etc.

Addresses are given below

1. Dr.K.C.Panicker  
Retd. Elephant practitioner  
Sarada Nivas,  
Near Mathrubhumi office  
Veliyanur, Thirissur

2. Dr.T.C.R Nambiar  
Punnathoorkkotta  
Guruyvayoor
3. Dr. Muraleedharan Nair  
Nhattissery  
Mannuthy,  
Thrissur
4. Dr. Vivek  
Animal Assitant  
Veterinary Department  
Kanjiramukku  
Malappuram
5. Dr. Giridas  
Pandarakkal House  
Aiyyanthol  
Thrissur
6. Dr. T.S.Rajiv  
Associate Professor  
Mannuthy Veterinary Colege
7. Dr. Easwar  
Senior Surgeon  
Palode  
Thiruvananthapuram

8. Dr. Jacob V. Cheeran  
Elephant Practitioner  
Thiruvananthapuram

and some elephant lovers such as

(Late) Poomulli Neelakantham Namboodirippad (Aaram Thampuran),  
Avanaparambu Maheswaram Namboodiri,  
Avaṇaparambu Mana, Kunnamkulam,  
Vadakkancherty, Thrissur

In Kerala recuperative treatment apply most in July and August.

In *Āyurveda*; mental; and physical stability is called health. For physical health, the elephant must given pure and nutritious food. This kind of foods produces pep, thrive, blood, sperm, and water etc. For mental and health, it must given proper bath in pure and flow water, and loving (management etc.,) this type of treatment gives a better elephant for our nation. *Mātaṅgalīla* suggests the treatment of elephant is below:

*Ye ye bhedaṁ maṇuṣyebhyo gajānām  
te te proktā doṣaduṣyādhikeṣu  
tasmad ttaṅjair vyādhibhedam vivitvā  
martyānāmevātra kāryā cikitsa<sup>145</sup>*

Elephants tired by continuous procession or hard work. So the elephant had given exceptional care, food and medicines to recovering their health. At this time they must given special attention, food, bathing

---

<sup>145</sup> *ML.11. 51.143.*

and best management, which is known as recuperative treatment. At this time the elephant must give complete rest.

According to K.C. Panicker, in Kerala August to October (August, September, October) are selected for recuperative treatment. According to their age, each elephant's treatment is varies. At the time of recuperative treatment, the elephant given to be rub bathing where, coconut scrub and stone are used. By rub bathing the blood circulation increases. In addition to palmyra leaf and water, they are given special food items. In the evening, after the bath the recuperative treatment is given.

At first the worm spear medicines are given to elephants. Then giving fried paddy dust and toddy. An adult elephant must be given 5 or 6 liter fried paddy rice powder given 5 or 6 coconut toddy are mixed with 2 to 3kg. Coconut and jaggery mixture are given 10 or 14 days continuously. Then sea same mixed with Jaggery 4 to 5 kg given daily and continuing 10 or 14 days. Then 4kg boiled rice, 4kg, lentil, 3kg boiled raggi 250 to 500 gram ghee mixed with 200 gram salt are given 14 days, and given 500 to 1000 gram Sharko ferolo or Chyavanaprasam. Vizhal rice, Kottambalayari (Coriander seed rive), Karkolari, Cerupunnayari, Kodakappalayari, Cardamom powder, Omam, Catakuppa, Ayamodakam, Turmeric powder-300 to 500 gram Sesame, Garlic etc. are mixed with boiled rice are given to elephants for normal digestion.

Elephant is a pure vegetarian, but at the period of recuperative treatment it eats demolishing mutton, chicken, and duck. In two or three weeks, sesame and jaggery are given first to them and those demolishing meat or soup are given. In addition to this, Mahacūrṇa and 5kg. Boiled



rice mixed with 5kg, onion, ariyāru, cumin seed, ayamodaka are given in the last 15<sup>th</sup> day<sup>146</sup>.

According to Pālakāpya, if the elephant has giving non vegetables it must be thus

*Śāsatittira lāvānam mahiṣasya vṛṣaṇayoḥ,  
pippalī cairyuktaḥ śundīgudasamanvitaḥ,  
Khaṃghavātā māyūrairvesvāram prakeepayet  
vesavāraḥ pradeyaḥ syādrasam tenaiva karayet*

According to Āvanaparambu Maheswaran Namboodiripad, daily in the morning elephant's body must scrub in bath; this type of bathing helps to remove stroke (blow) string and swelling. It will gives, amiability smooth, beauty and bodily strength.

Seasonal treatments are essential process in early times. The treatments are given to the elephants in three months with in one year.

Thailand is the important place for treatment centre. Old elephant's treatments and rebirthing project etc. are seen in Thailand. In 1998, there is worked an International Elephant Federation (IEF) protecting elephants.

There is situated a special hospital for free treatment for various diseases of elephant. According to this aim, there is a mobile hospital worked in Thailand. Diseased elephant adoption centres are seen in Thailand.

---

<sup>146</sup> *Āna Kadhyum Kāryavum. 5.63.65.*

Reducing distaste, the elephant must given dry ginger, thippali dust; and pepper powder are mix and make like a lemon, strutire and must given with food.

Boiled intuppu, jaggery and assafoiteda are given with food by this medicines the worms, indigestion etc. are curved.

It is said that elephant diseases are seasonal like man. The medicines are similar to human beings. But the measurement is twenty times more than the human beings.<sup>147</sup>

*Pālākāpya* is considered as the first Doctor of Elephant. Who is the author of *Hastyāyurveda*. According to tradition Pālākāpya's mother was an elephant cow. He grew up among the herds of wild elephants. He ate what the elephants ate; he slept when the elephants slept. By observation and experience, he became an expert in the ailments that afflicted elephants. After sometime he settled on the banks of the river Lohitya, where he compiled treatise and on the breeds of elephants and on the diagnosis and treatment of elephant's diseases which later come to be known as *Hastyāyurveda*.

The Chola king of Tanjore (Thanjavoor) also took an interest in the study of elephant's diseases and caused a volume of literature produced on the subject. In North India, peoples turn their attention to elephant's diseases even before the *Āyurvedic* system of medicine which the direction for treatment of certain disease of elephants through enema.

---

<sup>147</sup> G.P.P. 12.46.

It is said that, in Malabar, sick elephants, are sometimes fed on the fed on the flesh of sheep, goat and fowl.

Generally all diseases are affected in various seasons; not in elephant diseases but all creatures. So the treatments are also being seasonal. According to the world all creatures diseases are start in various seasons similar to man. So elephant diseases are also be seasonal.

The elephants tamed by man from the forest bear more from their managers, so they thinking of their past lavish life and became tired.

*Ānītān vanato gajan himajalaihsinjettadhā pāyaye  
tvākarṣaṇam tvavagahaye duṣaasi tadgtānyā disāntcñjal  
evam eāda dināvasānasamaye swairam tadātānayet  
paścat seeanalepanādo satadhautājyeya kuryadapi<sup>148</sup>*

At first the samvalsara (year) is divided into three *Śīta*, *uṣṇa* and *varṣa* and then it divided in to six ṛtūs ie. *hemanda śīsīra*, *vasanta grīṣma*, *varṣa* and *śaratt*. That is –

*bhavetasanto mādhumadhavabhyām  
syātām tadhā śukraśucī nidhākaḥ  
nabho nabhasyā jaladagamaḥ syā  
diṣorja vābhyām śaradam vadanti  
hemandamakalstu saḥaḥ sahasou  
tapastapasaw śīsiraḥ krameṇa  
māsadviketāni vasantakādyā  
dhīmadbhrikta ṛtavaḥ śadeta<sup>149</sup>*

---

<sup>148</sup> ML.11.6.109.

*Śrāvaṇam, bhādrapadam-śarat*

*Āswinam, kārtika-Hemāṇḍa*

*Mārghaśīrṣam, pouṣyam - śīsīra*<sup>150</sup>

### **Food Prescribed for various Ritu's (Seasons)**

*prātaḥ sājyagulam saratsu vihitam grīṣme eaśalyodanam*

*sāyam tallavnena tailasahitam caāyeṣu tadvaityayat*

*kulmāṣam gulayuktamodanayutam cādāpayeddantinām*

*tattejobalavarhnikrdgulayutananyām parāgānapi.*<sup>151</sup>

In Śarat season, the elephant must given jaggery mixed with ghee in the morning. Boiled paddy rice must given in the morning at Grīṣma season and at evening the elephant must given boiled paddy rice mixed with oil and salt. In all ṛtūs the elephant must given patutura, rice and jaggery and it will produce strength and magnificence.

Considering natural variations, Keralas season are varies from other states. According to Kerala the seasonal differences are like:

Beginning the half month of Makara and ends of he Meena half is considered as Vasantaṛtū up to Kanni half is calculated as 'Śarat considering up to vṛścika half as śīsīra, and upto Makara half is considering as Hemanda.

*Medam, Idavam- Grīṣma*

*Midhunam, karkidakam-śarat*

*Cinṅga, kanni-varṣa*

---

<sup>149</sup> HAV 4-5. 2. 4-19

<sup>150</sup> Raja nighaṇḍu. Satvādivargam. Sr.74-75

<sup>151</sup> ML.11. 28.125.

*Tulam, vṛśckam-śaratt*

*Dhanu, makaram-Vasanta*

*Kumbha, meena-Hemanda.*

- I. In *Vasantartu*, the cough is increased and it must given the proper food items, which will reducing the cough.
- II. *Grīsmartu*: - In this season heat caused to reduce the body water ad cough, so the elephant must given oily, sweety and cold food for increasing cough.
- III & IV In *Varṣa* season (*Varṣartu* and *Śarat*) the tridoṣās (vāta, pitta and cough) are became befoul and wind increasing more than other two (bile and cough). So the elephant must given the food like wheat, rice, vetch, sweet, salt and tamarind which will balanced the wind.
- V, VI Bile and cough increasing more than the other two season in *Hemanda* and *Śísira*. In this season, the elephant must given, milk, sugar, meat, soup, lenthil, wheat, rice, etc., which will provide good health to the elephants.

### **Routine**

Elephant must be given enough, food, water and an exceptional management to existing its health. For this, massaging by oil and daily bath are essential and it will provides more blood circulation.

### **Food**

It is said that elephant spend, 22 hours for eating. They are very abstinent in their food. Per day they eat 650 pounds (295kg) food. For

recuperative treatment they must given meat and rasayana which will produce blood, pep, thrive, sperm etc. The period of treatment must be less than 21 days. At this duration the elephant must given nine cereals mixed with roasted salt and boiled rice.

*The food must given to the elephants according to their age*

*uṣasi yavasatailam mātra ārdhādakam-syāt*

*pravarasi madya tcchatriturbhāga hīnam*

*adhamavyasi tatvattatribhagona muktam*

*balamadja vakaāri vyādhidhvamsanam ca*<sup>152</sup>

## **Bathing**

For recuperative treatment, elephant's body parts must be purified. For cleanliness, its legs, bowels, stomach, anus etc., are cleaned. For cleaning the legs of the elephant, must be put on *Kaṣāya* water and derch in it, then cut and clean the dry scurf on the nail and leg and apply the medicines there, for not affecting leg diseases.

An elephant needs proper bath, at least once and preferably twice daily. While bathing the body of the elephant is required to be scrubbed well with coconut fibre. In the wild, elephant love to rub their back against trees. Elephant always prefer to drink clean water and have a distaste to drink water where they take bath.

Bath is essential one for elephant and this helps to reducing its body heat. For this the water must be flowing and it gives freshness and happiness to the elephant and will increase hungry and get good health.

---

<sup>152</sup> *ML.11.13.19.*

Daily bath with oil massaging brings shines of the skin and body which make strength and will reduce the skin diseases.

## Water

Elephant drinks 200-225 liters of water in three or four times daily. They take water in the trunk and pour it into the mouth. A trunkful retains about six to seven liters, at one time.

Nīlakaṇṭha explains the importance of water:-

*prāṇāḥ sarve jalenaiva  
prāyo rohanti dantinām  
naśyanti kṣutpipāsādyāḥ  
padmayoneranugrahāt<sup>153</sup>*

Kaikkulmagra Ramavarier stated the importance of water:

*pānyam prāṇinām prāṇāḥ  
viśweneva ca tanmayam  
atotyantha niṣedhana  
na kvacitvari varyate<sup>154</sup>*

## Body balance

For equalizing and regulating tridoṣās (wind bile and cough), the elephant must given medicines for the particular part of the body like stomach, bowels and anus, if this parts are clean and pure, there is other

---

<sup>153</sup> *ML.11.47.141*

<sup>154</sup> *Aṣṭaṅgahṛdaya (AH) SS. dv. 5.22*

diseases affect the body. In order to remove the worms in stomach, the wormless medicines are given to the elephant.

## Medicine

The medicine is considering eight pala (8 pala = 480 gram) Kāyam (asafoetida), seven pala (420 gram) rājacūrṇam (cūrṇarajam), and twenty pala (1.200 kg) gulgulu are kibble and mixed with oil and ghee and this mixture given to the elephant daily. According to Nīlakaṇṭha that treatment explains below:-

*Hingvaṣṭakam cūrṇarājam saptavimśati gulgulu  
ityādīni ca cūrṇani dadyātailaghṛtāni ca<sup>155</sup>*

## Recuperative treatment of elephants in Tamilnadu

Not only in Kerala but also in Tamilnādu, the recuperative treatment is available for them.

## Chennai

Fifty percentage (50%) of elephants in Tamilnādu, affected diabetics, joint pain and wind. After aware of this report, the government of Tamilnādu decided to give recuperative treatment to elephants. Hindu caste endowment Department undertakes this project. Their plan is describing below:-

Daily 6km. walking, two times bathing 250 kg grass; 50 kg, mango, 7kg rice, 1.5kg jaggery, 100gram salt, 250 gram turmeric powder, 350 liter

---

<sup>155</sup> ML.11.49.142



water, 12 banana, 3-5 liter coconut oil. 1 kg Aṣṭacūrṇam, 50 gram ginger and pepper, 3-5. Cyavanaprāśam, 28 vitamin tablets etc., are given to the elephants at the time of their recuperative treatment.<sup>156</sup>

In short, elephant's treatment is thus:

### **Fever**

In the case of all the fevers (Pākāla) of elephants, they should provide proper bath for decreasing body heat, then after anointing them with ghee or oil, will remove the wind (vāta).

### **Jaundice and Constipation**

Cow's urine together with ghee and the two varieties of turmeric are commented for jaundice, with the above remedy soaked in oil is commended for constipation.

### **Head ache**

Varuṇi (a kind of liquor) mixed with five kinds of salts should be given for drinking. An elephant should fed with balls of vīḍaṅga, the three myrobalans, dried ginger, pepper and long pepper and salt is given in the case of fainting. It should be given the drink honey mixed with water. The head should be anointed with oil for head ache. A sternutatory is also commended.

---

<sup>156</sup> Manorama daily page No.13.7.8.2010.

### **Leg disease**

The disease affecting the leg of an elephant should be treated by anointing with oil. Then it is laid down that they should be cleansed with the paste of sediments of oil.

### **Shivering**

An elephant that is suffering from shivering should be fed with the juice of the flesh of peacock and tittiri (partridge) mixed with long pepper and pepper.

### **Dysentery**

Ghee mixed with common salt should be given as sternutatory in the case of numbness of the trunk. Or long pepper, dried ginger and the cumin seed boiled in the rice or barley gruel together with mustard and grass should be given.

### **All kinds of pain**

The juice of the flesh of a pig should be given for ear ache. Oil boiled with ten kinds of roots, the horse beams, tamarind and kākamāci would remove the pain due to stiffness of the neck caused by the fetters.

### **Retention of urine**

Ghee mixed with the eight kinds of salts made into a paste should be given for drinking in the case of retention of urine. Otherwise a decoction of the seeds of trapuṣa may be given. An elephant should be made to drink a decoction of the bark of neem.

## Colic

Vidanga, indrayava, asafoetida, jaggery and the two varieties of turmeric could be given in the form of balls in the forenoon to remedy all kinds of colic.<sup>157</sup>

By applying recuperative treatment, elephant's diseases are decreasing or may affect disease, the treatment become easier.

In many ways elephant is considered as valuable one. Elephant is a serviceable animal and it provides economical benefits to the country.

---

<sup>157</sup> *The Agnipurāṇa*, N. Gangadharan. 287. 781-795.

## CHAPTER VIII

### THE USES AND VALUES OF ELEPHANTS

As a tamable but a wild animal, the elephant is useful to mankind in many ways. Elephant's body useful or parts of its limbs have direct use. The most important benefit is derived from harvesting the tusk for ivory. Besides ivory, different parts of the elephants like hide, milk, urine, dung, flesh, bone, pearl, must, etc. are used by people for international trade. Apart from these, they have got another totally different purpose ie medicinal. Most of the limbs or parts of the body of an elephant have medicinal value. For example, the ivory is considered as hair promotive and must fluid is beneficial in disorders of bile, phlegm and wind and an antidote to poison and an effective healing agent. Elephant provides employment for local people and increase the income by its body parts, and ecotourism and by festivals.

#### **Ivory**

Ivory of elephant is considered as international economic importance. In medicinal purpose, ivory is an important ingredient in preparing a concoction to make hair promotive. Suśruta advise that if ivory is burnt, grined into powder and then mixed with goat's milk, hair may spourt up even on one's palm.<sup>158</sup>

---

<sup>158</sup> S.S. D.C.1. 88.

Indian artisans carved ivory at least as early as the third century B.C., fashioning it into religious images as well as ornaments like bracelets and combs. However, the reverence for elephants in Buddhist and Hindu culture, as their considerable value as tame animals, would have prevented the wholesale collection of ivory as a commodity. The Mughal emperors and their successors used ivory to decorate their thrones and for other lavish objects of art. Under British rule in India, the supply of ivory was further exploited. In East Africa, ivory carving grew into a sizeable industry in places like Kerala and Rajasthan. In ancient times craftsmen working in ivory were employed in royal palaces to inlay thrones, couches and other furniture with ivory. An ivory wrist band is considered auspicious at a Hindu wedding. *Kāvya* literature depicts that ivory is an important fact in royal palaces such as ivory seats, and ivory chariots. Ivory is considered as an important chemical composition, because it is essential dentine. It consists to 57-60 percent calcium salts which are mainly phosphates. Variety of articles can be made from ivory dust by placing it in moulds under room temperature.

Human beings done cruelty to elephants or killing them for ivory. The ivory trade make him more beneficial. Ivory is known as white gold. According to Vāgbhata, ivory is a best medicine for Indralupta (Indralupta is the heirs fallen as round from the head).

### **Elephant hide**

Elephant hide is used for making belt, suit-cases, umbrella, stands, upholstery for stools and sundry articles. It is said that hide is burnt and the ash is used to cure leucoderma. Hide is also used for making Boots. It

is the world's largest imported items. Elephant hide is used as an acne cure.

### Elephant tail hairs

The hairs from the tail, agglutinated are made into rings, bangles and wrist-bands. In Kerala wearing of these is considered auspicious.

### Nails

The large thick nails are used for making knife handles, buttons, spoons and plates.

### Flesh

Flesh of elephant is eaten by aborigines of Africa, Asia, Burma, Nagaland and China. The meat is generally cooked with spices and oil and then served. Meat is preserved for future consumption after being dried in the sun.<sup>159</sup> Elephant flesh is believed to cure asthma, arthritis, night blindness, spinal trouble, and is regarded as an aphrodisiac. It is still in demand for medicinal purpose. *Aṣṭāṅgahṛdayā* suggests that elephant flesh is reduced cough and wind.

*Hastikravyam gurusnigdam vātalano śleṣmakāarakam  
bhahupṛṣṭipradam caitra durjarom mandavahnidam  
virukṣaṇo lavaṃasceṣām vīryoṣṇāpittadūṣaṇah  
svādamlā lavaṃasceṣām gajaḥ śleṣmānilāpaha*

---

<sup>159</sup> *AE.* 10, 122.

According to Caraka, elephant flesh is beneficial to those who suffering from constipation. Taken regularly, it helps to build up the body.

### Elephant pearl

It is seems to be only an assumption

*ete karacaraṇadāhatoklamāvipākaṣa*

*bhūpādukākṣagajavarma ketuśsyānāsanairdustaiḥ*<sup>160</sup>

As an antidote to poison Caraka recommend wearing of elephant pearl.

### Urine

Elephant urine is a best medicine. According to Caraka it explains as follows:

*hastimūtramathoṣtrasya hayasya ca kharasyaca*

*uṣṇam tīṣṇamathoḥrūkṣam katukam lavanānvitam*

*mūtramutsādane yuktam yuktamālepaneṣu ca*

*yuktamāstāpane mūtram yuktam cāpi virecane*

*svedeśeṣvapi ca tadyuktam mānāheṣvāṇdeṣu ca*

*udareṣvatha cārśaḥ su gulmi kuṣṭikilāśiṣu*<sup>161</sup>

*tadyuktamupanāheṣu pariṣeke tathaiva ca*

*dīpanīyam viṣagṇam ca krimighnam copadiśyate*

*pāṇdurogasrṣṭānāmuttamam śarma cocyate*

---

<sup>160</sup> CS. XXIII. S.119. 376.

<sup>161</sup> CS.(SS) 94-96.11

*śleṣmānam śamayet pītam mārutam cānulomayet  
karṣet pittamatobhāgamityasmin guṇasamgrahaḥ  
sāmanyena mayoktastu prthaktvena pravakṣyate  
avimūtram satiktam syāt snigdom pittavirodhi ca  
ajam kaṣāyamadhuram pathyam doṣānnihanti ca  
gavyam samadhuram kimciddoṣagnam krimikuṣtanut  
kandū m ca samayet pītam samyagdoṣodare hitam.  
arśaḥ śophodaragṇam tu sakṣāram māhiṣam saram  
hāstikam lavaṇam mūtram hitam to krimikuṣṭinam.<sup>162</sup>*

Elephant urine is salty, beneficial for patients of worms and Leprosy (*kuṣṭha*) and commended for retention of urine and feces poisons, disorders of cough and piles.

It is believed to cure asthma, cough, dysentery constipation and rheumatism. It decreased vomition, cough, worms, leprosy and wind.

### **Elephant Dung**

Elephant dung is used for sterilising women the kunchimartantra prescribed the water present in elephant dung mixed with honey to be taken for seven days. The dung of an elephant calf (*Kariveṇṇa*) which has not yet started eating grass is also prescribed for colic, wind, diseases affecting the rectum and other such disorders. If there is too much discharge of phlegm, the extracted juice of elephant dung mixed with honey should be administered to the patient. Elephant dung is also used

---

<sup>162</sup> CS. SS. 93-102.



for making mosquito coil, paper and cushion. It is also used for making bio-gas; and it is used to cure pain due to nail bite and also to cure leprosy.

### **Must**

Rut fluid (*must*) of an elephant is used for massaging genitals with. It is used to remove blotches on the human skin. It is also considered as a good hair promotive and beneficial in disorders of bile, phlegm, and wind and an antidote to poison and an effective healing agent. It is also prescribed for leucoderma and for treating sores resulting from leprosy.<sup>163</sup>

### **Bone**

*dantī śyāmasmṛtāsangaḥ pārāvataśanguka  
pralepa syādgajastāni nimbo bhallātakāni ca*<sup>164</sup>

It is used for curing for piles which are not bleeding, Caraka recommends an ointment made from elephant bone and neem. It is also used as a poison detector and penis as an aphrodisiac.

### **Teeth**

A paste made of elephant teeth is applied to remove pimples and boils<sup>165</sup> and is used for some medicinal purposes like the mumps treatment. It is also used head ache. The teeth mixed with water and Kibble it and make paste, which is used for headache.

---

<sup>163</sup> A.E. 10, 123.

<sup>164</sup> CS. XIV. 55-231.

<sup>165</sup> A.E. 10-123.

## Milk

*Uṣṭrīnāmatha nāgīnām vadavāyaḥ striyastathā  
prāyaśo madhuraṁ sītam stanyam payo matam  
prīṇanam bṛhaṇam vṛṣyam medhyam balyam manaskaram  
jīvanīyam śramakaram śvāsakāsanibarhaṇām  
nasyālepāvagāheṣu vamanāsthāpaneṣu ca  
virecane snehena ca yayaḥ sarvatra yujyate<sup>166</sup>*

Elephant milk is sweet, nutritive, smooth, indigestible and bitter taste and it gives body strength and cold to eyes and act as tonic.

## Curd

Curd prepared with the milk of an elephant cow, is light in indigestion, subdues cough, and is heat-making in its potency. It leaves an astringent after taste and increases the quantity of fecal matter.<sup>167</sup> It is promoting beauty.

## Butter

Butter prepared with the milk of an elephant cow is astringent, and it brings about a suppression of stool and urine. It is bitter, light and stomachic and proves curative in cutaneous affections, poisoning, worms in the intestines and derangements of kapham (cough). It proves beneficial in eye-diseases, haemoptysis, epileptic fits and vertigo. Cow's urine together with ghee and the two varieties of turmeric are commended

---

<sup>166</sup> C.S. S.S. II .12. 106-112.

<sup>167</sup> SS. Sutrastāna. XIV.

for jaundice. An infusion with the above remedy soaked in oil is commended for constipation.

### **Elephant dung paper**

The technology of making paper from the elephant dung was developed in Thailand. From this, the letter pad, drawing sheet, visiting cards, etc are made. The price of one packet containing 20 visiting cards is near Rs.140. The foreigners are very much interested to bring this type of cards. These are selling in the label of maxims. This is 100% natural and handmade one.

The process of making the paper from elephant dung is very easy one. This technology practicalising through heating, boiling and the ingredients adding, avoiding the bad smell colouring, and the threads are removing from the elephant dung.<sup>168</sup>

### **Indirect uses and values**

Indirect use value is derived from the natural functions of the elephant, ie.

- i) act as a disperser of seed.
- ii) provide food through brought-down and branches to browsers.
- iii) provide food to other wild animals etc. wild boars mongooses, horn bills which feed on the dung of elephants.

---

<sup>168</sup> *Ānaye Ariyan. AA.18, 49-65.*

- iv) elephant dung is full of humus and nutrient materials and elephant serves as a fertilizer producing system in the forest-ecosystem.
- v) their ability to create light gaps in the forest for establishment of seedlings.
- vi) creation of light gaps harmful to fungal pathogens that cause damping off of seedlings.

Thus elephant is a useful animal like coconut tree. Now elephant had a bracelet badge to considered it as a lineal animal from the above consideration the elephants are considered to be a tiger in its position.<sup>169</sup>

Almost all poets signifies elephants in their *Kāvya*s.

---

<sup>169</sup> Malayala Manorama Newspaper report 1.09.2010.

## CHAPTER IX

### ELEPHANTS IN *KĀVYĀS*

Elephant holds a special place in the mind of Indians. *Purāṇās*, *Śāstrās* stories and poems have narrated Elephants. Bhīmas strength is equal to that of ten thousand elephants. *Aṣṭadiggajās* shines like the balefares in Lanka. Rāvaṇa was believed to had an elephant chariot. *Rāmāyaṇa* describes *Airāvata*, *Mahāpadma* and *Vāmana* are the chief elephants in Ayodhya. Vedic god Indras vehicle is *Airāvata*.<sup>170</sup>

*Itihāsas*, *Purāṇas*, *Arthaśāstra*, *Bṛhatsamhita*, *Pañcatantra*, *Jatakastories* *Hitopodeśa*, *Saṅgasaḥityās*, *Kathāsaritsāgara* *Aithyamāla* etc., are narrates elephants. All most all poets illustrates elephants in their *kāvyaś*. They narrate the elephant as a symbol of splendor, beauty, valiance, prosperity manea, love and anger etc.

*Pañcamahākāvyaś*, Kalidāsās three *Nātakās*, thirteen plays of Bhāsa, two *Khaṇḍakāvyaś* (*Meghadūta* and *Ṛtusamhita* and *Itihāsas* are selected for writing.

---

<sup>170</sup> *Rgveda* (*RgV*) 1.4.69.

## **Elephant is a symbol of Royalty**

Elephant is considered as royalty of peoples like magnates and kings. Their victory, lordship, wealth etc., are indicating through the narration of elephant.

## **Blind ascetic's boon towards Daśaratha**

A myth is connected with Daśratha famed in *Rāmāyaṇa*. The story is indicated below:

Once Daśaratha goes alone to the forest for hunting. The king needed only to hear the slightest sound of an animal made and he send his arrow to its mark. After a while, he heard a gargling sound and assumed it was an elephant sucking water into its trunk. He shot an arrow where the sound heard but instead of the trumpeting of a wounded elephant, he heard an anguished human cry suddenly he know that the sound he had mistaken for the elephant drinking was the gargling sound of water vessel that the ascetic had come to fill. He was the son of the blind parents and he begged him to pull the arrow and let him die.

With great reluctance, Daśaratha pull the narrow from the body of the sage and soon he passed away. Then Daśratha refilling the water vessel and carried it to the ascetics hut, where the blind couple was waiting. Hearing his footsteps, they assumed that it was their son, but after giving them water to drink, he revealed that what is happened. On hearing this fact, the parents compelled him to prepare to made for a cremation, at last they threw themselves on to the burning fire. They

cursed Daśratha, because of his actions. Their boon was this 'he too, would die of grief over the loss of his son'.

After many years this curse became true, when Rāma left Ayodhya to the forest living in 14 years for protecting Daśarathās words to Kaikeyi. After which the king collapsed in sorrow and breathed his last, the loss of his dearest son Rāma.

The ascetic's death was an accident, for which the King bears responsibility, but his true intention was to kill an elephant, which also caused his fate, so as it is a symbol of royalty.

#### **Elephant in army (four fold division)**

It is considered that Elephant, horse, chariot and infantry are the fourfold division. Elephant in first is indicated that it is the important component of the military force (army)

The great epics *Rāmāyaṇa* and *Mahābhārata* reveal it in the same.

In *Rāmāyaṇa* elephant is narrated as:

*varāhamukhyāca śataso niryāścadyaia sankāśsaḥ*  
*rāja dhārasthadhā amātāḥ sena hastyaśvapattayaḥ*  
*radha kuñjara vājistha avatīryamahīm gatāḥ*  
*dadṛśuste vimānasthan janasoma mivāmbard<sup>171</sup> \**

About ten crores of monkey forces went and plastered the asura guard of the palace and all the horses and the elephants they found there.

---

<sup>171</sup> *Adhyātma Rāmāyaṇa (A.R) Y.K. 14-74. 15-22. 955-956.*

That group consisted of a hundred of thousand horses, thousand elephants and ten thousand chariots with golden decoration. The people following were all carrying objects fit for presentation to royalty.

In *Pañcarātra*, Bhāsa illustrates that:

*Kṛtyanīla nāgāḥ śaraśata nipatena kapita*  
*hayo vāyodho vāana vahantina kaścicccarasatam*  
*śarasiścanna mārḡāḥ sarvati*  
*dhanurgrām śsaradadhīm*<sup>172</sup>

Thousands of black coloured elephants are became reddish by shot the arrows in the war. In past times elephant are captured for using in the war. In the battle field of Rāma & Rāvaṇa thousands of elephants are participated. *Mahābhārata* war also indicated that 27,000 of elephants are appeared in that army.

*Purāṇas* indicates '*Akṣouhiṇippadā*', which includes 21,870 elephants, some number chariots, 65,610 horses & 1,09,350 infantry. *Mahābhārata* describes one Aśvathāma, a grand father and an elephant in the same name '*Aśvathāmāhataḥ*' this elephant had an important role in this war.

### **Valiance of elephants**

For the service of the King valiant soldiers and elephants are take importance

*Prajapataye puruṣanastina ālabhate vāce*

---

<sup>172</sup> Pañcarātram. 2.22. 344.



*pluṣṭīścaḥṣuṣe maśakāścrotrāya br̥ṅgāḥ*<sup>173</sup>

The brave soldiers and elephants should be secured, white ants for eloquence, mosquitoes for fight, black bees for hearing for the service of the king.

Just as the drivers strikes his sharp good in the head of *gambhīravedi* elephant, who is not easily sensitive to pan, similarly Raghu, a mighty warrior plants his mighty prowess on the head of the mountain mahendra which is not easy to be conquered.

*Sapratāpam mahendrasya  
mūrdhini tīkṣṇam nyaveśacyat  
aṅguśam dviradasyeva  
yantāgambhīravedina.*<sup>174</sup>

Here prince Raghū's courage is imagined an elephant.

This elephant is categorised *gambhīravedi*, and its characteristics are in the *Mātaṅgalīla* is below:

*tvagvebhedaśconitasarāvānmāmsasya kradhanādapi  
ātmānam yo na jānāti sa syāt gambhīravedinaḥ  
cirakālena yo vetti śīkṣām paricitāmapi  
gambhīravedi viñjeyaḥ sa gajo gajavedibhiḥ*<sup>175</sup>

An elephant who is slow in understanding even well-awaring matter signs is also called *gambhīravediḥ*.

---

<sup>173</sup> *Yajurveda (YV)*. 3.28.312.

<sup>174</sup> *Raghuvamśa (Rg)* 4.39.936.

<sup>175</sup> *ML*. 8.21.86.

The valiance of elephant is describing in the *mālavikāgnimitram*.  
i.e.,

*na hi kamalinīm dṛṣṭva grāhamavekṣate mataṅgajaḥ*<sup>176</sup>

The elephant is slopping the lake and eat lotus, he is not fear of the crocodiles.

The *Atharvaveda* describes elephant as a superior animal among the wild beasts.

*Hastīmṛgāṇām suṣatāmatīṣṭavān babhūvahi*<sup>177</sup>  
*ādityā yat tatvasśmbabhūva*<sup>178</sup>

May the vast glory, born out of the body politically possessed by the commander-in-chief, strong like an elephant, separated in the whole world.

The valiance of elephant is described in *Atharveda*

"May the vast glory, born out of the body politically possessed by the commander-in-chief, strong like an elephant, separated in the whole world."

*Yā hastinī dvīpinī yā hiraṇyenviṣirapsugoṣuyapurūṣeṣu*  
*Indram yā devī subhagā jajāna sā na etē varcasāsamvidinā*<sup>179</sup>

---

<sup>176</sup> *Mālavikāgnimitram (MM)*. 1.236.

<sup>177</sup> *Atharvavedam (AV)*. 3.22.6.

<sup>178</sup> *Ibid.* 3.22.1

<sup>179</sup> *Ibid.* 6.38.1407.

All energy of elephant and panther all halo and insture of gold, men, kin and waters and the blessed spiritual force that makes a ma, king, may that come unto conjoined with strength and vigor.

## Victory

Bhavabhūti in his *Uttarāmacaritam* narrates the young elephant had scored the victor over the tasks, which indicates the victory of Lava and Kuśa over Rāma, their father.

*Yenotgaccat bisakisalaya snigda dantāṅkarān  
vyākṛṣṭāste sutanu lavalīpallavba kaṇṇmūlat  
sosyam putrastava madamucām vāraṇānām vijetā  
yatkalyāṇam vayasī tarune bhājanam tasya jātah<sup>180</sup>*

The young elephants were attacked by huge tasked. Rāma goes ahead to rescue him, when Vāsanti enters and tells them that the young elephant had scored a victory over the tusker. Then they all process the bank of the Godavari, where they find the young elephant courting his mate.

## Narration of nature's symbol

Vailoppilli Śrīdharamenon narrates the elephant as a symbol of Nature. In festival occasion, the elephants are layout with decoration. The poet explains it thus

ഉസവം നടക്കയാണാവലമുറ്റത്തുയർ -  
നുജ്ജലദ്വീവെട്ടികളിളക്കും വെളിച്ചത്തിൽ

---

<sup>180</sup> *Uttarāmacaritam*. 1.9.22.

പതയും നെറ്റിപ്പട്ടപ്പെന്നരുവികളോലും  
പതിനഞ്ചാനക്കരിമ്പാറകളുടെ മുന്നിൽ<sup>181</sup>

Here the poet describes the elephant is same as a huge blackstone. The stone is a part of nature which stands in the lap of the earth, like her son elephant is standing in the temple is a stone.

In *Kirātārjunīya* the beauty of nature is thus  
*madāsikta mughairmṛgādhipaḥ*  
*karibhirvartayate swayam hataḥ*  
*laghayam khali tejasajaganna*  
*mahāniccantoī bhūtimanyataḥ*<sup>182</sup>

The lion is dead, elephant stood like as musted, the earth is like in this way. In *Avimāraka*, Bhāsa describes elephant as

*Śailendra kalobhopama*  
*jaladhya kṛīdātatakopamā*<sup>183</sup>

## Angry

The angry of an elephant is seen in *Mālavikāgnimitram (mm)* i.e,

*Anyonya kalahapriyayormatiahastinoreka*  
*tarasminna nirjite kata upasamah*<sup>184</sup>

---

<sup>181</sup> Sahyante makan. 3.3.69.

<sup>182</sup> *Kirātārjunīyam*. 2.18.85.

<sup>183</sup> *Avimārakam*. 4.11.660

<sup>184</sup> *Malavikāgnimitram (mm)*. 1.200.

It explains that, if the musted elephant tuskers are angried, they do not become back track their steps until one of them is failed.

Various shapes appears as Elephant in poets imagination of a cloud is in the view of Māgha in his *Śiśupālavadha*

*gajakadamabka mecakamuccalcair*  
*nabvhasi vīkṣya navāmbudamambare*  
*abhisasāra navallabhamanganā*  
*na caka me cakamekarasam baḥa*<sup>185</sup>

Clouds assume various shapes sometimes. A fantastic shape of an elephant is described here according to the view of Māgha.

Kālidāsa in his *Meghasandēśa* also describes the cloud like the peak of mountains, elephant is stooping in down in his butting sport against the bank.

*Āṣādhasya pradhama divase megha masliṣtasānum*  
*vaprakṛīdāoriṇatagaja prekṣaṇīyam dadārśa*<sup>186</sup>

The clouds resting the peak of mountains are imagined to be peak of as an elephant stooping down in his batting sport against the bank.

*Purāṇasarvasva* illustrates elephants shape is like a baffaloes, pigs, and the like.

"*Mahisaśca varāhaśca mattamātaṅgarupiṇaḥ*"

---

<sup>185</sup> *Śiśupālavadham (Spv)*. 6.26.164.

<sup>186</sup> *Meghasandēśa (MS)*. P.M. 2.6.614.

## Beauty

The bark of the birch trees, red in colour with characters written on them by Vidyādhara ladies, with mineral fluid are imagined to resemble the red spots on elephants.

*nyastakṣara dhāturasena yatra  
bhūrjatvajah kuñjarabindhuṣoṇaḥ  
vrajanti vidhyādharasundarīṅām  
an aṅgalekha kriyayopago gam*<sup>187</sup>

The Vidhyādhara ladies wrote letter in *bhūrjrapatra*, which is imagined as the beauty of an elephants spotted trunk.

In *Abhiṣekanātaka* Bhāsa imagined Bālī's beauty is like on elephant.

*karikarasadrśsau gajendragāmin  
stava ripuśastraparirakṣitāngau ca  
avanti talagatau samīkṣya bhāhu  
harivara! ha patatir mesdhya cittam*<sup>188</sup>

Like the elephant's trunk Bālī's hands are as the same long whose walk is like an elephant's walk, and the like.

In *Madhyamavyāyoga*, Khatotkaca is imagined as the same

*kalabhadaśanadamstra lagalākāranāsaḥ  
karivara karabhāhur nīlajīmūtavarṇaḥ  
huta hutavahadīpto yaḥ stito bhāti Bhīma*

---

<sup>187</sup> KS. 1.7.192.

<sup>188</sup> *Abhiṣekanātaka*. 1.22.158.

*stripurapura nihantuḥ śankarasyeva roṣah*<sup>189</sup>

His (Khatotkacā's) *dhamṣtra* (teeth) is like the tusk of baby elephant, nose like plough, hands like the trunk of a leader elephant colour is like dark cloud, anger is the same as Śankara (Śiva) = *Ugrakopī* so that is structure is imagined as monstrosity.

### **Shelter (Refuge)**

In *Pratimānātaka* elephant is imagined as a shelter, to a husband for his wife.

*Anucarati śaśankam Rāhudoṣepi Tāra  
patatica vanvṛkṣe yāti bhūmim lata ca  
tyajati na kareṇuḥ pankalagnam gajendra  
vrajatu caratu dharmam bhartrunādhāhinaryāḥ*<sup>190</sup>

Lakṣmaṇa supports sīta's intention intention to follow Rāma to the forest by saying that Tāra, wife of Chandra follows him even he was devoured by Rāhu. The creeper accompanies the following forest tree and an elephant cow never abandons the mudded elephant, even if it is covered with dirty with soil. Hence go and perform your duties because husband is the only shelter for the ladies (wife's)

Here Chandra is compared with a dirty elephant and Tāra became the she-elephant.

---

<sup>189</sup> Madhyamāvyayoga. 1.5.286.

<sup>190</sup> *Pratimānātakam*. 1.25.42.

## Procession (March)

In *Raghuvamśa*, Raghūś march is imagined with an elephant.

*kuruṣva tārat karabharuipaścāt*  
*mārge mṛgraprekṣini, dṛṣṭipātam*  
*eṣa vidūribhavataḥ samudrāe*  
*sa kānanā niṣpatatīva bhūmīm*<sup>191</sup>  
  
*tyajitaiḥ phala mutghātatair-*  
*bhagnaiśca bhahudhā nṛpaiḥ*  
*tasyāsīdudbāṇo mārگاḥ*  
*pādapairiva damtinām*<sup>192</sup>

Raghu cleared the root for the troops like a leader elephant. Here Raghu is imagined as an elephant chief.

## Must (Manea)

Musted elephant is an imagination of poet in many ways. In the state of must is described in *Raghuvamśa*. King Raghu is imagined as the elephant which is below:

*sa nyasta cihnāmapi rajalakṣmīm*  
*tejo viśeṣānumaitam dadhāna*  
*āsīdanāviṣkṛtadāmarajīra-*  
*ntarmadāvasta iva dvipendraḥ*<sup>193</sup>

---

<sup>191</sup> RV 13.18.1140.

<sup>192</sup> Ibid. 4.33.934.

<sup>193</sup> *Raghuvamsas (RV)*. 2.7.890.



In this śloka, the poet explains the King Dilīpa, which is to have followed the path of a cow. He cast aside its royal insignia. But his kingly fortune could be inferred from the super eminence of majesty. He, therefore, can be well compared to be like the elephant who is in orderly in condition of rut but without the line of inchor manifested externally.

In *Megasandēśa*, the poet says that, the way of elephant is indicating the path of the cloud.

*nīpam dṛṣṭva haritakapiśsam kesarairardharūdā  
ravirbhūta pradhamamukulaḥ kandalīścānukaccam  
jagdvasranyeṣvadhika surabhim gandhamārādhyacorvyām  
sāraṅgāste jalalavamucaih sūcayiṣyantimārgam.*<sup>194</sup>

Kadambha flowers are green and brown on account of half growth filements, eating the kandalis on mastery banks with the first buds appearing on them and smell the strong odour of the ground in the forest respectively, the bees, and the elephants will indicate the path of you, showing drop water.

*yam candrakairmadajalasya mahānadīnām  
netraśriyam vikāsato vidatturgajendrāḥ  
tam pratya vāpuravilambitamuttaranto  
doutānga lagnaranīlapayojapatraiḥ*<sup>195</sup>

---

<sup>194</sup> *Meghadootam PM.* 21.41.

<sup>195</sup> *Śiśupālavadhān.* 5.40.144.

The eyes, formed by the oil-like *musth fluid* spreading into moon on water, with which the elephants were decorating the river, they were promptly getting back to them as they merged from water.

## Love

Elephants love is famous; it is a wise animal also. Kālidāsa imagined elephants love in *Kumārasambhava*

*dadan rasāt pankajareṇugmthi  
gajāya gaṇḍūṣajalam kareṇuḥ  
ardhopayaktena bisena jāyam  
sambhāvayāmāsa rathānganānām (anganānām)<sup>196</sup>*

The female elephant with love, gave the elephant, a task full of water scented with the pollen of lotuses.

In *Vikramorvaśīya* the warmth of kindness showed by the elephant below.

*'aye!esanīpasacandhniṣaṇṇahastahkariṇī  
sahāyo nāgarājastiṣtati.<sup>197</sup>*

This statement proves that the elephant also aware of his wife's mind.

Love with other animal is shows in *Ṛtusamhāra*

*tṛṣā mahatyā hatavikramodyamaḥ  
śvasam mahar dūravidāritānanaḥ*

---

<sup>196</sup> KS. 3.37.736.

<sup>197</sup> *Vikramorvaśīya* 4.136.

*na hantya dūrespi gajān mṛgeśvaro  
vilolajihavścalitāgrakesaraḥ*<sup>198</sup>

With all the energy and valour killed by great thirst with his mouth open and panting that lion does not kill the elephants though they are so close to him he only licks his lips again and again with his tongue.

This stanza states that, even the lions are enemies of the elephant, even though here they are so love with each other. The symbol of love beautifully portrayed by Kālidāsa in his verses.

### **Elephant in Festivals**

Not only in past days decorated elephants are a best sight of human beings in their festivals.

At the time of Rāma's unction, the city of Ayodhya is filled with decorated elephants.

*brāhamaṇaḥ kṣatriyaḥ vaiśyaḥ kanyakastratha  
cchatram cāmaram divya gajorajo tadai va ca  
abhiṣiktam samāyatam gajārūdam stitānvitam  
śvetaścateeradharam tatra lakṣmaṇam lakṣitanivtram*<sup>199</sup>

When it was day break, there assembled at the central gate all who had been ordered to do so by Vasiṣṭa, citizens of the four classes maidens, those holding superb ceremonial umbrellas and chowris, elephants and horses, dancing girls and general residence of the city and the village.

---

<sup>198</sup> *Ṛtusamhāra*. 1.24.10.

<sup>199</sup> *AR (A.K.)*. 1.36-40. 187-188.

## Bible

Elephants are often mentioned in Bible. The portion of Lisyass second attack. King of Yūdas had 32 elephants and each of them contains Ambari (a tent made up of timber) which prevents the soldiers from the attack done by enemies. Four soldiers and one Indian mahout (elephant drivers) are included each of the Ambari.<sup>200</sup>

## Quran

Quran contains a chapter on describing elephant army. Ethiopian emperor's governor Abrahath, ripping 'Kabah' in Makka, stir into Makka, with C.6000 elephants. But this armies are destroyed by some small birds, their lips and legs have had sweltering (red hot) stones, which are fallen on the body and enigma (nucleus) of the elephant and they died soon. From this incident is calculated 'Ānakkalahavarśsam' or (elephant quarrel year). After some year Hijjara is considered to calculate the year. In Khurān elephant is known as pheel.<sup>201</sup>

All these references will enable to argue the significance of this animal.

---

<sup>200</sup> *Makkabāyar* (6). 30. 33-38.

<sup>201</sup> *Suraḥ* 105. Alpheel (Elephant)

## CONCLUSION

### Findings of the Study

1. The basic text is very tome and is difficult to aware the contents. This study will to enable a student to have real knowledge of Elephantology. He/She may not be forced to exalt this method blindly but should be provided the real facts given in the original work.
2. As a branch, having so severely been criticized by scientists *Hastyāyurveda* should be given a special place in the researches.
3. Diseases and treatments are studied on the basis of prescribed text and traditional practitioners on elephants.
4. Most of the elephant synonyms are *Akāranthās* and *Abhramu* is *Ukārānta Strīlīṅga*, which means that no gender division is made. Firmly standing own place (with own husband) or firmly standing in the sky. The female elephant of the east. The mate of *Airāvata*, Indra's elephant. The word *Padmī* - *Nakāranta*, *Pullīṅga Pradhama*, *Ekavacana*. Here *Padma Śabda* means Bindu's (or dots) one whose body filled with dots is called *padmī*.
5. Elephant teeth is used in rural treatment for head-ache and mump. Elephant's urine is used for human beings leg diseases.
6. Elephant dung is used for making bio-gas and paper, and existing the oozing of soil and it is used as a mosquito killer.

7. Elephant is the main component of ecotourism it can be used to enrich the wealth of nation through tourism and allied activities.

### **Some famous elephants in Kerala**

Many elephants famous in Kerala – some of their names are

Thechikkottukavu	-	Ramachandran
Mangalamkunnu	-	Gaṇapati, Karṇan
Kongad	-	Kuttiśśankaran
Guruvayur	-	Padmanabhan, Ezhuthachan, Suran, Srīnivasan
Pambadi	-	Rajan
Kandampully	-	Balanarayanan
Thriuvampady	-	Candraśekharan
Paramekkavu	-	Parameśwaran
Ambalappuzha	-	Vijayakrishṇan
Nayarambalam	-	Gaṇeśan
Malayalappuzha	-	Rajan

Among them some of the elephants are most famous in Kerala, they are

Guruvayur	-	Padmanabhan, Ezhuthachan, Suryan
Thechikkottukavu	-	Ramachandran
Mangalamkunnu	-	Gaṇapati, Karṇan
Thiruvampadi	-	Chandraśekharan and
Paramekkavu	-	Parameśwaran

The notable elephant householders are Punnathūr-kotta, Mangalamkunnu and Poomullimana.

Former history indicates elephants as the dignities symbol of monarchies and kings. Elephants are the winners of war. So they are considered as an indispensable part of the army. It is the symbol of regal grandeur; the elephant is at home alike in scenes of war and peace.

The God Gaṇeśa is depicted as having an elephant face and he is worshipped to avoid in-auspiciousness. Even now the sight of an elephant is auspicious to a typical Indian mind. The *Āstikavādins* (those who believes god exist) have not done any duties without the worship of *Mahāgaṇapati*. '*Gaṇapatipooja*' is a festive occasion of the North Indians, they observed the *Vināyakacaturthi*. Elephant is imagined as a personification of God.

### **Opportunity for further research**

1. This work is done on the bans of some unpublished manuscripts. Some are yet to be brought out.
2. Many of the important works on *Elephantology* remain unpublished. Collecting and editing the manuscripts can be done.
3. Ancient Sanskrit literature reflects the *Hastyāyurvedic* awareness though this was created and refresh and is to amass together and compared with the *Āyurvedic* accounts of *Hastisāstra*.

## Criticism

*Hastyāyurveda* and *Pālakāpya* is one of the famous classical work, like Nīlakantha's *Mātaṅgalīla*. It is the most popular topic widely recognised and connected with elephants and ancient Indian style of *Āyurvedic* treatment. It belongs to the class of *science (Śāstra)* and hence it describes the myth and history and it reflects the author's genius mostly. The language exhibits all the grace of his style. It is highly elegant, being dignified, where necessary, explains in prose and verse. It presents a most charming style in brief in the dialogue. No forced constructions, no offensive concepts be mar its beauty. There has been a translation available to it which make simple to the topic.

Though resembling its pair *Gajaśāstra* in many of the above mentioned features and its structure, *Hastyāyurveda* is differs from in many respects. It is aims to give a realistic picture of the life of elephants in a more marked degree than the other work. Temple, idol, flag, mast, elephant - are the order. For this purpose God is imagined as a king and the elephant is accompanied with that king, that solemn procession is called the temple festive occasion. The famous festive occasions in Thrissur Vatakkumnatha Temple, Perumanam and Ārattupuzha.

To conclude, Sanskrit literature contains substantial evidences to highlight the importance of elephants and the benefits received by various rulers in different stages of history. The cruelty shown by some agents against this being for suffering their financial thirst, the rulers should put strict and stringent rules and regulations to safe guard this animal.



## BIBLIOGRAPHY

### SANSKRIT

- *Mahākavi Bhāravi. Kirātārjunīyam.* Chowkambha Samskenta Samsthān P.B. No. 1139. Jadau Bhavan, K. 37/116. Gopal Mandirlane, Varanasi-1986.
- *Mahākavi Bhāsa. Bhāsanātakacakram.* Kṛṣṇadās Academy. Varanasi-1995.
- *Mahākavi Bhāsa. Pratimānātaka.* Ācārya Ramāchandra Miśra. Chaukhamba Surbharati Prakasham. Varanasi. 1976.
- *Mahākavi Bhāsa. Swapnavāsavadattam.* Chaukhamba Surbharati Prakasham. Varanasi. 2008.
- *Bhavaboothi. Uttararāmacaritam.* Matical Banarasidas. Indological publishers. Delhi-1971.
- *Cheriyā Narayana Namboodiri Vaidyamadham. Hastyāyurvedam Translation.* Mathrubhumi Books, Kozhikode- 2006.
- *Devi Chand. The Atharvaveda.* Munshiram Manoharlal Publishers Pvt. Ltd. 54. Rani Jhansi Raod, New Delhi- 1980.
- *Devi Chand. MA. The Yajurveda.* Munshiram Manoharlal Publishers Pvt. Ltd1980.
- *Devendrakumar Rajartam Pattil. Vāyupurāṇam,* Motilal Banarasi das. Delhi. Patna. Varanasi. 1946.

- *ŚrīHarṣa. Naiṣadhīya caritam. Kṛṣṇadās academy Varanasi-1984.*
- *Prof. Horace Hayman Wilson. The Matsyapurāṇa. Nag Publishers, II. A (UA) Jawaharlal Nagar. Delhi 110007. India-1997.*
- *Kautilya. Kautilīyamārthaśāstram (part II). Sampurnānand Sanskrit University. Varanasi. 1991.*
- *Khamaśyāma Tripadi. Agnipurāna. Hindi Sāhitya Sammelan Prayag. Ilahabad-907.*
- *Kale. M.R. The Meghadoota of Kālidāsa. Motilal Banarasidas Publishers Pvt. Ltd. 1969.*
- *Mahākavi Kālidāsa. Abhiñjānaśākuntalam. Motilal Banārasidas. 1970.*
- *Mahākavi Kālidāsa. Kālidāsakṛitikalā Sampurnam, D.C. Books. Kottayam. Kerala. 2004.*
- *Mahākavi Kālidāsa. Ṛthusamharam. Kṛṣṇadās Academy. Varanasi. 1997.*
- *Mahākavi Kālidāsa. Vikramorvaśīyam. Motilal Banarasidas. Bugalow Road. Jawarharlal Nagar. Delhi. 1966.*
- *Mahākavi Māgha. Śīsūpalvadhamahākāvyaṃ. ŚrīVenkeśwara Street-Press. Mumbai. 1932.*
- *Nārayāṇa Dīkṣita. Gajagrahaṇaparakāra. Śrīvenkataśwara University Oriental Research Institute , Tiruppati-1968.*

- *Nāradamuni. Gajaśikṣa. Śrīvenkataśwara University Oriental Research Institute , Tiruppati-1975.*
- *Nārāyaṇan Namboodiri Cheruvally. Mātaṅgalīla, Devi Book stall. Kodungallur-2005.*
- *Nīlakaṇṭhan Mūsāt. An Engineering Commentary on Manuṣyalaya candrika. Vāstuvidya pratiṣṭānam, Killiyanad. Calicut. 1998.*
- *Nīlakaṇṭhan Mūsāt. The Mātaṅgalīla, with Malayalam Commentary. University Manuscript Library. Thiruvananthapuram. 1910.*
- *Pālakāpaya Maḥarṣi. Hastyāyurveda. Ānandraśrama mudraṅālayam. 1894.*
- *Parameśvaran Mūsāt Vācaspathy. Amarakośam Kerala Sahithya Academy. Thrissur. 1914.*
- *Prof. Priyamvadaśarma. Kaiyyadevanighaṅṭṭu Chaukphambha, Varanasi-1979.*
- *Śankaran Nambyar Pushpakath. Gajarakṣātantram. Mangolodayam company Kerala Kalapadrumam-1090.*
- *Dr. Siddharth Yeśhwnt Wakankar. Gajaśāstram Bhāratīya Kala prakasham. Delhi-2006.*
- *Sudhamśu Chathurvedi. Complete works of Kālidāsa. Geetha Pvt. Ltd. TC 35/1555. Thiruvambadi. Thrissur. 2000.*

- *Subrahmanya Śāstri. K.S. Mantramūrti. Gajaśāstram.* T.M. S.S. M. Library. Tanjor. 1958.
- *Vallathol-MatangaĪla* (Translation). Vallathol Grandhālayam. Priyadharśini Printers. Cheruthuruthy. 1981.
- *Varāhamihira. Bṛhatsamhita.* Varanāseya Sanskrit Viśvavidalaya. Vāranasi- 1890.
- *Vālmīki-Śrimad Vātmīki Rāmāyaṇa,* Chowkamba Vidyabhavan. Varanasi-1977.
- *Viṣṇuśarma. Pañjatantram.* Chawkamba Kṛṣṇadās Academy. Varanasi-2064.
- *Vyāsamaharṣi. Lingapurāṇam.* Mottlal Banarasidas Chowkhmba. Varanasi-1980.
- *Vyāsamaharhi. Vāsukipurāṇam.* Nag publishers 8A/UA.3 Jawaharlal Nagar. Delhi.1981.

## Journal

- *Shringodekar. G.K. Mānasollāsa.* Curator of Libraries. Baroda. 1925.
- *Vageeśasastrī. Śāraswatisuṣama.* Varanaseya Samskrta Viśwavidālaya. Varanasi-1972.

## Dictionary

- *Apte. V.S.* The students Sanskrit English Dictionary Motilal Babnarasidas. Delhi-1970.
- *Bālakṛṣṇan. K.K.* Samskr̥ta Malayalaleghu Nighandu. H&C publishing House. Thrissur-1989.
- *Radha Madhavan.* Samskr̥tam English Malayalam Dictionary. Santhana Music and Publishing House, Chevarambalam. Kozhikode-2006
- *Śankaran Namboodiri.* Samskr̥ta Malayalam Nighandu. Kanippayyur. Pañjāgam press, Kunnamkulam-2010.

## English

- *Basappan War. C.H.* Elephant the lady Boss. Vansuma Prakaśhana A 605. Motilal Tower: 6 M.G. Road- Bangalore-1963.
- *Dr. Chandraśekhara Panickar. K.* Elephant sos. Elephant Welfare Association. Thrissur-1998.
- *Dr. Chandrasekhara Pillai.* Elephant's their capture, care, and management. Madras Forest- Department. 1962.
- *Chandraśekhara Warriar. M.S.* Adhyātama Rāmayaṇa of Thunjath Ezhuthachan. DC Books. Kottyam-1988.
- *Dange. S.S.* The Bhāgavatha Purāṇa, Mytho social study. Ajanta Publications, Jawahar Nagar, Delhi. 1984.

- *Dange. S.A.* Purāṇic myth and culture. Ajanata publications. Prem Nagar. 1987.
- *Dr. Debubrata Swain.* Asian Elephants, past present and future. International Book Distributors. Dehra Dun. 2004.
- *Evan. G.H.* Elephant and their diseases. Govt. printing press. Burma. 1910.
- *Franklin Edgerton.* The Elephant lore of the Hindus. Motilal Banarasidas. Delhi. 1931.
- *Gangadharan. N.* The Agnipurāṇa. Motilal. Banarasidas, Delhi. 1986.
- *Harbansing.* Domestic Animals. National Books. India. 1986.
- *Hazara. R.C.* Studies in the Upapuraṇās Volume-I. Bankim Chatterjee street. Calcutta-12-1958.
- *Dr.Kala Acarya.* Purāṇic Concept of Dāna. Mag Publishers. 11A/UA. Jawaharlal Nagar. Delhi-1993.
- *Kaviraj Kunjanlal Bishagrantina.* The Suśrutha Samhita Cosmo Publications. Genesis publishing private limited. New Delhi.
- *Kuttikṛṣṇa Menon.V.M.* Aṣṭāṅgahṛdayam Sūtrasthānam. Department of Cultural Publications. Government of Kerala. Thiruvananthapuram. 1976.

- *Lawsli Oseparker. R.M and Johnston R.C.*, Elephants and their Habitats. Clarendon Press. Oxford 1974.
- *Nileshvari. Y. Desai.* Ancient Indian Society, Religion and mythology as depicted in the Markendeya purāṇa, faculty of arts. M.S University Baroda.
- *Dr. Nilakanthan Elayath. K.N* Indian Scientific Traditions. Publication Division. University of Calicut. 2003.
- *Patni.B. Śivapurāṇa.* Ajanata Publications. Jawaharlal Nagar. Delhi. 1980.
- *Plal.* The Rāmāyaṇa of Valmiki Vikas Publishing House Private Limited. 576. Masjid Road Jangpur. New Delhi. 1989.
- *Prof. Priyavrata Sharma.* Carakasamhita. Volume I , Chaoukhamba Orinetalia. A house of Oriental and Antiquarian Books Varanasi. Delhi.1981.
- *Ramachandran Aiyer.T.K.* A short History of Sanskrit Literature. R. S. Vadhyar and Sons Kalpathy. Palakkad. 1984.
- *Ramesh Bedi.* Elephant Lord of the jungle. National Book Trust India. 1969.
- *Richard and Carrigton.* Elephants. A short account of their Natural History Evaluation and influence on mankind. Chatto and windus limited. 42 William fourth street. London WC2-1958.

- *Roger A Caras.* Dung Erous to Man. Barrier and Junkins Limited  
24 High burry. Crescent. London. 1964.
- *Survadamam Sing.* Ancient Indian warfare with special references  
to the vedic period. Motilal Banarsidas. Delhi.
- *Seşadri. B.* Indian wildlife and wildlife reserves. Sterling  
Publishers Private Limited. New Delhi-1986.
- *Shastri. J.L.* The Hymns of the Ṛgveda. Motilal Banarasidas. Delhi.  
1973.
- *Sukumar. R.* The Asian Elephants, Ecology and Management,  
Cambridge University Press. New York. 1989.
- *Tapasyananda Swami.* Adyātma Rāmāyaṇa 16- Ramakṛṣṇamath  
Road. Mylapure. Madras. 1985.
- *Taresa Canon and Peter Danis.* Asian Elephants Cambridge  
University Press. 1998.
- *Dr. Vindo Agarwal.* The Imagery of Kālidāsa. University of Delhi.  
Eastern Book linkers, New Chandrawal Jawaharlal Nagar. Delhi.  
1985.
- *Washburn Hopkins.* Epic mythology. Motilal Banarasidas.  
Bungalaw Road. Jawaharlal, Delhi-1915.
- *Pillai. R.S.* English Malayalam Dictionary. Siso Books,  
Trivandrum, 2001.



- *InduŚarman*. Prācijyoti. Institute of Indological Studies. Kurukṣhetra University. 2003.
- *Grzimeks*. Animal Life Encyclopedia. Van Nostrand Reinhold. Company, New York. 1998.

### Malayalam

- *Dr. Ajithkuamr. G .Dr. Sethumadhavan. P.*, Kṣayarogaṃ Ānakalil, Elephant Welfare Association. Thrissur-2004.
- *Dr. Ajithkuamr, G.Dr. Chandrasekhara Panickar. K. Dr. Ales. P.C. Dr. Easwer. E.K.* Ānayum pāppānum. Elephant Study Centre. KAV Mannuthy. Thrissur-2004.
- *Anand Chittar. Āna.* Kāzhchayude Kāṇāppurangal. National Book Stall. Kottayam. 2010.
- *Achutavariyor Cheppat.* Commentary on Aṣṭangahṛdaya Uttarasthānam. Devi Book Stall. Kodungallur-2004.
- *Dr. Chandrasekharapanicker. K.* Ānakadhayaun Kāryavum. Kerala Agricultural University, Mannuthy. Thrissur. 1985.
- *Dr. Chandrasekhara Panickar. K.* Nāttanakal. Paripālanavum Prasnaṅgalum Elephant Welfare Association. 2003.
- *Dr. Chandrasekhara Panickar. K.* Surakshitamāya Ana Ezhunnellipu Engine Sāddhyamakkām. Elephant Welfare Association. Thrissur. 2008.

- *Ganesh M.S.* Āna Geoprinters. Plamood. Trivandrum-1992.
- *Ganesh Panniyath.* Ānappustakam. Olive publications private limited. East Nadakkavu. Kozhikode. 2006.
- *Hariharanaha Saraswathy.* Agnipuraṇām, Dronacarya Publications. Kottayam.
- Hassan Kutty Arakkal. Nammude Vanagalum Vanyajīvikalum. National Books. Kottayam, 1964.
- Harban Sing. Valarthumṛṅgal. National Books, India, 1973.
- *Krishnakutty Warriar. N.V.* Āyurvedacaritram. Department of Publications. Āyurveda Vaidysala, Kottakkal. 1980.
- *K.C. Bible commission.* Bible, Kerala Catholic Bishops Councils Pastoral Orientation Centre, Cochin. 1981.
- *Narayanan Nambudiri, Pumulli Mana.* Gajaparipālanam. Elephant welfare Association, Thrissur-1990.
- *Dr. Sethumadhavan. T.P.* Ānayeariyan. Current books. Kottayam. 2004.
- *Parameswara Aiyer. S. Ullur.* Kerala Sāhithyacaritam. Department of publications. University of Kerala. 1953.
- *Under the supervision of Ministry of Islamic affairs.* Quran for the printing o Holy Quran. P.B.No. 6262. Madinah. Munawwarah KSA. 1417.

- *Ramachandev.* Adhyātma Rāmāyaṇam Punchiri Publication. Chittur Raod. Kochin. 1990.
- *Rama Warriar Kaikkulangara.* Sampoorāṇa Astāṅgahṛdayam Vol.2, Sulabha Printers. Thrissur-2004.
- *Ramachandran Nair, Panmana,* Swapnavāsavadatta of Bhasa. Current Books Kottayam, 2008.
- *Ramakurmaran, V.* Mahābhāratam. Siso Publishers. Pattom. Thiruvananthapuram 2006.
- *Ramawarrier Rajaraja Vatakkumkur.* Keralīya Samskṛta Sāhitya Caritram. Vol.1. SSUS. Kalady, 1997.
- *Sadasivan.V.C.* Vanyajīviparipālanam Classical Printers. Thiruvananthapuram, 1994.
- *Sankunni Kottarathil.* Aithiyamāla Kottarathil Sankunni Memorial Committee, Kottayam, 2009.
- *Dr. Sethumadhavan.T.P.* Ānāyariyam. Current Books, Kottayam, 2004.
- *Sreedhara Menon Vailoppilli.* Sahyante Makan. Current Books. Thrissur 1940.
- *Sreekumar Arookutti.* Aanakkundoru kadhaparayān. Authentic Books. Pandit Colony, Thiruvananthapuram, 2008.

- *Unnikirhnan Puthur.* Gajarājan Guruvayur Kesavan. Current Books, Kottayam, 1999.
- *Vaghabta.* Aṣṭangahrdayam. Chowkhemba Sanskrit Series, Varanasi, 2002.
- *Vettam Mani.* Purāṇic Encyclopedia. Current Books, Kottayam, 2003.
- *Villiams.* Ānavilliam, Industrial Press, Ernakulam, 1959.
- *Prof. Warriar, M.I. Dr. Narayanan Bhattathiri.E.P, Radhakrishna Warriar.K.,* Malayalam, English Dictionary, D.C Books, Kottayam, 2004.

## **Hindi**

*Narendra Śarma.* Jāthakakathakal. Sadhana Paket Books. 39 UM. Bangalow Road, Dilli, 1992.

## APPENDIX

### GLOSSARY OF TECHNICAL TERMS

Medicinal terms		Description
Ance	-	Common skin disease which is marked by pimples
Antidote	-	A medicine that counteracts poison
Aphrodisiac-	-	An agent that is alleged to increase libide orthe duration of sexual activity
Asthma	-	A cronic disorder of the respiratory organs, marked by coughs laboured breathing and feeling of suffocation
Astringent	-	having power to contract organic tissues
Cataract	-	Opacity of the lens of the eye
Constipation	-	Irregular and difficult defecation
Consumption	-	Tuberculosis
Decoction	-	Extract of anything got by boiling
Diarrhoea	-	Abnormal frequent passage of loose stools
Dropsy	-	Generalized accumulation of fluid in the body
Enema	-	An introduction of a liquid into the rectum to stimulate bowel activity
Epileptic	-	A person suffering from a nervous disease
Indralupta	-	The hairs fallen as round from the head

Kuñimartantra	-	Sterilizing women
Leucoderma	-	Local or total absence of pigmentation in the skin
Piles	-	Swollen blood vessels at the anus hemorrhoids
Purgation	-	Evacuation of the bowel by a purgative
Pustules	-	A small circumscribed elevation of the skin
Rheumatism	-	Painful condition of the muscles and joints
Rhematioid	-	Resembling rheumatic stiffness of body etc.
Sterilization	-	To free from micro organisms
Vertigo	-	Dizziness in the head.